

28 February 2023

Parliamentary Officer
Environment, Resources and Development Committee
Parliament of South Australia
North Terrace
Adelaide SA 5000
Via email erdc.assembly@parliament.sa.gov.au

Re: Response to Inquiry to the Urban Forest

The City of Unley appreciates the opportunity to contribute to the Environment, Resources and Development Committee's Inquiry into the Urban Forest.

The recognition of the increasing importance of trees and canopy in the urban environment is welcomed and the City of Unley commends your inquiry into the urban forest with the focus around urban infill developments.

City of Unley are committed to urban forest management and have been a recognised Tree City of the World by the Food and Agriculture Organization of the United Nations (FAO) and the Arbor Day Foundation since 2020.

Our current patterns of urban development are producing highly-contested landscapes, with competing priorities for public and private utilisation of space, both above and below the ground. On private land we are seeing a preference for large building footprints with low maintenance landscaping, double car garaging, causing a loss of gardens, reduced private open space and a propensity to clear a whole block of vegetation prior to redevelopment.

For the City of Unley, the decline of tree canopy as a result of urban development on private land, the limitations of infill greening, and the lack of available public open space to offset lost canopy will likely result in the Council being unable to meet the green canopy target set out in the 30 Year Plan **and have a net reduction of canopy cover from the base line levels.**

As a result, Council is forced to consider a more ambitious solution to address the canopy decline and seek ways to expand public spaces for future generations and the health of our Urban Forest.

Achieving a sustainable and healthy urban forest across Adelaide is a shared challenge that requires multiple approaches working together in the back-yards and front-yards of private residents, with the streets, parks and public spaces across all councils within South Australia. Whilst the full suite of improvement options for modern urban forest management is long, we have kept this submission response within the framework of the focus inquiry questions set out in the Terms of Reference.

1. Best practice and innovative measures to assist in the selection and maintenance of site appropriate tree species to improve the resilience of the urban forest, with a focus on trees for urban infill developments

Retention

In many cases the most site appropriate tree species for urban infill developments is the existing tree(s) already established on the site. Best practice should be first and foremost to retain existing greening as a higher priority than planting new and/or finding alternate spaces nearby. Therefore, the urban management practices and innovation need to work with that intent.

For example, greater emphasis and expectation should be placed on improving design led solutions that complement existing trees, including the planning and design of the built form, and the engineering of footings and structures to take into consideration the proximity to the tree (below ground).

This could also be supported by discouraging the practice of completely clearing blocks of all vegetation prior to redevelopment which often includes excellent specimens of trees by the back fence which could have been retained as a feature garden for the finished new homes.

The retention of existing trees are important to the re-sale (a key driver of 2-for-1 infill development), as well as the activation and shading of outdoor spaces and help reduce the ongoing heating and cooling costs of new buildings

Outside of urban infill developments, ongoing maintenance support options for private land can help retain trees, such as the City of Unley conservation grants available to private owners to help maintain their Significant and Regulated Trees. <https://www.unley.sa.gov.au/Community-services/Grants-sponsorships/Conservation-grants>

Retention is also important on State Government owned land, including schools that are not currently required to replace trees that they remove on school grounds. Public schools are important spaces for students and the wider community who access the open space grounds outside school hours. Best practice would be to support public schools with

increased safety inspections and regular maintenance of trees rather than increasing tree removals.

New Trees

When we plant new trees, we want them to have the best chance of survival and in such a way that works with the surrounding urban infrastructure. This requires holistic planning and considerations of growing conditions.

With contested space above and below ground, a factor to improve the survivability rate of urban trees can include engineered and innovative approaches that result in additional up-front costs, but for which there are long-term benefits, as the value of a tree increases as it grows, and a well-planned tree, can help the infrastructure around it through shading and soil stability.

Innovation and accountability can drive greater building and engineering solutions to minimise the perceived impact of trees adjacent to buildings. In addition, horticultural industry innovations are continuing to advance new technology which can minimise the impact of tree or make more affordable to means to integrate trees. Root barriers can provide a simple and cost-effective solution when a non-permeable barrier is required adjacent to services. Alternatively, honeycomb like 'strata cells' can support effective root management in confined spaces, limiting paving lift and supporting above ground loads from adjacent vehicles without soil compaction.

Permeable paving

Permeable paving (and other related water sensitive urban design techniques) lets water seep down to the roots of the tree. The roots are less likely to come up to the surface, which reduces tripping hazards on the pavement; reduces encroachment into the road; reduces maintenance costs; and can increase the survivability of the tree because it is getting the water that falls on its site, rather than it being washed away. There are many of examples of this in the City of Unley, including on private land. Refer to WaterSensitiveSA.com to learn more.

Species Selection

The State Planning Commission Open Space and Trees Project is a positive initiative. The supporting reports released on 1 September 2022, including '*Open Space and Tree Project – Part 1A (Arborist Review)*', '*Urban Tree Protection in Australia: Review of Regulatory Matters*' and '*Adelaide Home Garden Guide for New Homes*', provide valuable research and tools to improve species selection.

For our residents we created a selection of tree information cards and suggestions to suit the local area, available on our website

<https://www.unley.sa.gov.au/Environmental-Sustainability/Trees#section-4>

In 2019 we worked as a member of Resilient East to develop a climate ready tree species assessment available at <https://www.resilienteast.com/resources>

The City of Unley are participating in further collaboration with University of Adelaide, State Government and many other Councils on the Future Trees project to identify an increased range of species and potential new cultivars suitable for planting adjacent to existing infrastructure and suitable for future climatic conditions. Research and development of new cultivars will be a long-term project and would benefit from multi-year funding.

We encourage the Green Adelaide board to focus on green urban spaces as a priority action, the understanding between species susceptibility to climate change and updating South Australian specific tools such as the Botanic Gardens Plant Selector Tool.

Creating More Space for Trees

Standards and guidelines for planting in proximity to underground and overhead infrastructure such as utilities are often blunt, prescriptive instruments that can conflict and may be outdated.

Within a typical streetscape, councils can consider placement of street trees within the verge, within the road (kerbside) or within the centre of wider roadways. In each of these locations, the historic alignment and separation of below ground services and the previously conservative offsets from services for tree planting has resulted in limited opportunities for additional trees to be located.

Above ground, tree pruning activities to trees interfering with overhead powerlines has had a detrimental effect to the canopy cover and performance of the urban forest and the **beauty** of individual trees and local streetscapes.

The City of Unley are a member Council of Resilient East. In 2021, Resilient East and the City of Adelaide were part of a University of Adelaide Industry Engaged PhD Internship Project that looked at underground space available to plant urban trees and influencing factors, such as utility services and planning regulations <https://www.resilienteast.com/s/Final-CREATING-MORE-SPACES-FOR-TREES-V2-1-June-2021.pdf>

Further works could be explored with SAPN, to consider ways to better consolidate and manage the overhead wires, the clearances required, and extent of pruning undertaken to established canopy.

Biodiversity and other greening

We are also moving into unprecedented territory with weather, and we are unsure how certain species will respond to heat and drought thresholds.

Tree health and resilience can be improved with having complementary and ideally native biodiverse understorey plantings. Whilst the focus is on the urban forest, ground covers, mid-storey, increasing native biodiversity, and other effective urban greening options such as vines and green walls, should not be overlooked.

Whole of life costs

Urban tree management funding should account for whole of life costs and the community benefit that will be gained by trees in more constrained environments, rather than the total cost per tree. For example, the recent on-road planting of trees on Young Street Unley cost thousands of dollars per tree at installation (funded in part by Green Adelaide), however this provides fit-for-purpose long lived assets, placed in an otherwise hot urban street on a priority walking and cycling route.

Communication

Assisting to highlight the importance and value of the urban forest through communication, education and clear messaging all contribute to a greater collective appreciation for trees in our urban areas and the benefits they provide. **Both positive messaging and myth-busting around common fears is required.** This values shift could take a long time but would support our urban forest if the community has a stronger desire and expectation for urban trees and willingness to deal with the maintenance requirements.

For infill and any urban resident at the City of Unley we have had recent success with promoting a competition to win an \$80 tree voucher

<https://www.unley.sa.gov.au/Environmental-Sustainability/Trees#section-1>

Research, Collaboration & Innovation

Much of the best practice and innovative methods have been either driven or greatly supported through collaborative networks including but not limited to - regional adaptation (eg Resilient East), Water Sensitive SA, TreeNet, Healthy Parks Healthy People and Universities. Continued funding and support of these collaborative networks and research bodies by State Government is recommended for their contributions towards research, peer to peer knowledge sharing and increasing awareness and education on the urban forest.

Data Capture, Mapping & Management

Tree canopy cover (for trees over 3 metres in height) has been measured through LiDAR aerial imaging (Light Detection and Ranging 3-D mapping to a 10cm resolution) to calculate the canopy cover area and change detection at property level, provided to owners.

Refer to <https://www.unley.sa.gov.au/News-articles/National-award-for-mapping-tree-canopy-change> and Unley's MyCanopy app <https://mycanopy.unley.sa.gov.au/#home>

City of Unley are also contributors to the 2022 project led by Green Adelaide as a recapture LiDAR canopy and heat mapping across metropolitan Adelaide, creating a shared resource to understand the challenges, track progress and prioritise. This capture needs to be done at regular intervals, and centrally coordinated for evaluation and longitudinal comparisons for the 5-yearly State of the Environment Reports.

2. Legislative and regulatory options to improve the resilience and longevity of trees comprising the urban forest

There are many options available to improve the resilience and longevity of trees comprising the urban forest. More detail is included in Attachment 1 however in essence they include:

Planning, Development and Infrastructure Act & Regulations and Planning and Design Code

- Greater protection for established trees.
- Design policy for increased provision of new trees in new developments, including front and rear of property.
- Review of Regulated and Significant Tree protections – broadening criteria for trees to include height, area of canopy and rare species. Exemptions should be avoided including the ten metres on an existing dwelling and increasing the fee for approved removals.
- While protecting existing Regulated and Significant Trees, care should be taken to avoid creating a dis-incentive to retain trees approaching Regulated and/or Significant status.
- Minimum tree number, tree size and area around buildings for planting obligations all need to be increased to be effective to meet canopy cover targets and form an expected and beneficial component of all development. For example, under the current policy, a 450-square metre block would require one medium tree, which, even at its mature age, would only achieve a four to eight-metre canopy spread, which would produce between 3% to 11% of canopy cover over that block.
- Monitoring and compliance mechanisms need to be in place to ensure removal of the tree(s) and/or change to the allocated space to support the tree(s) should not be feasible **to avoid unnecessary removal of these trees in the future outside of development applications.**
- Urban tree offset scheme should only be available in exceptional circumstances and with increased fees to disincentivise this option.
- Funding options to councils for public tree planting and maintenance to encourage planting more substantial trees in the built-up urban areas.

- Increasing and strengthening requirements to reduce building footprints and increase setbacks, open-space, areas of soft landscaping and tree number, size, and canopy.

State Government Collaboration - General

- Better integration and clarity are needed in terms of the roles of the Stormwater Management Authority, Green Adelaide, the Department for Environment and Water, the Department for Infrastructure and Transport, and other key stakeholders involved in the funding and implementation of urban forest management.

3. Any other related matters

The City of Unley is committed to keeping our city leafy for future generations, and eager to work together with the State Government on tackling this shared challenge, including an appetite to trial new approaches in consultation with our community.

The City of Unley has the smallest amount of publicly owned open space in South Australia at just 8.8m² per person and due to high land value, Council will need Government support to correct this imbalance. This limited open space is strongly aligned to urban forest management, particularly in relation to any scheme to offset the removal of trees with planting replacements on public land.

We are currently seeking support from the Minister for Planning to approve Council trialling a Tree Canopy Land Offset fund. **Should the Minister approve a Tree Canopy Offset Fund in the City of Unley for new developments that increase the built form, Council will engage widely with our community about this concept.** Under Council's proposal, all new developments (including extensions) that increase the built footprint would have to provide for a minimum 15% area of tree canopy as part of the development, or an additional 10% of annual rates would be payable for the period that the tree canopy remained below the minimum of 15% canopy cover.

The additional funds collected would be paid into a specific Unley Tree Offset fund that in time would enable Council to purchase land for additional tree planting. Alternatively, there would be incentive to keep, plant and maintain trees to attain the minimum 15% canopy cover on the subject site and avoid the additional annual cost. Further detail is included in Attachment 1 as part of the submission to the Expert Review Panel for the Planning System Implementation Review.

Summary

The inquiry into the Urban Forest presents a valuable opportunity for deeper analysis to address some of the complex issues around urban tree management and a focus on urban infill.

While there are many areas for further improvement, we believe some key opportunities at a state level are:

- Focus all urban forest improvements on outcomes for the protection and retention of existing trees as a higher priority than planting new.
 - Recommend improvements to the Regulated and Significant Tree policies for purpose of improving the extent of tree retention on private land - including increasing the fee for approved removal of regulated and significant trees.
 - Ensure the Planning System Implementation Review supports improved measures to retain and enhance trees (and other greening) on private land.
- Enhance the required tree number, tree size and area around buildings for tree and other complementary soft landscaping planting options, for an effective green outcome for new development as a key part of planning policy.
- Ensure planning policy requires urban greening to the front yards as well as backyards of properties.
- Future proofing urban forest to replace for climate-ready rather than 'like for like' species, planning what we do well and raising minimum standards.
- Support and lead the coordination of standards and guidelines for below ground and above ground services, to support increases in urban forest.
- Continue to fund existing collaboration networks to support ongoing innovation, research, knowledge sharing, and urban forest education.
- Leadership of mapping to coordinate information to track collective efforts, and strategically plan for increasing urban trees.

It is trusted that these comments will be given due consideration.

If there are any queries, or an opportunity to contribute further, please contact Ben Willsmore on 8372 5111 or bwillsmore@unley.sa.gov.au

Yours sincerely

Peter Tsokas

Chief Executive Officer

Enc. Attachment 1:

Attachment 1: Urban Forest related excerpts from 27 January 2023 submission to Planning and Design Code Implementation Review:

Tree Policy

The State Planning Commission Open Space and Trees Project is a positive initiative. The supporting reports released on 1 September 2022, including 'Open Space and Tree Project – Part 1A (Arborist Review)', 'Urban Tree Protection in Australia: Review of Regulatory Matters' and 'Adelaide Home Garden Guide for New Homes', provide valuable and comprehensive research.

The recognition of the increasing importance of trees and canopy in the urban environment is welcomed. The greater protection for established trees, and design policy for increased provision of new trees (and landscaping) with new developments, is supported. This is critical if the desired canopy targets and climate mitigation goals are to be achieved. It may be necessary for such matters to be considered in conjunction with a review of policies relating to issues such as site coverage, trees and provision of soft landscaping (shrubs and vines), together with their size, location and cohesiveness to be effective in the greening of a site.

The review of Regulated and Significant Tree protections by the State Planning Commission and Expert Panel is also welcomed. Greater retention and protection of established trees is required. The criteria for trees captured by general circumference control should be revised and broadened to capture more trees, eg reduce circumference dimension, include height, breadth of canopy, as well as specific or rare species.

The criteria for specific identification and listing of Significant (Special) Trees under the PDI Act should similarly be enhanced to allow for broader capture, recognition, and protection of iconic, special and/or specific established trees. The list should form a complementary adjunct to the general controls for significant trees.

The regulatory framework should be simplified and clarified. Exemptions should be avoided from the general circumference control, eg within ten metres of an existing dwelling or existing in-ground swimming pool (some species exempt).

This distance should be removed, as multiple complex factors, eg type, nature and size of tree etc, determine impacts upon buildings. At the very least, the dimension from a dwelling or pool should be minimised. The assessment process can determine the circumstances and merit in the applicable context.

There are good reasons to protect trees and effort needs to be made to avoid a disincentive and a reason for trees to be removed prior to achieving their potential. Trees should be promoted as making valued and beneficial contributions in private sites and development. This could be supported by greater and stronger provisions to integrate with new (re)development.

Increased tree canopy is a key target and factor recognised for general and development amenity and climate mitigation.

The current planting of a minimum of one tree for each new dwelling (including for new master planned/greenfield areas currently exempt) needs to be enhanced.

Tree number and size obligations and area of available spaces around buildings needs to be increased to be effective. Greater building street and boundary set-backs, smaller overall building footprints, and reduced excessively paved areas need to be incorporated into design policy. For example, the Housing Diversity Neighbourhood Zone primary street setback is 3 metres to the dwelling front wall which is further reduced by the depth of a verandah and paving of possibly 0.9 to 1.8 metres, and therefore an impractical space of 2.1 to 1.2 metres to accommodate a meaningful canopy tree. Increased number of trees, canopy size and overall landscaping need to form an expected and beneficial component of all development.

Soft landscaping percentage and accommodating space around buildings needs to be greater to be effective and reinforced in policy with more rigor to justify refusal if not achieved. What constitutes 'soft landscaping' in terms of nature of plants and desired quality needs to be defined, including indigenous trees, shrubs and groundcovers and the overall scale and substance comparable to that of the development.

The Deep Soil policy that supports trees of scale for development, needs review to define what it means, ie natural ground, not inadequate planter beds. The proportion of the site, relative to the nature of zones and type of development, generally need to be increased not only for deep soil, but also the associated trees ultimate mature tree canopy in proportion to the size of the site. For example, the City of Brisbane requires natural ground deep soil and recently increased area and tree canopy from 10% to 15%

https://www.abc.net.au/news/2022-12-07/brisbane-deep-planting-subtropicaltrees/101743810?utm_campaign=abc_news_web&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web.

Development approvals and conditions need to include, and be clear, that the planted tree(s) must be maintained and nurtured in the long-term to facilitate compliance and enable effective enforcement. Removal of the tree(s) and/or change to the area of soil and/or paving over the allocated space necessary to support the tree(s) should not be feasible and readily remedied.

The Urban Tree Canopy Offset Scheme allows payment in lieu of planting and/or retaining trees. While this is intended to be applied where tree planting is not feasible, the planning zones and soil types applicable to the Offset Scheme are too liberal.

As mentioned above, zone and design policy should be reviewed to increase feasible areas for tree planting with the development to accommodate space and allow for clay soils. Much of the Adelaide plains, and the majority of the City of Unley, have reactive clay soils allowing for an offset to be paid, and too easily avoid the need for beneficial trees with development.

Payments into the Offset Scheme, eg Small Tree (\$300); Medium Tree (\$600); and Large Tree (\$1,200), are not set high enough, nor are they reflective of the actual costs for planting, nurturing, and maintaining replacement trees. Furthermore, they provide an inadequate disincentive for avoiding planting on-site. There are recognised formulas for determining the monetary value of a tree. Such formulas should form the basis for payments made to compensate the removal of a regulated/significant tree. It is therefore recommended that the actual value of a tree be reflected in any offset scheme that may be applied.

The planting of trees off-site also often fails to address the issue of tree canopy within the locality and context of the needs of the new development. Incremental new development and failure to provide trees compounds overall loss and lack of canopy for an ever-widening area of suburbs.

Public realm tree planting is one concept that affords an opportunity for more planting, but in most established areas the remaining space available and conflicting services limit the potential for this concept to be valuable. Further funding options for councils for public tree planting and maintenance in order to encourage the planting of more substantial trees, will help. However, as has been widely reported, the future urban tree canopy will not be achieved if the substantial loss and inadequate new canopy in the private realm is not addressed.

Optimised planting in the public realm is already near saturation in Unley. With only 3% of public open space and opportunities very constrained for further planting in streets given the extent of services, poles, and crossovers that need to be accommodated, there is little opportunity to plant a significant number of trees on existing Council land. The ability to achieve the State's 30% canopy cover target relies heavily upon maintaining and increasing the tree canopy cover on private land to at least a minimum of 15% or more.

Tree canopy cover (trees over 3 metres in height) can be very accurately measured through LiDAR aerial imaging (Light Detection and Ranging 3-D mapping to a 10cm resolution) to calculate the canopy cover area and percentage and apply the increased rates.

Refer to <https://www.unley.sa.gov.au/News-articles/National-award-for-mapping-tree-canopychange> and Unley's MyCanopy app <https://mycanopy.unley.sa.gov.au/#home>

Canopy cover (trees over 3 metres in height) has been measured for all properties in the City of Unley, and this data has been provided to all owners via their rates notice.

Over the last four years the City of Unley has been exploring several ideas to complement enhanced planning policy and offer financial incentives to ensure a minimum of 15% of tree canopy cover is achieved on all private property.

Recently, the Council resolved at its meeting on the 12 December 2022 that:

1. *Administration is authorised to prepare a submission to the Expert Review Panel for the Planning System Implementation Review, and the following points to be included:*
 - a) *A statement which indicates the City of Unley's desire to implement a Tree Offset Fund;*
 - b) *The Tree Offset Fund would only apply to new developments that result in an increase in the built footprint and which do not have a 15% tree canopy cover;*
 - c) *An additional 10% of council rates would be paid on an annual basis to the Tree Offset Fund until a 15% canopy cover was achieved on the property; and*
 - d) *The Tree Offset Fund would be used to purchase land to plant trees on within our local area.*

Whilst the new Planning Code ensures that all new developments can plant and grow trees, there is no mechanism for ongoing effective enforcement. There is also no incentive for owners of these properties to allow the planted trees to grow. Observations indicate that many new developments with a tree planted as part of the development approval, have removed the tree within 12 months of the development being completed. Council is limited with what it can do to enforce planning conditions relating to trees.

The City of Unley loses over four (4) hectares of tree canopy cover each year. Half of this loss comes from new developments that increase the built form. Managing canopy cover in new developments that increase the built form is therefore crucial for the City of Unley to achieve a long-term tree canopy of 31% canopy cover across the city. To achieve a city-wide 31% tree canopy cover, planting and growth on private property must increase from the current 22% to 27% overall.

Over the last four years, Council has had several discussions with the Minister for Planning in relation to Council implementing a tree offset scheme for new developments that results in an increase to the built footprint. Under Council's proposal, all new developments (including extensions) that increase the built footprint would have to provide for a minimum 15% area of tree canopy as part of the development, or an additional 10% of annual rates would be payable for the period during which the tree canopy remained below the minimum 15% canopy cover.

The additional funds collected would be paid into a specific Unley Tree Offset fund, that over time would enable Council to purchase land for additional tree planting. Alternatively, there would be an incentive to keep, plant and maintain trees to attain the minimum 15% canopy cover on the subject site and avoid the additional annual cost.

In discussions with the Minister for Planning, the suggestion has been made that developers could contribute a one-off payment rather than an annual payment. This is not considered to be practical, as a one-off payment is not an incentive for increasing the canopy cover on a private property. In other words, developers could see this as a similar concept to the provision of open space, whereby many developers choose to contribute to an open space fund rather than provide open space as part of a new development.

Any one-off payment is likely to be tokenistic.

Council is therefore seeking support from the Minister for Planning to approve Council trialling a Tree Canopy Land Offset fund subject to our community's support. The offset fund is both an incentive and a solution towards enabling the City of Unley achieving an overall 31% tree canopy.

The City of Unley would be keen to work with the State Government to finalise the details about the trial as well as the community consultation process so that it is meaningful and valid.

Infill Policy

It was a positive initiative of the State Planning Commission for the Code to include policies to increase the design quality of infill development in residential areas, including tree planting, management of stormwater, on-site parking and on-street parking, and design features to enhance building façades.

In reality though, the policy requirements are still inadequate, lack rigour and have proven not to realise reasonable outcomes, or the idealistic representations in promotional brochures.

The policy requirements should be increased and strengthened to reduce building footprints and increase setbacks, open-space, areas of soft landscaping and tree number, size, and canopy.

This is especially the case with contemporary narrow dwellings and multiple group dwelling configurations with resulting extensive areas of crossover, hard paved access and manoeuvring areas, minimal and compromised minimal private open space areas largely covered in and negligible green areas leading to hot environments and poor living amenity.

Key factors that would help is larger overall sites, and particularly wider street frontages and for group dwelling and flat buildings to divorce vehicle parking from each dwelling. Further, the location of multi-unit infill should be more strategic with ready access to, or location along, main roads with high quality, efficient, and convenient public transport to address problems of excessive car ownership and requirements for parking.

This approach could minimise the number and width of access driveways, consolidate group parking to rear (covered owner and open visitor spaces), together with reduced overall building footprint, increased street and boundary setbacks, increased landscape areas, trees, and amenity.