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Expert Panel
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Dear Panel

Treenet is grateful for the opportunity to provide a submission on the Planning System Implementation Review. The submission is made largely in point form, but Treenet would be more than happy to expand upon or discuss any aspects in greater detail should there be interest in doing so.

Defining trees:

- Defining a tree is not simple. Definitions used in other parts of the world often involve a single stem or trunk, which does not work in Australia with our mallee eucalypts and some acacias and other genera.
- *Trees are long lived woody perennial plants greater than 3 metres in height that have one or relatively few stems or trunks.* (Oxford Companion to Australian Gardens 2002).
- The meaning of the term woody also causes confusion but is generally taken to mean that the plant has undergone secondary growth. Technically this is clear, but such a definition would exclude palms, which most people consider to be trees once they reach sufficient height.
- Given public perception, it would be wise to include palms in legislation that relates to trees.

Community benefits provided by trees justify their protection:

This submission is not the place for a detailed review of the many well-reported benefits that trees provide, but some high-value public health and societal benefits correlated with higher canopy cover that are typically under-appreciated should be noted. These include reduced incidence of mental health issues (including anxiety and depression), dementia, self-harm and suicide, and reduced heat stress and heatwave mortality. Increased exposure to diverse green environments increases human resilience under stress, sustains higher average baby birth weights leading to improved health in the long-term, results in better learning outcomes for students, and increases longevity. Reduced crime rates, quicker recovery after hospital treatment, use of fewer prescription medicines, and reduced domestic violence are other related benefits.

Given these benefits and current stresses on health systems, Treenet raises the concern that there does not seem to be any strategy for increasing or even preserving public open green spaces that are under increasing pressure for development of recreation-related facilities or to ensure effective connectivity of urban green space through networks of well-treed greenways. Focussing on canopy

cover across connected urban green space will demonstrate a proactive approach to treating public health issues at one of their causes – the lack of beneficial physical contact with nature in cities. Trees are a vital part of urban infrastructure around which increased human connection with nature must be built.

Valuing tree benefits:

Legal recognition of trees as assets and as urban infrastructure that delivers essential services would assist greatly in planning and development matters.

- Recording trees (public and private) in local government inventories would provide a basis for appropriate management. You cannot manage what you do not know.
- As assets, trees should be assigned a monetary value using the methods described in the nationally endorsed Minimum Industry Standard (MIS506) released by Arboriculture Australia earlier this year.
- There should be proper recognition and accounting for the values of trees attributed through the application of an appropriate method as detailed in MIS506, as there must be for any other public asset, and to allow reliable benefit:cost analyses to inform decisions involving them.

Treenet asks how is it possible, given rising temperatures and public health issues, that planning law continues to ignore the value of trees so that we continue to lose them as our need for them increases? In most Australian cities canopy cover is declining and Treenet notes:

- There is insufficient public land in many Australian municipalities to achieve a 30% tree canopy cover without a contribution from trees growing on private open space.
- In Melbourne tree loss has occurred at a rate of 1-1.5% per annum due to the removal of trees on private land for higher density housing. Adelaide's canopy loss is similar. This is a serious concern for cities anticipating population increase and densification.
- Croeser et al. (2020) found mature trees were lost at and near development sites but were compensated by planting saplings. However, many of the trees lost were themselves younger specimens in their early decades. Loss of youthful mature trees delays achieving local canopy cover by decades.
- As urban canopy cover declines, it is unacceptable that trees are still permitted to be removed because of minor nuisance or infrastructure issues, ignorance or prejudice, through the misuse of exemptions to tree protections. Trees that have provided ecological and environmental services and substantial economic benefit for decades are removed when repairs or maintenance needs could have been quickly and cheaply resolved and the tree retained. This problem would not exist if trees were appropriately valued and benefit:cost analyses guided management decisions.
- Tree removals based on a whim result too frequently when a property changes hands, through the misapplication of current exemptions to tree protection. Private landowners must be made aware that they have a responsibility for managing trees for the greater community good. A moratorium on tree removal following change of property ownership may help in these cases.

- Similarly, a moratorium on tree removal while this review and the Parliamentary Inquiry into tree canopy loss progress would preserve many trees that will otherwise be removed
- The Government of South Australia's recent action to preserve the last remaining Grey box (*Eucalyptus microcarpa*) trees in the suburb of Black Forest is to be commended. This action demonstrated that these trees were valued highly and reasonably by the Government. Fair and reasonable tree valuation using the accepted minimum industry standard (MIS506) would provide funds to support councils to similarly purchase land to protect and to establish trees, as demonstrated by the SA Government.

Tree removals and urban development:

The total clearance of development sites and allotments, which is common practise, should be prohibited. Many beneficial trees are unnecessarily removed for construction works, to be followed by minimal and inadequate replacement by saplings on completion of works. This is illogical and expensive both economically and environmentally. Communities lose environmental and ecological services as a result, typically for decades.

- Fines for illegal tree removal are too low to provide an effective disincentive. They do not reflect the value of a tree as an asset. Many developers factor in the fines as a cost of doing business.
- It is pleasing to see some local governments acting to protect trees on private property as best they can with current legislation. However, it would be worth knowing how effective they are in protecting safe and healthy trees. While it is difficult to gather data, it has been estimated that 97% of requests made nationally to local government authorities for tree removals are ultimately approved.

Tree removals and misapplication of exemptions:

Current exemptions permit the removal of trees which contribute environmental and human benefits but which do not present unacceptable or unmanageable risk. Too often trees are assumed to be causing problems to infrastructure without data to support such assumptions. If roots are damaging infrastructure there is evidence of tree roots causing the damage, so tree removals must not be approved without such evidence.

- Properly installed plastic and other plumbing cannot be penetrated by roots tips unless the pipes are damaged or cracked.
- Damage to hard landscape would be rare if built assets were properly designed and constructed. Trenches, slabs and footings must be properly back-filled but they rarely are.
- Damage to infrastructure due to direct root contact and pressure is possible but is a small percentage of damage that is currently attributed to roots, and in these few cases it typically results from poor work or inadequate backfilling during construction.
- In many instances tree canopy cover reduces bushfire risk and the misapplication of the bushfire risk area's '20m rule' to remove beneficial trees actually increases risk, but this exemption allows tree removal regardless of reason. Treenet is aware of the removal of

healthy, safe and well-managed trees that this exemption has allowed and which has increased bushfire risk.

- The ‘10m rule’ allows unjustified removal of beneficial trees in metropolitan areas.
- Claims made in support of applications for tree removal, e.g. on the basis of allergy, impacts on built infrastructure, bushfire risk or other purported need must be supported by appropriate evidence.

Diversity is essential

Growing conditions for trees vary significantly across Greater Adelaide and more widely across South Australia. Varied environmental conditions within and across individual council areas resulted in the biodiverse mosaic of vegetation types that supported Aboriginal citizens for millennia. At the local level, Kaurna land was a biodiversity hotspot. Add demographic and cultural diversity to environmental diversity and ***it is clear that a ‘one size fits all’ approach will not deliver the best outcomes for communities*** across greater Adelaide or for South Australia. Tree protection must be fit for purpose and must fit local situations.

- Protection and enhancement of tree diversity at and within the scale of local governments is justified and indeed demanded by the high status of *Adelaide National Park City*.
- Blanket exemption of particular species of trees from protection across Greater Adelaide or South Australia cannot meet local needs across such a diverse landscape. Best practice would also require that tree planting (replacement) goals vary to reflect the diversity of planting opportunities presented by local environmental conditions and cultural needs.
- Listing a species as exempt from protection due to its general characteristics will result in the unnecessary loss of beneficial specimens. As an example, exempting elm species (*Ulmus sp.*) on the basis of perceived poor future climate resilience may result in the loss of majestic examples growing in suitable conditions and locations such as sheltered gullies in hills areas. Exempting trees like *Prunus* species which typically do not meet the size requirements to trigger current tree protections may result in the unnecessary loss of exceptional specimens.
- There is some justification for exempting declared pest species from protection in some situations and in some areas, but even here difficulties arise. Desert ash (*Fraxinus angustifolia*) is invasive in some situations but can be a resilient shade species in catchments where seeding is unlikely to be problematic. The Claret ash cultivar (*Fraxinus angustifolia* ‘Raywood’) is not known to be invasive.
- Vegetation overlays would support local tree protection and planting needs. They could provide the detail needed to inform tree protection and to guide planting to ensure local vegetation remains resilient to the changing climate and establishes an optimal, biodiverse, and ‘rewilded’ patchwork to maximise resilience, minimise risk (e.g. pest, drought, extreme heat, extreme wind, humidity, flood) and deliver maximum aesthetic and bio- diversity for human health and wellbeing.

Compensation for large, old tree removals

Compensation for large and old tree removals is problematic. When a large tree is replaced by one or a few saplings there is no guarantee of their quality or requirement for their long-term survival and performance. 10 or 20 years after planting there are often no surviving trees, particularly on privately owned land. This is often also the case on public land and large project sites, due typically to the combination of poor urban design with respect to the tree's biological requirements, sub-standard quality of the nursery stock, lack of horticultural trade knowledge and expertise across the construction industry, inadequate commitment to ongoing tree establishment and care, and lack of clarity and enduring responsibility for tree provision by stakeholders in the many separate processes leading to their planting.

- If compensation for large tree loss is to be made then the planting of a small tree or a few small trees for the loss of a large one is totally inadequate.
- As a simple approach, Treenet recommends planting up to 20 smaller trees for each large tree lost if environmental and aesthetic services are to be restored over a 10 year period. This is an over-simplification, but guidelines are available in the paper by Nowak and Aevermann (2019).

Urban tree protection measures and their application

Current tree protection measures are inadequate. Too few trees are protected; too many highly beneficial trees are being lost. In addition to trees lost through inadequate protections and mis-use of exemptions, many trees are lost unintentionally through avoidable impacts and injury. To prevent avoidable injury expert tree-literate input to design processes is needed at the scoping stage of new developments. Expert arboricultural knowledge must be available at the early stages of the development process to inform the design of tree protection measures and processes, and deep soil zones and WSUD where tree planting is required.

- The metrics that currently define regulated and significant trees require review. Tree protection measures in Victoria and New South Wales are more effective; trees greater than 50cm in circumference, over 6 in height, or with a canopy cover of $9m^2$ or more are protected. Similar metrics should be applied in South Australia.
- Exemptions currently utilised by state government departments (e.g. Department for Education; Department for Infrastructure and Transport) must be removed. These departments are responsible for managing high profile, highly used public land on which trees are most valuable and desirable. Governments must lead by example.
- Tree protections should apply to cities and towns in regional areas
- The canopy offset scheme must be modified so financial contributions align with the value lost through tree removal as attributed by one of the methods endorsed in MIS506. This will result in fewer trees being removed, as has been demonstrated in the City of Hobart (Wilson 2022).

- With increased resources generated through appropriate tree valuation, the canopy offset scheme should fund land purchases to protect regulated and significant trees with substantial cultural, botanical or other values as well as to resource tree planting
- Treenet strongly supports legislation dealing with urban trees requiring the application of the guidance detailed in relevant standards including:
    - AS4373-2007 Pruning of amenity trees
    - AS4970-2009 Protection of trees on development sites
    - AS2303- 2018 Tree stock for landscape use
    - SA/SNZ Risk management standards
- A requirement for a pruning specification to address specific needs and based on evidence provided should replace the current 30% canopy reduction limit. The specification should detail why tree surgery is necessary or desirable and identify and prescribe the minimum extent of surgery required to address immediate or developing tree health, structural or management needs.
- Legislation that requires tree planting must also require effective tree establishment and ongoing maintenance.

Independent expert authority

Treenet believes that the appointment of a State Arborist is needed to ensure tree protection measures are applied fairly and consistently. Such an appointment is justified and required in a National Park City. The Arborist might take part in mediation and court cases related to trees. The Office:

- might have powers similar to an ombudsman in matters relating to trees on private and public land.
- would be cost effective as it would consist of few positions – arborist, lawyer, support staff – with other staff contracted as needed.
- would recoup costs from fees paid by those involved in disputes.

Thank you for the opportunity to contribute these views to the review and to support the protection and enhancement of Adelaide's and South Australia's urban forests in this way.

Yours faithfully

Dr Tim Johnson

Director: Treenet

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