



## Better Best Practice Note

### Locating Trees for Multiple Benefits

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Finding suitable locations in urban areas to plant trees that will grow to achieve a large healthy canopy requires the consideration of many 'plantability' factors. For example:

- is there available space above ground, below ground and at street level to minimise infrastructure and functional conflicts?
- do the local neighbours and the wider community want more trees? If so, what type?
- do the trees need to fit into an existing boulevard or patterned planting scheme?
- will the tree fit in with the existing layout, scale and character of a streetscape?
- are there streetscape, heritage and built form plans that will impact tree locations?
- is there suitable soil density, soil moisture and soil health to support a tree?
- is there adequate water available to support this tree in the long term?

But wait. There are important sustainability and public health outcomes that city shapers need to consider *even before* dealing with the above plantability factors.

We need to ask 'where in our suburbs, precinct or site would tree planting provide most environmental and public health benefit for the community?'

#### **Step 1. Establish targets for broader sustainability and public health outcomes**

Sustainability and public health goals for our cities can be implemented well if they are expressed as targets.

These targets are generally directed by the urban design and environmental policy priorities of Local and State Government and include project based targets such as:

- 40% increase in tree canopy cover by 2040 through the reinstatement of lost trees, planting of new trees and living shade structures, and the creation of improved growing conditions.
- No net loss of 'unsealed' surface area available for rain infiltration and vegetation post construction.
- At least 25% of new and reinstated planting areas must consist of diverse, multi-story plantings for biodiversity
- Use rainwater and/or stormwater to provide passive irrigation to all tree plots and vegetated areas to support soil moisture needs.

To help meet these targets, site managers may need to undertake tree planting beyond the construction precinct zones of their project area. Talk to adjacent landowners as they are very likely to support your careful planning for possible trees on their land.

This will create additional community and environmental legacy outcomes for the project.

The location of any additional trees outside of the project area will ultimately be guided by the policies and expertise of the ongoing land manager.

*Action: Set project based targets for broader sustainability and public health outcomes, including consideration of works (such as tree planting) beyond your project area.*

## Step 2. Link to an organisational objective

The Tree Location Hierarchy for Multiple Benefits needs to be linked to an organisational objective.

This may be an organisational goal or objective that commits to 'reducing the impact of climate change', or to 'protect and enhance biodiversity', or to 'improve liveability and public health outcomes'.

*Action: Link the outputs of applying the tree location hierarchy to an organisational objective*

## Step 3. Establish a methodology to determine a tree canopy base case

For a target to increase tree canopy to work, we need to know the starting 'base case' amount of canopy.

This can be done measuring all canopy in the current year. This involves mapping via aerial and LIDAR photography along with site inspections to ground truth.

For a specific project site that will require the removal of some trees the base case methodology can apply the following principles:

- the canopy will be expressed in m<sup>2</sup> and will encompass the area of tree canopy to be removed.
- the canopy of each tree removed will be based on existing tree canopy data and mapping. It is not based on the potential canopy of the removed tree.
- the canopy base case will include all existing trees, including juveniles.

*Action: Determine and apply a methodology for establishing a tree canopy base case*



*Better Best Practice Notes are designed to help practitioners strive for best possibilities in delivering city shaping and sustainability projects. We call them Better Best Practice Notes as a reminder that our best is always getting better.*

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*This Better Best Practice Note has been developed in partnership with Melbourne Metro Rail Authority and Urban Forest Consulting. Last updated January 2018.*

**Attach this Better Best Practice Note next time you request a quote, and ask bidders how they will incorporate best possibilities for your project.**

## Step 4. Establish a methodology to determine where to plant additional trees

The target tree canopy area will be modelled on species selection, growth rates and growing conditions such as allocated soil volume and specification, canopy space and access to soil moisture, in line with engineering and landscape designs.

### Tree Location Hierarchy To Maximise Multiple Benefits

**FIRSTLY:** Trees to be located within and beyond your site in the following order of consideration:

- within the project area
- adjacent to project area
- within the suburb of the project area

**SECONDLY:** Trees to be located on land that maximises the public benefit for the long term (and only if there is demonstrated capacity of the land manager to maintain tree health and risk management).

The order of consideration is:

- local government managed land
- other government and institutional land used and accessed by the public
- other land whereby the benefit of the tree is enjoyed in the public realm (eg commercial land with tree planting along its fenceline providing shade for footpath).

**THIRDLY:** Trees to be located where they can best address the local community and environment benefits. The order of consideration includes opportunities to:

- reduce the impact of thermal hotspots with a priority for improving residential/trading/ pedestrian comfort
- increase the canopy cover in precincts with lower than average tree canopy coverage
- optimise opportunities to capture, treat and slow the flow of stormwater
- benefit biodiversity by helping fill a habitat gap for fauna, birds and other pollinators.

These locations is to be chosen in consultation with each of the tree asset owner stakeholders.

This hierarchy is designed to provide early guidance on how a tree location can help provide living infrastructure benefits. This is a starting point for considering tree locations and needs to be followed by critical tree viability issues as guided by arborists and land managers.

*Action: Don't just plant trees where they will fit. Use this hierarchy to be sure they will bring multiple benefits for decades to come.*

See also CRC for Water Sensitive Cities (2017) [Trees for Cool City: Guidelines for optimised tree placement](#)