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So You Want to Plant More Trees?

A guide to commissioning and managing
tree-planting, for councillors and
other local decision-makers



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The Green City is an international campaign to promote the many benefits of making urban areas greener.

Together we curate a live website which contains useful material for people who want to learn more about the value of urban greening. The Green Cities campaign includes partners from the United Kingdom, Belgium, Bulgaria, Denmark, France, Germany, and the Netherlands.

<https://uk.thegreencity.eu>

Green City is particularly useful for councillors, local businesses and community groups who would like to know more about how to green their local places in order to support people's wellbeing, reduce the impact of climate change, and attract investment.

In the UK, the Green City is managed by the Green Infrastructure Partnership on behalf of the Horticultural Trades Association.



The Green Infrastructure Partnership is a UK-wide network of people and organisations that work to promote and enhance 'green infrastructure' – the networks of parks, green spaces, street trees, green roofs and other green elements that provide multiple benefits to people and society.

The Green Infrastructure Partnership is free to join, and members receive a newsletter ten times a year, providing information about funding opportunities, policy initiatives, research, projects, and events. To join the Green Infrastructure Partnership, email gip-uk@tcpa.org.uk

The Green Infrastructure Partnership is managed by the Town and Country Planning Association (TCPA).

Keep in touch with us!

Green City:	https://uk.thegreencity.eu
Green Infrastructure Partnership:	www.tcpa.org.uk/GIP
TCPA:	www.tcpa.org.uk
Horticultural Trades Association:	https://hta.org.uk



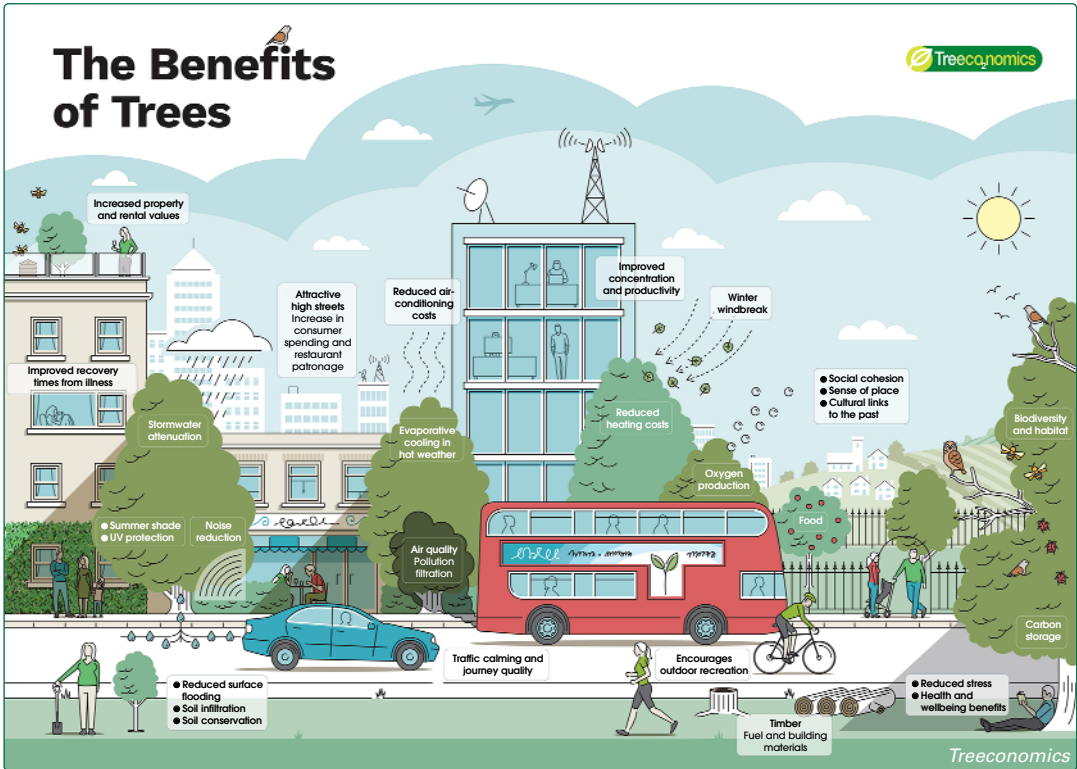
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Cover image of Gothenburg, Sweden, courtesy of Keith Sacre

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Trees – essential infrastructure for successful places



The benefits of trees

The benefits of trees in urban areas are now widely recognised, and across the UK many councils and businesses are keen to increase the number of trees in their neighbourhoods. Streets, parks and public spaces with healthy trees can attract people and investment, as well as helping to cool urban areas in the summer and contributing to other climate change adaptation and mitigation objectives. However, without careful consideration, it is possible to waste resources on tree-planting schemes that are ultimately unsuccessful. This short guide, for councillors and other local decision-makers, provides an overview of what needs to be thought through before going ahead with tree-planting.

Trees are essential urban infrastructure which accrue value – and deliver greater services – as each individual tree grows and develops. Other infrastructure developments, such as roads or street lighting, are strategically planned under the assumption that significant ongoing annual investment in care and maintenance will be necessary. For tree-planting initiatives to be successful and deliver what is anticipated of them, they too need to be designed strategically to achieve a shared vision, and have investment in their care and maintenance factored into the plan.

What to consider when commissioning urban tree-planting



- **London's trees intercept over 2,000 tonnes of pollution per annum at a value of £126 million.**
- **London's trees store over 2 million tonnes of carbon per annum at a value of £147 million.**
- **London's trees sequester over 75,000 tonnes of carbon per annum at a value of nearly £5 million.**
- **London's trees alleviate over 3 million cubic metres of water run-off per annum at a value of £2.8 million.**

Some of the environmental services provided by London's trees

Source: *Valuing London's Urban Forest: Results of the London i-Tree Eco Project*. Treeconomics London, 2015

Across the UK, national and local policies recognise the many benefits of urban trees and the need to plant more of them to increase those benefits. If the benefits are to be increased, the total amount of tree 'canopy cover' – the area of ground covered by leaves when viewed from above – has to be increased.

The 'urban forest' is a phrase used to describe all the trees, shrubs and other green infrastructure on both public and private land. The urban forest is dynamic and ever-changing: trees die and need to be replaced annually. Tree-planting initiatives are critical to this process and are to be welcomed. However, tree-planting is just one element of strategic urban forest management – which involves long-term planning, the creation of a vision, and a defined series of outcomes that cumulatively achieve that vision. Tree-planting initiatives are one contributory factor; and they have to be strategic and continuous if they are to be successful.

Before commissioning an urban tree-planting scheme, it is essential to have a clear idea of what is desired and a plan for achieving success. Too often, urban tree-planting initiatives are undertaken without a full understanding of the factors that affect the long-term survival and health of trees in the urban environment. Ambitious targets and goals for tree-planting initiatives are important. However, if they are to be met, then simply basing targets and goals on the number of trees planted or on a hypothesised percentage increase in tree canopy cover will be inadequate and likely to result in eventual failure. The approach to successful strategic urban forest management, and subsequent tree-planting initiatives, can be expressed in four basic principles:

- 1 What have we got?**
- 2 What do we want?**
- 3 How do we get there?**
- 4 How are we doing?**

What have we got?



To maximise the effectiveness of planting initiatives there needs to be an understanding of what already exists before any work is undertaken. Features that need to be understood include:

- the distribution of the urban forest;
- the current tree species mix;
- the age range of the tree population;
- the amount of available planting space; and
- the level of ecosystem services currently delivered.

This information allows planting initiatives to be strategic in their implementation, focused on the areas of greatest need, and prioritised. Priorities can be local and designed to meet needs such as countering environmental inequity, ameliorating atmospheric pollution hot-spots, providing shade, and responding to aesthetic considerations essential for human health and wellbeing. All of these factors can be mitigated or enhanced by tree-planting.

Trees are essential urban infrastructure, and therefore the placement of trees in urban areas must be considered strategically and built upon annually. If tree-planting initiatives are focused only on the number of trees planted, or the percentage of canopy to be increased, they will miss the opportunity to prioritise areas of need or maximise the benefits which accrue from tree-planting. Random bursts of tree-planting, however well intentioned or resourced, will not lead to the successful long-term delivery of these benefits.

What do we want?



Keith Sacre



Keith Sacre

Trees that have been planted and nurtured successfully – succession planting of London plane in Brive, France (left), and high-quality planting in Berlin, Germany (right)

Planting initiatives should be carried out with the involvement of the local community, not imposed from above. Assessing what is wanted is critical, and such an assessment should be based on extensive stakeholder engagement and consultation to ensure that the project will meet the needs of the community and be successful. Adoption by the wider community will provide support for the project, and might also help identify volunteers who could lend a hand in looking after the trees once they have been planted. People are more likely to welcome tree-planting schemes if they have an investment in their success.

It is at this stage that a vision can be created: a vision that is both specific and shared. This vision can be articulated and communicated through the creation of an urban forest masterplan.

How do we get there?



The next stage is to prepare a tree strategy, including detailed tree-planting initiatives. The following questions will need to be answered:

- Where to plant?
- Which species to plant?
- How to procure suitable tree stock from nurseries?
- How to secure resources for management and maintenance?

These questions and their answers can be included in a long-term plan which sets out how progress will be made towards achieving the vision over a number of years.

The plan should include targets and goals for tree-planting. These should be achievable, with planted trees managed and maintained to achieve longevity in the landscape. If large numbers of trees are planted without resources for their management and maintenance, the project will inevitably lead to failure, disappointment, and a waste of valuable resources, both human and financial.

Goals for increasing tree canopy cover should be set realistically, and over time. Tree-planting does not result in instant tree canopy gain. The urban forest is dynamic: trees are planted; trees die and are removed. Canopy gain is achieved over several years and should be planned and forecast realistically.

How are we doing?



Avenue planting in Lyon, France

Monitoring and review are often forgotten about, but they are critical in assessing two key elements of tree-planting initiatives. The first is how successfully the initiative has contributed towards achieving the vision identified for the urban forest. The second is how successful the planting initiative has been. There are many potential problems which can – and very often do – occur and result in planting failure. Some of these can be addressed before planting, and some following planting.

Monitoring and review should include factors such as identifying which species have been successful and which have not – and also an assessment of planting methodologies and maintenance schedules, to determine which worked and which did not. The specifications in contracts can be evaluated and, if necessary, revised for future planting initiatives.

Questions including the following should be answered, and the answers should inform future specification documents:

- Were site constraints successfully ameliorated?
- Was there adequate space for tree development, both above and below ground?
- Was the tree stock being planted of sufficient quality?
- Were suitable species chosen for particular sites?

Following planting, management and maintenance are critical; but they are often poorly specified, poorly carried out, and – most often of all – inadequately resourced. The factors which are often overlooked include:

- adequate watering;
- soil condition;
- timely removal of support systems and other installations placed to protect the tree after planting; and
- formative pruning of young trees.



Poor planting and maintenance – a tree which has been given very little room for root growth (left); a tree with roots obstructed by surrounding infrastructure (centre); and a poorly maintained tree (right)

All these factors are vital for success. Failure in any one of these is likely to result in the overall failure of the planting initiative. It is, therefore, critical that these elements are thought through and adequately resourced before any tree-planting is undertaken. Investment in tree-planting requires more than just planting a certain number of trees. If the longevity of the trees that are planted is not ensured, the investment is likely to be wasted.

Regular reviews of the project's progress provide opportunities to communicate with and involve stakeholders. Demonstrating success can also help to attract more funding for the urban forest.

The four stages set out on page 4, and described thereafter, form a continuous cycle, with each dependent on the other. Monitoring and review lead to a re-assessment of the 'what have we got?' question. Each planting initiative adds to the analysis and drives both of the next stages towards achieving the vision – which itself should be reviewed periodically.

Further reading

Web-based information:

Trees in Hard Landscapes: A Guide for Delivery

Trees and Design Action Group

www.tdag.org.uk/trees-in-hard-landscapes.html

Trees in the Townscape: A Guide for Decision Makers

Trees and Design Action Group

tinyurl.com/y3979aoz

Tree Species Selection for Green Infrastructure: A Guide for Specifiers

Trees and Design Action Group

www.tdag.org.uk/species-selection-for-green-infrastructure.html

Specification Manual: A Guide to Specifying Young Trees from the Nursery

Barcham Trees

www.barchampro.co.uk/guide/specification-manual/

Species Selection: A Guide to Informed Decision Making

Barcham Trees

www.barchampro.co.uk/wp-content/uploads/2019/05/Species-Selection-FINAL.pdf

Planting Guide: A Guide to Tree Longevity in the Landscape

Barcham Trees

www.barchampro.co.uk/guide/planting-guide/

The Sustainable Urban Forest: A Step by Step Approach

Davey Institute

www.itreetools.org/documents/175/Sustainable_Urban_Forest_Guide_14Nov2016.pdf

Various reports and resources

Treeconomics

www.treeconomics.co.uk/resources/

Books:

Urban Forestry: Planning and Managing Green Spaces, by R Miller, R Hauer and L Werner
(Waveland Press, 2015)

Routledge Handbook of Urban Forestry, by F Ferrini, C Konijnendijk and A Fini
(Routledge, 2017)

BS 8545:2014 Trees: From Nursery to Independence in the Landscape
(British Standards Institute, 2014)



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