Why Trees Matter

A discussion paper for Cambridge City Council

Why trees matter

Trees are widely, and increasingly, recognised as an important contributor to people's wellbeing and to the liveability of places, both in rural and urban contexts. Successive Governments have emphasised the importance of managing and enhancing the national tree stock, to maximise these benefits and to ensure their continuance in the face of the threats that face trees now and in the coming years.

Trees in urban areas make their contribution in a number of different ways,[1] including these:

Economic benefits

- The presence of trees in the vicinity tends to increase property values, and enhances the desirability of particular properties;
- Tree-lined streets, green corridors and open spaces are an attractive feature of townscapes, increasing the attractiveness of towns to visitors, and promoting leisure activity and associated spend;
- Trees provide shade, helping to reduce energy costs;
- Tree planting can improve the appearance of derelict land, increasing land values;
- Trees provide environments that encourage inward investment and business location.

Social and amenity benefits

- Trees make public spaces more appealing, encouraging their use for social interaction and cohesion activity;
- Trees make developed areas more attractive, breaking up the built environment visually and providing a more pleasant vista and ambience, and providing visual variety and seasonal change;
- Trees help to obscure unattractive and unappealing areas such as industrial areas or large functionally-designed buildings;
- Trees provide contact with the natural environment for urban residents, which can be beneficial in a variety of ways;
- Trees provide shade for outdoor activities such as children's play and social gatherings.

Health benefits

- Trees and the spaces they enhance are important to people's mental health and well-being;

[1] Developed from Trees Matter! (National Urban Forestry Unit, Wolverhampton, 2005), but including other benefits identified elsewhere

- Trees help to mitigate atmospheric pollution, and reduce the impact of traffic on air quality;
- Trees provide separation of walking and cycling routes away from traffic, improving the attractiveness of routes for exercise and sustainable transport.

Environmental benefits

- Trees have a positive impact in mitigating the effects of climate change;
- They reduce the "heat island effect" of localised extremes of temperature, which lead our cities to have higher average temperatures than the surrounding countryside;
- Trees provide a diverse habitat for smaller creatures, and for nesting and roosting birds, and corridors for wildlife movement;
- They reduce atmospheric pollution;
- They reduce the noise and visual impact of urban traffic;
- They reduce wind speeds and slow rainfall, reducing the risk of flooding.[2]

Heritage benefits

- Trees are part of an inherited landscape that links us with our past;
- They are also part of the landscape legacy we leave to those who succeed us;
- They are important identifiers of place, acting as landmarks, or as key features of local character, and often feature in the naming of urban spaces, locations and buildings, or the ways in which we identify places to one another.

Of course, not all trees offer the same level of benefit to their surroundings. However, a national survey[3] found that 82% of urban trees make at least some contribution to the urban environment, and a further 14% make an "outstanding" contribution. Only 4% of urban trees are assessed as making no contribution, or as detracting from their surroundings. This means that even immature, or incidental, trees are playing an important part in urban quality of life and amenity. Trees' capacity to assist in reducing the impact of flooding is greater when they are in full leaf, but even in winter trees can help mitigate the effects of severe climatic conditions.[4]

[2] Trees in our Towns, Woodland Trust Report (2014), p. 4

[3] Reported in Trees in Towns II, Chris Britt and Mark Johnston (DCLG/ADAS, February 2008), Executive Summary paras 81-88

[4] Trees in Our Towns, p. 7

Trees are also increasingly recognised as having a financial value as community assets. This provides an important indicator, not only of the worth of the stock, but also as a benchmark for the amount spent on tree-related work, enabling an authority to track how its tree-related spend is keeping pace with, for instance, expansion of the tree stock through new planting. It also facilitates comparisons with other authorities using the same valuation process. A recent Government report[5] recommends that local authorities should monitor tree-related spending in relation to the total value of the tree resource being cared for, or at least re-cost tree management budgets, so as to allow the impact of budget changes to be quantified and understood.[6]

The national picture

National policy[7] recognises the worth of urban trees, and focuses on maximizing their benefits; it has been driven primarily by the need to ensure that development is sustainable, and by the need to mitigate the predicted effects of climate change. More recently, Government has stated that its most urgent priority is protection,[8] with a view to maximising the social and environmental benefits of trees both in a rural and an urban context.[9]

In addition, Government policy emphasises the desirability of local and community involvement in tree management and enhancement[10] and stresses the importance of helping people to get more involved with trees in their neighbourhoods, and of using tree-related activities as catalysts for bringing communities together and promoting cohesion. It also emphasises the role of the local authority, working with its community to decide local priorities - a role which the Government intends to 'facilitate, not dictate.'[11] This dimension seems likely to increase in significance as financial pressures on local Councils lead to the devolution of more responsibility to communities, and require even stronger relationships between local authorities and residents.

Sustainability principles require that any change to meet today's needs should not be at the expense of future generations. In tree terms, this would suggest that the legacy of trees left for future generations should be at least as good as the one we inherited from

[5] Trees in Towns ii, Chris Britt and Mark Johnston (DCLG/ADAS, February 2008) Executive Summary para 196

[6] Trees in Towns ii, Executive Summary paras 194-195.

[7] A Strategy for England's Trees Woods and Forests: DEFRA, 2007

[8] Government Forestry and Woodlands Policy Statement, January 2013, p. 2

[9] Ibid., p. 3

[10] A Strategy for England's Trees Woods and Forests: DEFRA, 2007, chapter 4, pp 13 - 16

[11] Government Forestry and Woodlands Policy Statement, January 2013, p. 7

our predecessors; whilst trees will inevitably be lost through development, disease and other causes, we should plan to replace these trees so that future generations enjoy their benefits as much as, or more than, we do already. All our plans therefore need to include trees as an important feature of the local land- and streetscape, whilst we should also ensure that existing trees are properly protected and, where tree works are essential, replaced or renewed.

Climate change poses a range of threats to trees; on the other hand, trees are an important part of the way we defend our environment – "a key part of our armoury to combat climate change."[12] A new climate means that the trees that were planted in Victorian and Edwardian times, and that are now our mature trees, may no longer be suited to the new climatic conditions – warmer, wetter winters and drier summers - in which they will have to survive in the future. Climate change may bring with it new pests and diseases, that could not survive our former climate but can live in our new, warmer environment. However, mature and maturing trees will also play a vital role in mitigating these effects, by providing shade, breaking up torrential rain, and absorbing atmospheric pollutants, for instance. Many experts[13] believe that climate change is already upon us, but that its most serious effects will be seen in around 50-60 years' time;[14] preparation now through new planting will create mature and maturing trees when they are most needed.[15]

Nationally, there is also concern over the potential for shrinkage and expansion of clay soils, which in turn could exacerbate subsidence and movement, and increase demands for tree removal to protect buildings and walls. This is a significant problem in some urban areas with soils that are prone to shrinkage and expansion – London is the most significant example – and is an issue in Cambridge. Avoiding future risk by ensuring that foundations for new houses are 'fit for purpose' over their intended lifetime, and ensuring that the levels of evidence required to support the removal of a tree are proportionate to its value, have also been recommended.[16]

There are concerns over the age of our trees nationally. We have proportionately fewer young trees, which indicates a reduction in planting over the period 1990-2005, and we need to address this deficit. The Natural Environment White Paper, published in 2011, also highlights the need for more tree planting in towns and cities as part of a wider strategy for mitigating and combating climate change. It is still unclear whether the local situation follows this national trend, but we do know there are opportunities for increasing

[12] The Case for Trees, Forestry Commission England, Bristol 2010, p 3

[13] For instance, S E Gill, J F Handley et al, Adapting Cities for Climate Change (Built Environment, Vol 33 No. 1, p 130

[14] Gill and Handley, p 116

[15] Trees in Towns II, p 5

[16] TDAG No Tree, No Future, p. 10

canopy cover. This could be done by doing more to promote tree planting: looking for places to plant trees on our own land, including parks, commons and other spaces; promoting planting on private land especially in areas with limited numbers of trees; and by being stricter about getting trees into the landscape and streetscape of development sites.

The National Planning Policy Framework is more equivocal in its support for the environment. It calls for a move away from loss of biodiversity towards 'net gains for nature'[17] and requires local authorities to take a strategic approach in planning for the creation, protection and enhancement of green infrastructure.[18] The new framework states that planning permission should be refused for developments that threaten irreplaceable habitats, but qualifies this by allowing such developments if the need for them clearly outweighs the loss.[19] This means, among other things, that hard and detailed evidence will be needed to contest development proposals in these circumstances.

The Green Infrastructure

Trees are also important as part of a wider landscape that includes the urban forest, but also the wider green environment and environs of the city. The local Green Infrastructure Strategy[20] promotes similar objectives to those in national policy, but also identifies the added strategic value of linking sites as a network to provide green routes for humans and wild species alike. Its section on the city of Cambridge notes the pressures for development on the city fringes, and stresses the importance of taking opportunities to enhance the green infrastructure in development localities. It also notes the importance of green space (including trees) as part of the city's historic character, the importance of this space for promoting health, education and recreation, and its significance to biodiversity.

[17] National Planning Policy Framework, para. 9

[18] National Planning Policy Framework, para. 114

[19] National Planning Policy Framework, para 118

[20] Cambridgeshire Green Infrastructure Strategy (Cambridgeshire Horizons, 2011)

Cambridge's urban forest

Urban trees are thus an important part of the infrastructure of the city, but also as part of an "urban forest ecosystem"[21], the network of green spaces and living organisms that are such an important feature of urban quality of life and biodiversity.

A recent report on the city's trees[22] notes that our canopy cover is strong, with 17% of our total land area covered by tree canopies, against a national urban cover average of around 8%. There is however a wide variation between wards, from 12% in Cherry Hinton ward up to 22% in Newnham ward; this variation is largely due to different land uses within wards, and there is scope for raising levels of coverage in all wards.

In Cambridge, urban trees fall into four broad areas of ownership:

City Council trees: The City Council is probably the largest single owner of trees in Cambridge. We own trees on public land such as parks and play areas, and also in local nature reserves, cemeteries, allotments, housing estate lands and Council premises themselves. We own the trees on the city's commons, and many of the trees on the riverbank. Our open spaces provide a good many of the trees with the largest canopies.

Street trees: Most street trees are owned by Cambridgeshire County Council, but the City Council manages these trees on behalf of the County, and we are required to provide maintenance and other services.

Institutional trees: These are privately owned, but are so significant in the context of Cambridge as to merit consideration in their own right. The most significant institutional owners of trees are the colleges, and many of the city's oldest and most significant specimens are owned by colleges; institutions such as these have the greatest proportion of larger trees, for example.[23] Other institutional owners include ecclesiastical authorities, health authorities, rail and transport landowners, and schools.

Private trees: trees in people's gardens, or on privately-owned land. These trees make up a significant proportion of the city's tree canopy.

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[21] Matthew Magrath, Draft Urban Forest Habitat Action Plan, Cambridge City Council, not yet published

[22] Analysis and Interpretation of Tree Audit Data, ADAS, May 2012

[23] ADAS report, p 4

In spite of this diversity of ownership, management of the urban forest is essentially a local authority responsibility. Much of the tree stock is directly owned by the local authority; a significant proportion is managed by us; and we have the powers to regulate and protect much of what remains. Local authorities are required by law[24] to make use of planning conditions to preserve or plant trees in appropriate applications. There are also statutory powers to protect trees, using Tree Protection Orders (TPOs). The National Planning Policy Framework requires us to work strategically with others to plan for biodiversity and green infrastructure.[25] Government believes[26,27] that a Tree Strategy can complement these requirements, if it is incorporated into, or reflected in, the Council's Local Development Framework and becomes a material consideration in evaluating planning proposals.

Nevertheless, policy recognises that partnerships will also be essential to delivering the kind of tree management we need. This will include productive relationships within the authority, between the various departments for whom trees play a role; and also into the wider community, developing a sense of shared responsibility and enabling a wider range of resources to be deployed. To support this, policy recommends that information about trees, both for planning purposes and to support protection and enhancement, should be more accessible to people, and that authorities should be proactive in promoting the benefits of trees to local residents.

> ***"As a society, we have lost sight of the value of trees...we need to grow a new appreciation."***
>
> *Rt Rev James Jones, Bishop of Liverpool, Chair of Independent Panel on Forestry*

Urban trees – the downside

Trees may offer considerable benefits to urban settings, but there are nevertheless problems associated with some trees that need to be taken appropriate account of in the urban context.[28] Some of these problems are caused by trees themselves; some are the

[24] Town and Country Planning Act 1990, S 197

[25] National Planning Policy Framework, para 114

[26] Trees in Towns II, Executive Summary, para 193

[27] The Case for Trees, Forestry Commission England (Bristol 2010), p 20

[28] Some of these issues are discussed in "No Trees, No Future", Trees and Design Action Group, London 2010.

result of conflict between trees and other uses of the space they occupy; and some by the way in which we respond to these issues.

- When large trees are threatened, proposed replacements are often smaller trees or more ornamental species;
- Mature urban trees are sometimes pose subsidence threats to neighbouring buildings and structures; but preventative measures taken to manage this risk are not always proportionate;
- Trees can be actively disliked by their human neighbours, because they shed leaves, fruit and other substances on to paths and parked cars;
- The provision of underground services, and the development of new services such as cable TV and IT networks, can threaten roots and reduce trees' life expectancy;
- Veteran trees are often of great value both in terms of biodiversity and character, but are also at greater risk of failure and of posing a safety threat;
- Maintenance does not always keep pace with new planting.

In spite of the extensive promotion of trees and their benefits as part of public policy, there are also problems associated with trees in new development:

- The provision of new homes and workplaces on the urban fringe, and on undeveloped land, may gradually erode the urban forest and reduce the canopy, especially if large mature trees are replaced with smaller and less long-lived species;
- New developments are often designed in ways that make effective planting difficult, and that relegate trees to lower importance than other services;
- The selection of species may not always be appropriate to the constraints of the site and the requirements of local biodiversity.

A Tree Strategy can, and should, address these concerns through carefully crafted policies and design guidelines that work to ensure adequate replacement, a proportionate approach to risk, better information about the benefits of trees to help balance some

residents' perceptions, and proactive design requirements for trees in new development areas. A strategy therefore needs to look not only at how to maximize the benefits associated with urban trees, but also at ways of dealing with the downside.

The survey questions pick up on issues that have been raised either by policy analysis or in consultation with residents and interest groups in Cambridge, and discuss some of the ways we could address these. We'd value your opinion on the best way forward with each of these.

> ***"We need to take the urban forest much more seriously, and to plant the trees…that will grow to form our legacy for people in the towns and cities of the next century."***
>
> *Trees Matter! p 15*