A 21st Century Tree Strategy for Wandsworth

A discussion paper prepared by the Wandsworth Tree Warden Network

1. BENEFITS OF TREES

Although the many different benefits afforded by trees are generally understood, it is perhaps surprising just how significant some of these benefits can be. Recent studies clearly indicate that many of the benefits provided by trees have historically been underestimated in terms of their extent and scope. There is now overwhelming scientific evidence to support the view that trees can play an increasingly important and cost-effective role in mitigating some of the many societal challenges we face. Some of the key benefits provided by trees include:

(i) *Environmental*

(a) trees reduce air pollution by removing pollutants such as particulates and gases, including carbon and nitrogen dioxides. Greater London's trees currently provide £133m per year of air pollution reduction and carbon sequestration benefits;[1]

(b) trees help reduce flood risk by intercepting rainfall and using water through transpiration. Their root systems increase soil porosity, allowing water to move into the subsurface;[2]

(c) trees can ameliorate climate change effects such as extreme heat; tree canopy cover can cool the air by 2°C to 8°C which in turn can help reduce air conditioning costs;[3]

(d) tree shade can provide protection against harmful UV radiation from the sun; and

(e) trees, shrubs and plants can reduce noise pollution between roads and residential areas and places of work.

(ii) *Health and wellbeing*

(a) London's trees remove 2,241 tonnes of pollution from the air annually, including 13% of PM10 and 14% of NO_2 from traffic particulates that are implicated in various health problems such as heart disease, asthma and neurological complaints;[4]

(b) Biophilia[5] - people are hard-wired to need a connection to nature in all its forms, including trees, the result is improved health and wellbeing. Birmingham became the UK's first Biophilia City in 2014;

(c) there is overwhelming evidence about the benefits of green spaces and contact with nature (including trees) for a range of conditions such as diabetes, heart conditions, cancer and obesity,[6] e.g. people's blood pressure drops by several points shortly after

[1] The London iTree eco project report, published Nov. 2015, see: www.forestry.gov.uk/london-itree

[2] Forest Research (2010). "*Benefits of Green Infrastructure*" and "*Hydrological Benefits*", URGP Evidence Note 005.

[3] Heat-related stress accounts for around 1,100 premature deaths per year in the UK. An estimated 8–11 extra deaths occur each day for each degree increase in air temperature during UK summer heatwaves. The occurrence and intensity of extreme heat events is set to increase as climate change progresses. In terms of extra deaths due to heat stress averted, London's green spaces are collectively valued at £26.4m–£36.4m; Doick K, Hutchings T. (2013) FCRN012. "*Air temperature regulation by urban trees and green infrastructure*" Forest Research.

[4] The London iTree eco project report, published Nov. 2015 - see above. See also '*Dementia Factors'*: New Scientist 15th October 2016, which reported that there was an association between dementia and pollution in all 60 studies which it reviewed.

[5] The emotional affiliation of human beings to other living organisms, developed over thousands of years of evolution and human-environment interaction.

[6] '*Gardens and health implications for policy and practice'*, a report produced in 2016 by the King's Fund, an independent charity which aims to improve the health and care of people in England – see: https://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/Gardens_and_health.pdf.

looking at a tree. Research has even found that people do better at maths tests after looking at a tree-lined city street, as a result of a lowering in their blood pressure. Marc Berman a psychology professor from Toronto discovered that ten tees on a street improves people's perception of their health as much as having an extra £10,000 more income.[7] Additionally numerous studies show that patient recovery times are significantly reduced for those hospital patients that have a view overlooking a green or wooded environment.

(iii) *Biodiversity*

(a) a mature oak tree may host up to 423 different species of invertebrates[8] that support birds and mammals. The urban forest can make an important contribution to the conservation of particular species or groups, such as bumblebees; and

(b) street trees provide wildlife corridors though the most urbanised areas, linking habitats together while providing benefits to people.

(iv) *Aesthetics*

(a) trees make a significant impact on the landscape and many large or taller trees form skyline features in their own right;

(b) trees provide an important link to the past and complement the character of conservation areas and historic buildings; and

(c) smaller trees contribute by softening the urban landscape and often provide valuable screening and privacy.

(v) *Economic*

(a) the presence of trees positively affects both the perception and behaviour of shoppers. Research in the United States and the UK shows that shoppers are willing to pay significant premiums for goods sold in an attractive environmental setting and on average purchase more items per shopping trip and shop more frequently;[9] and

(b) developers are willing to pay a premium as high as 15-20% for land in close proximity to green or open spaces[10] and properties on tree-lined streets are valued at up to 20% more than equivalent properties on treeless streets.

(vi) *Legal requirements*

(a) Local authorities also have increasing public health responsibilities since the Health and Social Care Act 2012[11] came into force which requires, inter alia, that local authorities champion good health through the promotion of healthier lifestyles and ensuring threats to health are better addressed. So the health services provided by trees are ones that local authorities need to understand and make use of in the need to protect public health.

[7] "For the love of Britain, plant more trees" – Alice Thompson, The Times 29 March 2017

[8] Kennedy, C.E.J. and Southwood, T.R.E. (1984) 'The number of species of insects associated with British trees': a re-analysis. J. Animal Ecology 53: 455 -478

[9] Kathleen Wolf at the University of Washington: https://depts.washington.edu/hhwb/Thm_Economics.html and "*Does Money Grow on Trees*?" by CABE Space (part of the Commission for the Architecture and the Built Environment) - http://webarchive.nationalarchives.gov.uk/20110118095356/http:/www.cabe.org.uk/files/does-money-grow-on-trees.pdf.

[10] Eftec (2013) Webinar for the Green Infrastructure Partnership.

[11] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213009/Public-health-role-of-local-authorities-factsheet.pdf.

3. DEVELOPING A NEW TREE STRATEGY FOR THE 21ST CENTURY

The fact that trees can play an important role in addressing some of the key environmental and health issues of the 21st century means that there is now a large body of publicly available works which can be drawn on to provide a basis for developing a revised Tree Strategy for Wandsworth. Particular sources include:

(a) Two publications produced by the Tree Design Action Group ('TDAG'):[12] '*Trees in Hard Landscapes'* which is complementary to (rather than replaces) a previous publication called '*Trees in the Townscape – A Guide for Decision Making'* [13] provide a specific check-list against which a revised Tree Strategy can be developed;

(b) '*Ealing Borough Council's Tree Strategy 2013-2018'* is a very comprehensive, clear and robust strategy and is highly recommended reading;[14] and

(c) '*Our Vision for a Resilient Urban Forest'* produced in October 2015 by the Urban Forestry and Woodland Advisory Committee[15] provides an excellent introduction to the concept of creating a resilient urban forest.

Having reviewed the above publications and various other resources, the WTWN has identified what it considers to be a number of key factors which Wandsworth should focus on when developing a new Tree Strategy. These include:

i. ***Audit:*** undertake an audit of all existing trees in the Borough, categorising them under parks and commons, street trees, cemeteries, social housing and private/residential;

ii. ***Review***: what has gone wrong and what has gone right with the current Tree Strategy;

iii. ***CAVAT:*** recognise trees as capital assets and manage them accordingly, including calculating their value[16] using the *capital asset value amenity tree system* known as CAVAT;[17]

iv. ***Not all trees are the same:*** understand that different classes of trees (e.g. park/common, street, private, social housing etc.) require different approaches and strategies with regards to their

[12] Established in 2007 The Trees and Design Action Group (TDAG) is a not-for-profit and apolitical collaborative forum facilitating cross-sector and cross-disciplinary dialogue and projects promoting the role of the urban forest throughout the United Kingdom. The group shares the collective vision that the location of trees, and all the benefits they bring, can be secured for future generations by influencing the planning, design, construction and management of our urban infrastructure and spaces.

[13] Both of these publications will be very familiar to Mr Barry Sellers, Wandsworth's Principal Planner and Secretary of the Wandsworth Council's Design Review Panel, who is an active member of TDAG.

[14] https://www.ealing.gov.uk/downloads/download/3715/ealing_tree_strategy.

[15] The Urban Forestry and Woodland Advisory Committee was established by the Forestry Commission in 2014 to take forward the case for urban forestry in England's towns and cities.

[16] '*Green infrastructures and open environments: preparing borough tree and woodland strategies'* published in 2013 reports that the average London borough street tree population is valued in excess of £120 million.

[17] CAVAT is based on various factors such as the number of people who interact with the tree, size of crown, environmental and health benefits etc. CAVAT provides a method for managing trees as public assets rather than liabilities. It is designed not only to be a strategic tool and aid to decision-making in relation to the tree stock as a whole, but also to be applicable to individual cases, where the value of a single tree needs to be expressed in monetary terms. See: http://www.nato.org.uk/cavat

planting and management. A semi-mature and even a fully mature tree is many time more valuable, in every sense, than a young tree; particularly from a carbon sink perspective.[18]

v. ***The right tree for the right location***: take into consideration soil type, light, size, habit and other existing trees in the neighbourhood. Tree populations can become more resilient if diverse tree species are used. The greatest environmental benefits are achieved when trees with larger leaf canopies are planted.[19]

vi. ***Robust approach to be taken with developers*** in regard to planning applications which jeopardise trees, particularly mature and TPO trees, the starting point should be that a tree should only be removed as a last resort. If a tree absolutely has to be removed, compensation that reflects its true value must be 'paid' (the loss of a mature tree cannot be remedied simply by planting a single standard). Either use the CAVAT system to value the tree (it is not unusual for a semi-mature oak tree to be valued at £15,000 under CAVAT) or introduce a policy whereby the trunk size should be used to calculate the number of trees needed to replace it, the bigger the tree trunk the more replacement trees are needed, e.g. a tree with a trunk diameter of 50cm is to be replaced with at least 5 trees each with a diameter of no less than 10cm.

vii. ***Build Relationships***: develop a comprehensive network of relationships which engage with key partners including planners, councillors, tree officers, ENABLE, WTWN, managing agents, TDAG and the numerous other tree advisory bodies which exist (e.g. LTOA, The Tree Council and The Forestry Commission etc.).

viii. ***Create an Action Plan***: develop a Tree Strategy which includes a S.M.A.R.T action plan and understand that the creation of a new Tree Strategy is not the end of the process – it is just the beginning.

ix. ***Single Document***: all aspects of any new Tree Strategy should be contained within a single easily accessible reference source (as opposed to it being dispersed amongst various different Council publications). Having a single 'go-to' reference point will help ensure a greater understanding and acceptance of the Tree Strategy and with less scope for conflict or inconsistencies.

x. ***Enforceability***: the new Tree Strategy must have some 'teeth' and must be more than merely a list of recommendations or advisory in nature. Accordingly, it should be specific about the consequences of failing to comply with its requirements.

xi. ***Education and Support:***

- embed the vision to create a resilient urban forest and reinforce the importance and benefits of an urban green infrastructure, into Wandsworth Council's ethos. Provide briefings, guidance, education and training for staff, councillors and managing agents. Promote management regimes which foster biodiversity and give officers the opportunity to become involved with external groups /organisations e.g. TDAG, Forestry Commission and the Tree Council.

[18] Recent research shows that older trees appear to grow the fastest and so sequester more carbon as they age. In most trees species growth rates actually increase continuously with tree size; in some cases, large trees appear to be adding the carbon–mass equivalent of an entire mid-sized tree every year – *Nature*: Emily Lines; University College London 2016. A single semi-mature oak absorbs as much carbon dioxide as up to 1,200 young oak saplings.

[19] '*The Right Trees for a Changing Climate'* – see: www.righttrees4cc.org.uk which provides a database helping professionals and tree planters select the most suitable, resilient species to withstand climate change.

- Raise awareness by creating and supporting local stakeholders such as Enable, WTWN, the Wandsworth, Putney and Battersea Societies and Wandsworth Common MAC etc. Encourage the direct involvement of members of the public e.g. the Observatree[20] initiative which is a citizen science project that encourages engagement with local communities to help identify and report tree pests and diseases to their local council and thereby maximize the chances of eradicating or controlling outbreaks.

- Educate developers about how a 'tree rich' environment can enhance their developments and add to the commercial success of their projects

xii. ***Address the Negatives***:

- be risk aware rather than risk averse (the risk of being killed by a tree in the UK is circa 1 in 20 million). Have a clear framework for managing risk but don't let aversion to risk drive the agenda; and

- have a consistent approach on how to deal with tree-related claims for subsidence and be prepared to challenge situations where trees are not the primary cause of property damage (it is very often the case that trees are not the principal cause). Understand the self-interest that the insurance industry has in relation to such claims.

xiii. ***Be Ambitious:*** Set the standard for others to follow:

- Leave a legacy, as did the Victorians; plan and plant avenues of trees for future generations to enjoy;

- promote sponsored tree and memorial plantings; and

- upgrade the protection afforded by TPOs so as to make it harder for TPO trees to be removed.

4. CONCLUSION and NEXT STEPS:

The challenges faced by Wandsworth Council in the 21st century are many and varied. Obviously they cannot all be solved simply by increasing the Borough's tree canopy. Trees can however, play a significant role in helping provide a solution to many of these challenges, perhaps more so than any other single solution. Specifically, the creation of a resilient urban forest will help deliver an economically successful, healthy, vibrant and safer environment for the people (and wildlife) of Wandsworth. Furthermore, the vision of creating a resilient urban forest is one which is cost effective, sustainable and visible and which will have the support of the vast majority of Wandsworth's residents.

We understand it will require a long-term commitment of time and resources and that its success will be measured over many years. We believe however that the actual cost (financial and otherwise) will ultimately be relatively modest when compared to the alternative of choosing to remain with the status quo. If some bold, strategic decisions are taken today, we can all be confident that Wandsworth will remain the 'Brighter Borough' (in every sense) throughout the 21st century and beyond.

[20] www.observatree.org.uk