



# Birmingham Tree Policy



A report from Overview & Scrutiny







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Reports that have been submitted to Council can be downloaded from [www.birmingham.gov.uk/scrutiny](http://www.birmingham.gov.uk/scrutiny).



# Preface

**By Councillor Fiona Williams** Chair, Birmingham Tree Policy Task & Finish Group



Birmingham people are rightly proud of the greenness of our city but it is something that is not static and which cannot be taken for granted. The Victorians understood about the importance of trees to quality of life in the city and about creating a world for future generations. We should be doing the same and planning a legacy for our children which provides an environment that is as clean and as healthy as possible.

But is this isolated to just Birmingham? No. Birmingham is the first Biophilic city in the UK. We are part of a network of 12 other partner cities:- Wellington (New Zealand), Singapore, Milwaukee, Phoenix, San Francisco, Portland, Vitoria-Gasteiz in the Basque country in Spain, Washington DC, St Louis, Pittsburgh, Austin and Edmonton (Canada). Is it an achievement? No, it is a start, it is an aim and an aspiration to make us the first natural city in the UK. This ambition, which dates back to when Cllr James McKay was Cabinet Member, is to be welcomed but to achieve it the city needs a long-term plan to inform decision-making and coordinate actions which will turn this ambition into a reality for future generations.

The recent pace of change and development within Birmingham has been having an increasing impact on the City's treescape. Currently, mature trees are not infrequently being lost to development and are often replaced with smaller canopied tree species of limited diversity. In particular, replacement levels within the city centre can often be limited or non-existent.

To achieve the ambition for the city, the current tree strategy, policies and processes need to be reviewed and updated to create a strategy that is more responsive to trees and green infrastructure in the city. The current policy was last reviewed in 2009 but had been set in 2002. We now propose a more proactive policy with a citywide urban tree management strategy which will ensure that decisions about tree planting are properly coordinated and that a sufficiently long-term view is taken to protect the Birmingham Urban Forest for the people of Birmingham.

We recognise that resources are a constraint on what can be done but the suggestion about setting up a Birmingham Tree Bank could potentially provide both an alternative means of securing additional funding for the costs of new tree planting and green infrastructure and a means of providing additional flexibility to facilitate a more strategic citywide approach to tree planting and green infrastructure in the city.

The recommendations outlined in this report will enable us to continue to be a Biophilic city and help us to achieve the aim of being the first natural city in the UK. I commend the report and the recommendations to you.



## Summary of Recommendations

	Recommendation	Responsibility	Completion Date
R01	That clearer guidance on a range of tree-related matters be included in the Birmingham Design Guide to help applicants with the design process. This should include the matters raised in this review about establishing an aspirational desirable city tree canopy cover increase, trees and health, air quality, Water Sensitive Urban Design, recommended future species and reductions in over-represented species, planting pit design, soils and specifications. These should be produced within appendices to the Birmingham Design Guide or via the City Council website where details should be periodically updated.	Leader in liaison with Members of the Executive where appropriate	December 2018
R02	That every major planning application should incorporate consideration of how to improve the natural environment with particular reference to maximising opportunities for greening in a dense urban environment through the use of suitable types of green infrastructure wherever appropriate.	Leader in liaison with Members of the Executive where appropriate	December 2018
R03	That an urgent review takes place of the new assessment criteria for the evaluation of Planning Conservation Areas - to ensure that any discrepancies around tree protection are properly addressed; in the event of de-designation.	Leader in liaison with Members of the Executive where appropriate	September 2018
R04	That in relation to permitted development in highways, a process be developed to ensure that appropriate consultation takes place prior to any highways improvement or design development where trees are likely to be affected. This will include: <ul style="list-style-type: none"><li>- a condition survey and/or a tree survey compliant with BS 5837 2012 (Trees in relation to design, demolition and construction) to identify tree constraints;</li><li>- a valuation of affected trees against the adopted Birmingham City Council process;</li><li>- appropriate consideration of retention, mitigation, replacement and compensation for trees; and</li><li>- recommendation(s) by the appropriate City</li></ul>	Cabinet Member for Transport & Roads	February 2019





	Council arboricultural officer.		
<b>R05</b>	That a clear standardised tree impact evaluation process for all footway crossings requests should be urgently developed and agreed. The process should set out a clear methodology for assessing both the value (monetary and/or public amenity) of any removed or affected tree and the levels of demand for parking within any given street. This should be put in place as a new working practice within 6 months but formally adopted as part of a wider urban tree management strategy.	Cabinet Member for Transport & Roads	Step one September 2018; Step two February 2019
<b>R06</b>	That the feasibility of managing a percentage of tree cover on a citywide basis be explored with Amey to establish a mechanism so that, where options for replacing trees in a ward are limited and with the prior agreement of the relevant ward members, replacement trees can be planted in those areas where an increase in tree cover would be most beneficial. Matters of viability and environmental constraint will need to be investigated.	Cabinet Member for Transport & Roads  Cabinet Member for Commercialism, Commissioning & Contract Management	February 2019
<b>R07</b>	That additional, clear and comprehensive information should be provided to the public about trees incorporating a review of the way that material is presented on the City Council website. This should include improving cross-referencing, making the information easier to navigate and using the available data to improve the promotion of the value of the City's collective tree stock and the role it plays in delivering benefits across the health and well-being agenda and ecosystem services. The over-sight of this information in future could be the responsibility of the new Birmingham Forest Group. (R11)	Leader in liaison with Members of the Executive where appropriate	September 2018
<b>R08</b>	That the City Council should raise awareness about and promote the fact that Birmingham has committed to becoming one of the world's most environmentally friendly cities by being a member of the Biophilic Cities network and the role that trees play in this.	Cabinet Member for Clean Streets, Recycling & the Environment	September 2018
<b>R09</b>	That a new supplementary funding system utilising a grading system which places a monetary value on the visual amenity of trees	Leader in liaison with Members of the Executive where appropriate	February 2019



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	as well as their replacement cost (such as CAVAT) be adopted; and that in addition the recommendation to establish a Birmingham Tree Bank be urgently explored. Together these would provide an additional source of finance to support the proactive management and development of new planting opportunities and green infrastructure in Birmingham; something that could be overseen by the new Birmingham Forest Group (R11). The tree valuation process agreed on shall be considered for adoption within the Development Plan Document (DPD) and the research undertaken be considered as the evidence base for that emerging policy.		
<b>R10</b>	That an Urban Tree Management Strategy which reflects the latest evidence from research and current best practice be developed and that adequate safeguards and monitoring measures are put in place for the Birmingham Forest. This could then be used to inform 5 year management plans with each tree related service area deriving annual operating plans from these. Once developed the Tree Management Strategy should be presented to Council for adoption to ensure adherence across all council functions. Progress against agreed targets should be reported to the appropriate Cabinet Member on a 4 yearly basis.	Leader in liaison with Members of the Executive where appropriate	February 2019
<b>R11</b>	That Terms of Reference for a representative, region-wide, independent-led Birmingham Forest Group be explored. This should comprise experts and interest groups with a focus on trees in the urban landscape with a view to informing the development of an urban tree management strategy and strategic tree related matters across the sub-region.	Leader in liaison with Members of the Executive where appropriate	Step one September 2018 Step two February 2019
<b>R12</b>	That an assessment of progress against the recommendations in this report be presented to the appropriate Overview & Scrutiny Committee.	Leader	February 2019





# 1 Reasons for the Review

## 1.1 Background

1.1.1 On 4<sup>th</sup> April 2017 the City Council passed the following motion:

Council notes that:

- Birmingham is recognised as a Green City and that the quality of its green spaces and trees has been used over a long period to attract inward investment.
- The City is part of the global Biophilic Cities Network - a group of Cities that aspire to integrate nature into everyone's lives - with a daily dose - over a generation - through improved and more accessible green infrastructure.
- Trees provide health and wellbeing benefits along with a positive contribution to the ecosystem in the form of flood alleviation, air cooling etc.
- Its policy on trees was last updated in 2009 but dates back to 2002.

Council notes the work already underway to develop a new tree policy for the City and in particular the intention to develop a more sophisticated method of valuing trees that might replace the current 2 for 1 policy.

Council also recognises that opposition party representatives will be engaged in the process of developing the new tree policy along with a task and finish scrutiny.

1.1.2 Following this motion, the Scrutiny Chairs agreed to establish a task and finish group on the forthcoming revised tree policy.

## 1.2 The Review Group

1.2.1 A cross-party Task and Finish group of Members was set up with places allocated according to political proportionality. The membership comprised: Cllr Fiona Williams (Chair), Cllr Debbie Clancy, Cllr Roger Harmer, Cllr Keith Linnekor, Cllr Mary Locke, Cllr Ewan Mackey, Cllr Karen McCarthy, and Cllr John O'Shea.

1.2.2 The aim of the review was to support the development of a revised cross directorate tree policy for the "Birmingham Urban Forest" that will reflect the environmental and developmental challenges and pressures placed on it.

1.2.3 The group set out to use knowledge of best practice from the UK and around the world with a particular focus on building resilience within the tree stock and retention, removal and replacement policies.



## 2 Trees in Development

### 2.1 Trees and planning

2.1.1 In the Birmingham Development Plan the tree cover within the City is collectively referred to as "The Birmingham Forest". Within planning, trees are recognised as material considerations and are considered in a number of different ways such as:

- The impact on trees of planning applications is assessed by qualified arboricultural officers who comment on and make recommendations relating to a range of issues including tree protection measures. This may also involve the use of planning conditions to secure specific works or replacement trees.
- Trees in Conservation Areas are automatically protected from being cut down or having work done to them in order to preserve the special character of the area. In addition to this, a specific tree may be protected by a Tree Preservation Order. However, it should be noted that the designated Conservation Areas of the City are themselves now being revisited and reviewed against more robust assessment criteria which may lead to de-designation of some areas; with the subsequent removal of the in-built tree protection.  
**(R03)**
- To carry out work or remove a tree in a Conservation Area 6 weeks' notice in writing must be given by submitting a web-based Tree Works Consent Form giving details of planned works.

### 2.2 Tree Preservation Orders

2.2.1 Tree Preservation Orders (TPO) cover both individual trees and groups of trees. A specific methodology is applied to assess whether trees are worthy of a TPO. This assessment is made by the City Council's arboricultural officers.

2.2.2 Members of the public are able to request that a tree be considered for a TPO through the City Council's web pages. Applications for work or removal are required to be made as for Conservation Areas.

### 2.3 Conservation Area tree works not requiring permission

2.3.1 Permission is not normally required to cut down or do work to trees that are:

- Less than 75mm in diameter (measured 1.5m above ground).
- Less than 100mm in diameter (measured 1.5m above ground), if it is to help the growth of other trees.



- Dead or dangerous. This should be based on the advice of a reputable tree surgeon. Typically the tree surgeon will contact the City Council with an 'emergency' 5 day notice of works that are urgently necessary to remove an immediate risk of serious harm.
- A fruit tree, grown for fruit production in the course of a business or trade.

## 2.4 Trees and flooding

- 2.4.1 Flooding in urban areas is an increasingly prevalent problem and one of the environmental benefits that trees can deliver is to help to provide relief from flooding. Where there is a high coverage of impermeable surfaces in urban areas this prevents surface water from soaking into the ground and increases the risk of flooding from surface water run-off in hard landscaped areas.
- 2.4.2 Trees can help to alleviate the flood risk by reducing the amount of surface run-off following heavy rainfall and so reduce the risk of urban flooding. Trees are known to aid water percolation into the soil and require large volumes of water as part of their growing process.
- 2.4.3 Flooding in urban areas is estimated to cost a minimum of £270 million per year in England and Wales. Two thirds of the homes affected by the floods of 2007 were flooded as a result of surface water. Sustainable Urban Drainage Systems (SuDS) are designed to mimic natural drainage and filter and retain rainfall where it lands to prevent 'grey' drainage systems from becoming overwhelmed during storm events.<sup>1</sup> These methods are able to combine water attenuation measures within tree pit design which provides twofold benefits. While these may appear to be more costly to construct initially, the long-term benefits and reduction in associated costs have been shown to make these installations cost effective in the long-term.
- 2.4.4 While SuDS (Birmingham SUDS Supplementary Planning Document) can be and are often used to retrofit existing infrastructure to provide drainage solutions for single sites, a more effective approach would be to integrate the water cycle with the built environment at an earlier stage through planning and urban design; called Water Sensitive Urban Design.

## 2.5 Birmingham Design Guide

- 2.5.1 Birmingham is continuing to experience strong growth and levels of investment in infrastructure and new development which will undoubtedly have a lasting impact on the City. The City Council recognises that this development needs to be underpinned by the delivery of well-designed buildings, streets and spaces. The Birmingham Design Guide will set out the basis of the City Council's approach to promoting high quality design and ensuring that high standards of design are achieved in all development.

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<sup>1</sup> Parliamentary Office of Science and Technology POSTnote 289



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- 2.5.2 The Birmingham Development Plan (2031) is the City's main policy document which provides strategic guidance on how this inclusive, sustainable development will be delivered across the City. The Design Guide will build on these principles and provide clear guidance to aid decision making and pre-application discussions through the use of design principles and best practice examples.
- 2.5.3 The Design Guide is structured around five 'Big Design Themes', one of which is Green Environment and Infrastructure. This includes landscape, public open spaces, rivers and canals, trees, biodiversity and sustainable drainage.
- 2.5.4 The first step in creating the Birmingham Design Guide has been the publication of the Design Guide Vision document which went out to consultation between September and November 2017 to enable individuals and organisations to submit comments and ideas on the content and structure of the Guide. Although there is already a robust consideration of trees in the planning process, the creation of the Design Guide offers an opportunity to provide a level of guidance and detail on a range of tree related issues to help applicants in their design process. A draft of the Birmingham Design Guide will be published and go out to consultation in Spring 2018 with the adoption of the Design Guide planned to happen in Winter 2018.
- 2.5.5 Clearer guidance on a range of tree-related matters including Water Sensitive Urban Design should be produced and incorporated into the Design Guide to better reflect what we need to achieve in the City to ensure a robust and resilient tree stock in the future. The Guide should offer flexible guidance that can be adapted and updated over time, with the emergence of best practice and new research. For now, clear guidance should be produced on matters including desirable canopy coverage percentage, species choice or advice on species already over represented which need to be avoided at present and about planting pit design and specifications. Guidance should also be produced on the need for planting conditions being informed by "on the ground investigations" to ensure that sufficient rooting space is available or can be created to ensure that new trees being planted are given the best chance of thriving. This guidance would help applicants in their design process. This should either be included within appendices to the Design Guide or via the web where the details should be periodically updated. **(R01)**

## 3 Trees in Streets

### 3.1 Road widening and junction modification

- 3.1.1 Transportation and infrastructure projects often involve road widening and junction modification which do impact on street trees. There are a number of constraints which need to be taken into account when scheme proposals are being prepared. These include:
- The need to deliver a scheme that achieves the desired outcomes e.g. road widening to provide additional road capacity to better manage traffic, the introduction of safety



improvements to reduce accidents, new infrastructure to improve access to jobs and housing to support economic growth, the introduction of cycle routes to support sustainable travel.

- Working within the highway limits - extending the scheme beyond the public highway into private land may require a Compulsory Purchase Order which would considerably extend the project programme and can be costly and there is no certainty of success.
- Impact on underground services - diverting services is costly so designs where possible should minimise impact on services.
- Providing environmental benefits by maintaining landscape areas and trees.

3.1.2 Efforts will be made to maintain landscaping and trees whenever possible. Where landscaping and trees are affected appropriate landscape and tree planting mitigation is considered. Additional landscape and tree planting will also be provided if possible, working within the above mentioned constraints. In future where trees are not the best solution other forms of green infrastructure must be considered. **(R02)**

## 3.2 Current Practice

3.2.1 Recent practice is to appoint the City Council's Landscape Practice Group (LPG) to manage the landscape and tree process from concept until the project is handed over to the maintenance providers (Amey for trees and Parks for landscaping areas). This is to ensure that the landscape and tree aspects are properly considered, managed and that designs are fit for purpose.

3.2.2 The landscape and tree planting works are delivered through the City Council's Landscape Construction Framework Agreement 2015-19 which is managed by LPG. The landscape and tree works are coordinated by the Project Manager alongside the main roadworks contract.

3.2.3 The current policy is that for every tree removed two new trees are planted. Due to various constraints, it is not always possible to plant the new trees at the same location e.g. there may not be enough space available on the public highway, there may be no other available City Council owned land adjoining the scheme boundary, underground services may prevent new tree planting or visibility lines for road users may be obscured. In the event that new trees cannot be planted within the scheme limits or on adjoining City Council land, other suitable locations within the vicinity of the scheme are considered.

3.2.4 The contractors appointed to do the work will be from the City Council's Highways and Infrastructure Works Framework Agreement. The framework contractors work to specific guidelines:

- BS 5837: 2012 Trees in relation to design, demolition and construction and
- NJUG 10 Proximity of Trees to Services



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to ensure the correct working methods are adopted when working close to existing trees. For the first two years, the appointed roadwork contractor is responsible for the maintenance of the tree and liability for maintenance then moves to the Highways Maintenance Contractor for trees in the public highway (Amey) or to Parks for non-highway trees. The annual cost of maintaining a tree in the public highway ranges from around £60 to £140.

- 3.2.5 A better balance must be struck in highways design between managing traffic, road safety and enhanced local environment, reflecting the positive promotion of sustainable transport choices and due consideration of the city's global green city aspirations. **(R08)**

## 3.3 Highways Design and Permitted Development

- 3.3.1 Most improvement work undertaken on the public highway is permitted development. This means that planning consent is not required to be obtained for these works. This is in contrast to new road projects which are required to go through the planning process which will determine the scope of landscaping and tree planting.
- 3.3.2 As a result, trees are often not included when constraints are being considered as part of the design process, particularly in relation to highways design where highways development works are carried out under the Highways Act as permitted development. In many cases the evidence given was that this means that issues relating to trees are not considered by the highways designers until very late in the process and Members were told by the arboricultural officers that often removal appears to be the first port of call with inadequate replacement trees being designed into the scheme.
- 3.3.3 The view was expressed during evidence gathering that officers with specific responsibility for trees are generally not included in the stages of the highways design process which results in little understanding of integrating green infrastructure or consideration of tree retention, suitable tree planting design, locations and species choice for replacement planting. This can sometimes lead to limited and poor quality replacement plantings and can ultimately lead to the managing departments having to undertake remedial or replacement work far sooner than should normally be expected resulting in increased tree maintenance costs than would otherwise be the case.
- 3.3.4 The suggested solution is to introduce an amended system of design in highways which ensures that all constraints, including trees, are set out prior to any design being signed off and that input should be required from the appropriate professionally qualified arboricultural officers as an integral part of the highways design process. This would require a minimum of either a condition survey and/or a tree survey which is compliant with BS 5837 2012 (Trees in relation to design, demolition and construction) to be commissioned to identify tree constraints prior to any design process. In addition, a valuation of the individual affected trees or tree stock should be undertaken using CAVAT (Capital Asset Valuation for Amenity Trees – see para 6.2.2) value to promote retention of mature trees and set a truer value on any required replacement. **(R04)**





## 3.4 Footway Crossings

- 3.4.1 Each year there are a substantial number of requests for tree removals to facilitate footway crossing, either to create new off street parking or to create new access roads for new developments. The impact is substantial with in the region of 1,400 footway crossings being installed each year in Birmingham. When considered in terms of football pitches, 1,400 is similar in scale to about two football pitches each year.
- 3.4.2 Around 80 trees are removed each year to enable footway crossings and, in addition to tree removal, many remaining trees are unnecessarily damaged during footway crossing construction with implications for the future health and stability of those trees. At the moment, the process is ill defined which leaves decisions on tree management inconsistent and unclear.
- 3.4.3 Whilst there is a process for compensation for, or replacement of, street trees lost through this process, there needs to be a clear standardised process for assessing whether these removals should be agreed to. The process needs to set out a clear methodology for assessing both the value of the tree and the levels of demand for parking within any given street. A draft policy was drawn up in 2011 but was never formally adopted. This draft policy should be revisited and put in place initially as a new working practice but should subsequently be included as part of an adopted new tree management strategy. **(R05)**

## 3.5 Street Tree Management: Amey

- 3.5.1 Amey were awarded the 25 year contract for the management of trees within the highway on behalf of Birmingham City Council (2010 - 2035). They manage trees on the highway to the standard as set out in the contract with Birmingham City Council i.e. prune and maintain street trees to maintain safety and discharge the responsibility for trees on the highway on behalf of Birmingham City Council.
- 3.5.2 Under the contract with Birmingham City Council, Amey are obliged to hand back as many trees on the network as were adopted, or to a figure that has been adjusted through funded additions to the network. The agreed survey figure was 79,000 trees.
- 3.5.3 Amey base their management of street trees on the current (2009) tree management strategy. This identifies suitable survey periods for inspection, sets parameters for levels of work required to ensure a healthy and safe tree stock is maintained as well as details of the quality of work (adhering to BS 3998 2010 Tree work recommendations). Where trees are removed Amey will aim to replace trees as close to that location as possible or failing that, to replace them within the same ward.
- 3.5.4 However, planting replacement trees on the highway can often be beset by problems. Where a tree has been removed, it is not always possible to plant another in the same place. When a tree is felled it is cut off at the level of the footway and the trunk area is broken up with a stump grinder.



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The roots are often left in situ to slowly rot away since it is not always possible to remove them. Over time they would have become entwined with service cables and root removal would damage the services. Where new street tree planting is desirable on the highway, a search has to be made of the utility cables or pipes that run beneath the surface but the plans are often inaccurate which means that a trial pit may often need to be dug to determine the exact location of underground services, which can be expensive. If no services are found only then can a tree can be planted.

- 3.5.5 A suggestion was raised in evidence about a potential opportunity to redistribute trees across a wider area of the City if a percentage of tree cover was managed on a citywide basis. There are some areas of the City with particularly low tree numbers while other areas enjoy significant tree cover. In areas where options for planting locations are limited due to existing tree cover, new planting could potentially be directed to those low tree'd areas where an increase in tree cover would be most beneficial. The feasibility of managing a percentage of trees on this basis and coming to an agreement about how this should be managed would obviously need to be discussed and agreed with Amey and with highways asset management but the feasibility should be explored with the relevant parties; and it must tie-in with future land use policies. **(R06)**

## 3.6 Maintenance of street trees

- 3.6.1 The point was made quite forcefully by Members on the group that whilst tree-lined streets are a vitally important and a welcome sight on streets where they are the "right tree in the right place" and are not overgrown, where trees on the street are not adequately maintained, they can cause a variety of issues for local residents. This is evidenced by the number of issues relating to trees that are raised with local councillors as part of their casework. The past practice of street tree management through heavy reduction (or Topping) has led to problems for local residents with dense "overgrown" trees blocking sunlight from gardens and houses, with leaves blocking drains, issues with sticky deposits on the surrounding area caused by aphids, branches falling and the costs of repairing pavements due to excessive tree root problems. The current tree management process seeks to reduce these through the initiation of a more appropriate pruning regime, however this will take several years to rectify past issues. As trees reach the point where retention is no longer possible for health and safety reasons these will be replaced with a more situation appropriate species. **(R10)**
- 3.6.2 There needs to be a long-term planned programme where the large overgrown street trees are steadily replaced over a number of years with more suitable species. Evidence was also presented to Members that although trees do not produce pollution, in certain circumstances trees can make poor air quality worse (See para 4.4.2.).



## 4 Trees, green infrastructure and health

### 4.1 Previous scrutiny report on 'The Impact of Poor Air Quality on Health'

- 4.1.1 When starting this work the Review Group Members were mindful of the need to avoid duplicating witnesses or evidence which had previously been taken about the health aspects of trees and green infrastructure as part of the scrutiny inquiry into 'The Impact of Poor Air Quality on Health' which was presented to City Council in September 2017.
- 4.1.2 The report contained two recommendations R08 and R09 relating directly to trees which were accepted by the executive as part of that report:
- That when planning for future transport infrastructure consideration should be given to the wider and longer-term benefits of keeping mature trees, especially in roadside locations where a buffering effect on air pollution is provided; and that appropriate protection for mature trees should be incorporated into any planning permission granted.
  - That planning for new developments should incorporate the planting of trees of a suitable species in the right place with careful selection of the species to be planted, density of placement of the trees and with provision for appropriate maintenance for a period after planting, as a condition of planning for new developments.

### 4.2 Greening in dense urban environments: urban green infrastructure

- 4.2.1 80% of people in the UK live in urban areas and green space has decreased in many cities in recent decades. This reduction poses risks to human health and natural systems that may increase with climate change. Urban green infrastructure can help to mitigate these risks.
- 4.2.2 Urban green infrastructure refers to a network of green spaces, water and other natural features within urban areas. A green infrastructure approach uses natural processes to deliver multiple functions, such as reducing the risk of flooding and cooling high urban temperatures. Green infrastructure includes all things green and living in urban areas such as street trees, parks, green walls, green roofs, urban woodland, playing fields, private gardens, allotments and cemeteries.<sup>2</sup>
- 4.2.3 Green infrastructure potentially provides alternative ways to maximise opportunities for greening in dense urban environments where there is low provision and opportunity for green space and street trees.

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<sup>2</sup> The Parliamentary Office of Science and Technology, Postnote Number 448 November 2013



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- 4.2.4 There is a significant volume of research indicating the health benefits of trees and access to green spaces through improved mental wellbeing and levels of physical activity, reduced exposure to pollution and high urban temperatures.
- 4.2.5 Dr Kathy Wolf from the University of Washington has compiled over 40 years' worth of research into the benefits of trees and green infrastructure which can be found on the Green Cities – Good Health web pages and much research is being undertaken by universities in Birmingham and across the UK.
- 4.2.6 Evidence was presented to the Review Group by Dr Emma Ferranti, Research Fellow in green infrastructure and air quality in the School of Geography, Earth & Environmental Studies at the University of Birmingham about the many good reasons for green infrastructure in our cities. The evidence presented shows that green infrastructure positively impacts on health from birth to death: new-borns from areas with higher levels of urban forest have a higher average birth weight;<sup>3</sup> children in classrooms with a view of green infrastructure have higher attention levels than those who do not;<sup>4</sup> adults have lower frustration and higher emotional mind-set when moving in greener streets;<sup>5</sup> a view of nature following surgery can improve emotional well-being, reduce minor complications, and shorten hospital stays;<sup>6</sup> and wander-gardens and horticulture can reduce medication and falls for Alzheimer's sufferers.<sup>7</sup>
- 4.2.7 Evidence was also presented about how green infrastructure makes our cities more liveable and resilient to extreme weather. For example, green infrastructure can provide shade and improve thermal comfort on hot days.<sup>8</sup> Green infrastructure can reduce the amount of surface run-off following heavy rainfall<sup>9</sup> and therefore reduce the risk of urban flooding. Finally, green infrastructure can lessen the negative impact of poor air quality. Members were told that globally, air pollution is the biggest environmental risk to health and that within the UK, poor outdoor air quality is linked to 50,000 deaths each year.

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<sup>3</sup> Donovan, G.H., Michael, Y.L., Butry, D.T., Sullivan A.D., and Chase J.M., 2011 Urban Trees and the risk of poor birth outcomes. *Health & place*, 17(1) pp390-393

<sup>4</sup> Li, D & Sullivan, W.C 2016. Impact of views to school landscapes on recovery from stress and mental fatigue. *Landscape and Urban Planning*, 148, pp149-158

<sup>5</sup> Aspinall, P., Mavros, P., Coyne, R. and Roe, J., 2015. The urban brain: analysing outdoor physical activity with mobile EEG. *Br J Sports Med*, 49(4), pp.272-276

<sup>6</sup> Ulrich, R., 1984. View through a window may influence recovery. *Science*, 224(647), pp.224-225

<sup>7</sup> Detweiler, M.B., Murphy, P.F., Kim, K.Y., Myers, L.C. and Ashai, A., 2009. Scheduled medications and falls in dementia patients utilizing a wander garden. *American Journal of Alzheimer's Disease & Other Dementias*, 24(4), pp. 322-332

<sup>8</sup> Norton, B.A., Coutts, A.M., Whyatt, J.D. and Hewitt, C.N., 2012. Effectiveness of green infrastructure for improvement of air quality in urban street canyons. *Environmental science & technology*, 46(14), pp.7692-7699

<sup>9</sup> Mentens, J., Raes, D. and Hermy, M., 2006. Green roofs as a tool for solving the rainwater runoff problem in the urbanised 21<sup>st</sup> century? *Landscape and urban planning*, 77(3), pp.217-226.





## 4.3 Bristol Street Green Screens Trial

- 4.3.1 Evidence was presented to Members by Chris Rance, Technical Director, WSP UK, Birmingham, (formerly of Atkins), about how there are fewer opportunities for urban trees in the densely built up city centre than elsewhere. In such an environment there is limited provision and opportunity for green space and street trees but there are lots of vertical features in the built environment which can potentially be used to introduce more “green” where there isn’t room to fit large trees.
- 4.3.2 The background to the trial which took place on Bristol Street in 2015 aimed to maximise these opportunities for greening in densely built-up urban environments by using this vertical dimension where there is limited ground level space. The idea was to provide a low cost approach to retrofit and transform a piece of existing and common infrastructure i.e. the grey pedestrian guardrail running within the central reservation along the highway.
- 4.3.3 He described how the foliage is pre-grown and already green and is installed on to the railing. The work was done in collaboration with the Southside Business Improvement District (BID) and funded by local businesses via the BID to see if the street environment could be improved with no cost to the local authority. Staffordshire University also worked on the project and tested the foliage for airborne particulate trapping to count the particles trapped on the leaves as a measure of the pollution captured.



- 4.3.4 The initial Staffordshire University findings indicate that the particulate matter interception rate is likely to be higher than 145 million particles per square metre of green vegetated screen per day - which is a very large quantity of particles. This could be a very significant way of increasing the scale of green infrastructure in the City. It is simple and low cost, it can be replicated on a broad scale, it helps to address poor air quality which is a major health problem for cities, it is space efficient and can be utilised where there is no room for trees which is important in high urban



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density environments and it also improves the visual setting and creates a more attractive and healthier environment. The introduction of natural barriers (dense foliage including green screens and hedges) is also a valuable tool in separating cyclists and pedestrians from motor vehicle derived air pollution.<sup>10</sup> **(R02)**

## 4.4 Potential negative effects on health

- 4.4.1 There are, however, a number of real and perceived negatives. Many trees are wind pollinated and this does have an impact on asthma sufferers and a few limited species can produce excessive pollen levels. A few other species can also exacerbate existing or underlying health issues but using careful consideration and by following the principles of “right tree right place” these issues can be minimised or avoided.
- 4.4.2 Trees do not produce pollution. Air pollution comes predominantly from road transport. Within areas of poor air quality trees and green infrastructure can improve air quality. However, in certain circumstances, trees can make poor air quality worse. Dense avenues of street trees with large and interconnected canopies can trap air in street canyons and eliminate air mixing. If the pollution source is located inside the canyon this causes fumigation – i.e. the air pollution is trapped inside the street canyon. The opposite happens if the source of air pollution is located outside the canyon of the canopies which prevent mixing into the canyon, creating locally cleaner air.
- 4.4.3 Dr Ferranti explained in her evidence that trees produce natural chemicals called volatile organic compounds. On very hot days with strong sunlight, such as during a heatwave, these volatile organic compounds can mix with pollution from road transport to form ozone. At ground level, ozone is a pollutant with a negative health impact. To be significant in terms of air quality this takes several hours and needs many millions of trees. This effect is large-scale not local street-level, and the ozone formation may take place hundreds of miles away from the original source. Members were advised that this only needs to be considered an issue when increasing the total number of urban trees (not the same as the overall canopy cover) by more than 10%.

## 5 Public and trees

### 5.1 Dealing with Tree Enquiries

- 5.1.1 All public enquiries are received through the Birmingham City Council web portal or via the call centre. These are allocated to Amey in the case of Highways trees or via staff in the Parks & Nature Conservation Enquiry Team who provide an administration service for all requests for

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<sup>10</sup> National Institute for Health and Care Excellence (NICE) guideline ‘Air pollution: outdoor air quality and health’ 2017 (1.6 Walking and cycling) <https://www.nice.org.uk/guidance/ng70>





advice and information on horticultural and tree enquiries where this relates to all other Birmingham City Council owned trees. Relevant enquiries about Council owned trees are recorded and passed to the Tree Officers for assessment. Tree Officers investigate relevant enquiries and notify the person making the enquiry of the result together with details of any proposed action arising. All other enquiries are passed on as appropriate.

- 5.1.2 In the event of an out-of-hours emergency the message directs callers to the telephone number for the Duty Engineer at Lancaster Circus. The Council provides an emergency service to deal with dangerous trees or fallen trees where they are a threat to life and/or property.

## 5.2 Complaints

- 5.2.1 Given the number of trees in the City and the size of the population, issues relating to trees are relatively limited by comparison but trees in streets, and especially in residential areas, do give rise to a number of common problems. Common complaints include:

- lack of phone or TV signal;
- sticky deposits on cars/property;
- loss of light;
- leaves being dropped;
- roots or branches affecting property, including subsidence claims.

- 5.2.2 These common complaints are listed on the Council's web pages and there are responses setting out the level of action that will be taken by the Council. While there are processes in place to deal with these issues, some of these issues should gradually reduce in future years as new trees are planted, using the principles of right tree, right place.

## 5.3 Access to information

- 5.3.1 Currently there is some information about certain aspects of trees and the tree service available to the general public on the City Council website. However there are a number of issues which need to be addressed about the content and the way the Council provides information about trees to the public which, if addressed, would help to reduce the number of queries and the time required for qualified officers to give advice.

- 5.3.2 There is some information available, for example, about when street trees are to be inspected and when works to street trees can be expected to happen, which can be found on the City web pages under the Highways section. By contrast, information on Conservation Areas is to be found in another section of the website under Planning and all other tree works information is under Parks. This is obviously not ideal from the point of view of citizens with problems and queries trying to navigate the website to access information about trees. Whilst each section should still be



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responsible for its own information, the material needs to be better cross-referenced. There is no link on the website to Parks or Highways from Planning tree information or vice versa.

- 5.3.3 None of the tree information on the website mentions the ecosystem services valuation so people cannot easily see what a contribution the trees in their local park or street make to the local environment. As a City we need to do more to disseminate the message more widely to the public and to actively promote the value of our collective tree stock much better and combined interactive mapping could be used to achieve this using current data.

## 5.4 Improving access to information

- 5.4.1 The Council also needs to be clearer in providing information about who manages trees, what our management practices are and explain why we no longer follow certain methods of tree pruning. Some of the past tree pruning practices were subsequently found to be detrimental to the long-term health of the tree and also resulted in increased maintenance costs because of the need to repeat the work on a cyclical basis. This needs to be clearly explained to the public.
- 5.4.2 It would also be useful if the process for dealing with subsidence claims was clearly explained. It has recently been agreed that the City will adopt the joint mitigation protocol for dealing with subsidence claims and the process for claims of subsidence needs to be clearly set out. This will minimise costs to both parties and ensure that timely action is taken to resolve claims or to provide sufficient evidence where a claim needs to be refuted or where the City wishes to provide an alternative solution to tree removal.
- 5.4.3 The Council needs to provide additional material, to be clearer and more comprehensive in the way it provides information about trees on the City Council website, to improve the cross-referencing of the information that is available on the website, to make the material easier for people to find and to use the data which is already available to promote the value of our collective tree stock better and more widely. **(R07)**
- 5.4.4 The point was made in evidence that Birmingham has joined the global network of "Biophilic Cities" – basically urban centres that are celebrated for their green credentials, their open spaces and their links to nature. The idea is that nature should be central to a happy, healthy and meaningful life, not just for people who live in the country but also for city dwellers. However what must be understood is that Biophilic City status is not a mark of having achieved that – but a commitment to achieving that over the course of a generation. Birmingham has pledged to work with 11 other cities in a Biophilic network to find ways of making sure that urban dwellers are linked to nature. The City has committed to becoming one of the world's most environmentally friendly cities and has developed strategies and targets which aim to make the City as green as possible. The City needs to do more to promote and to raise awareness about the fact that Birmingham is a Biophilic City and what this means, especially for the next generation. **(R08)**



## 6 Valuing Trees

### 6.1 Current valuation system

- 6.1.1 Although Council policies recognise the benefits of trees and that a substantial planting programme is needed to replace trees which are necessarily lost to development, disease or old age and to increase the overall stock, currently valuation of the City's public tree stock as a valuable asset is not a regular practice.
- 6.1.2 The current standard replacement policy is two for one replacement where trees have needed to be removed for whatever reason other than health and safety.

### 6.2 Alternative valuation systems

- 6.2.1 There are alternative, more sophisticated methods of valuing trees available. More recent thinking has grasped the need to portray a more realistic value based on the visual amenity and the value of the ecosystem services that trees provide and thereby justify retention over removal or investment into suitable replacements. There are a number of alternative systems available for valuation of trees. Some are more suited to individual trees while others relate better to broader populations of trees.
- 6.2.2 Some examples include:
- **Treezilla** assessment is an open data source platform where citizens can upload data about individual trees and can get an estimated value for the tree covering a range of ecosystem services.
  - **I-Tree** is a US Forest Service developed system that uses a broader range of measures to provide more detailed information on the value of their ecosystem services – providing a natural capital value.
  - **The Helliwell** system uses a basic approach to allocate point scores to a number of different factors such as tree size, life expectancy, suitability to site etc. These scores are then combined to give an overall comparative score for a tree or woodland. It is then possible to attach a value to this point score by the use of a monetary conversion factor.
  - **CAVAT** (Capital Asset Valuation for Amenity Trees) provides a basis 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 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. It is intended particularly for councils and other public authorities and primarily for publicly owned trees although it may be used by other public bodies, private institutions and individuals. It is used by a number of Local Authorities and London Boroughs to provide a



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valuation for individual trees and small groups of trees on a replacement basis. This allows a valuation to replace a tree of the same size and amenity value to be arrived at. The CAVAT process has been used to arrive at compensation values for loss of trees and for loss of value where trees have been recklessly damaged, especially where expected levels of tree protection have not been deployed. Within Local Authorities that operate this system these funds are allocated to a ring-fenced pot to be spent on facilitating suitable alternate planting or remedial tree work to damaged trees.

## 7 Future Canopy

### 7.1 Current position

- 7.1.1 The UK as a whole has fewer trees in comparison with countries in Europe with around 13% canopy cover. Birmingham currently has a canopy cover of around 18-19% which, while admirable, is below the level of many major world cities. It is widely accepted that in order to meet the challenges of climate change (increased temperatures, increased rainfall) a figure of around 25-30% canopy cover is required.
- 7.1.2 Using GIS data it is possible to calculate the current canopy cover levels and determine what these are for certain land use types. This data can be used to inform where tree planting is required most and would be most beneficial and to set desirable levels of tree planting for any given region of the City or land use type. When you overlay this data with air quality, heat island, flood risk, social deprivation etc. there is a distinct correlation between lack of trees or green infrastructure and the worst instances of these issues. Directing tree planting and using this to inform the planning process should help to address some of these key problems.

## 8 Future Funding

### 8.1 Current funding policy

- 8.1.1 Currently each directorate directly funds the management of trees within its portfolio, although the work may be undertaken by a contractor or by a different department. This funding is often under pressure and generally only covers routine maintenance and essential health and safety works. There is currently no allocated budget for proactive management or development of new planting opportunities.
- 8.1.2 There are a number of alternative methods of supplementary funding available. Something the city could choose to implement straight away would be using a system such as CAVAT (e.g. already adopted in London) would enable funding to be levered in to support more proactive management of trees or the development of new planting opportunities. In addition a collection system that



could collect the money owed for non-replacement of lost trees could be pooled into a Birmingham Tree Bank. (See section 8.2).

- 8.1.3 As part of the longer term policy moves mentioned in this report such as the development of a 25 year Environment Policy; this longer term approach lends itself to the emerging international green bond market. One potential realistic option for the city or the region would be to look at a catchment flood risk approach in concert with the Environment Agency and the Municipal Bonds Agency. As an emerging market there are no UK examples yet, but it is widely considered that the market for them will be right in the next 5 years. So in the near future a 25-40 year green bond would provide a long-term revenue stream to support urban tree management. **(R09)**

## 8.2 Birmingham Tree Bank

- 8.2.1 The Birmingham Tree Bank is a suggestion for a new system to replace the traditional two for one tree replacement policy on Council owned land with a scheme to help finance Birmingham's Green Infrastructure. It was put forward to the Members by Jonathan Webster who is a Principal Landscape Architect with the Birmingham City Council Landscape Practice Group.
- 8.2.2 In his submission to the Review Group he explained some of the problems with the current two for one policy. One issue is that it does not properly mitigate for loss on sites where there is not enough room to properly accommodate tree replacement and it is not flexible enough in terms of the time frame and funding required to successfully re-establish tree infrastructure in suitable locations. It also takes no account of the visual amenity, health benefits or value of the larger mature trees or larger pieces of green infrastructure which are currently there. The point previously made about BCC Highway road improvement schemes which are not subject to the planning process was reiterated. This means that loss of trees is not regulated by development control which often means that large or important groups of trees, especially within the highway, are vulnerable to loss both as part of adjacent development and as part of road improvement and other regeneration schemes.
- 8.2.3 The suggestion is that trees on council owned land (and possibly including trees under threat from development) are graded using a system similar to the CAVAT (or Helliwell system) (see para 6.2.2) which places a monetary value on their visual amenity as well as their replacement cost. This system would place much higher monetary values on important trees than the current system which just covers the cost of the nearest practical new tree replacement size.
- 8.2.4 This would mean that the potential loss of trees on any one particular development site could be valued as a potential asset to Birmingham City Council and in cases where there is insufficient room for reasonable compensation and mitigation to be secured through new tree planting within any one site in the direct locality, the difference in value is transferred into the Birmingham Tree Bank.



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- 8.2.5 As part of the Amey contract any trees removed from the Highway network should result in a saving in the amount paid out annually through the contract to cover revenue costs. In theory this saving could potentially be used to cover the revenue and maintenance costs of new trees added to the network. The City Council should investigate whether the value of, or part of the value of, new savings on revenue costs from trees removed from the Amey contract within the Highway contract could be transferred into the Birmingham Tree Bank. It might also be possible to explore whether funding could be secured from Amey through their commitment to the Birmingham Business Charter for Social Responsibility.
- 8.2.6 Funding secured into the Birmingham Tree Bank could then be used to fund both the capital and revenue costs of new tree planting and green infrastructure within the city. Instead of looking at tree mitigation on a site by site basis this would provide flexibility and funding to consider taking a more strategic citywide green infrastructure approach. This would give the potential for funding both more local tree planting through organisations such as "Birmingham Trees for Life" as well as council directed schemes under the auspices of a coherent strategy. **(R09)**
- 8.2.7 The future over-sight of the Birmingham Tree Bank could then be a responsibility of the new 'policy group'. **(R11)**

## 9 Future Maintenance

### 9.1 City Council tree management policy

- 9.1.1 The City Council is a major land owner in the City and is responsible for the maintenance of and for the risks and hazards arising from trees on this land. The Council's street tree maintenance and management arrangements are set out in its Tree Management Strategy. This document sets out a series of broad tree policy statements relating to the maintenance and management of the City's trees together with a series of objectives and commitments supporting the implementation of these policy statements.
- 9.1.2 As a matter of good practice all policies need to be periodically reviewed to ensure that they remain fit for purpose. The current Tree Management Strategy was last reviewed in 2009 and whilst reflective of good practice at the time, it now needs to be revised and updated to reflect the latest evidence from research and current best practice and forward planning in order to ensure that the policy is relevant, clear and helps to shape an urban tree strategy on which important decisions about trees can be based.
- 9.1.3 There will always be positive and negative aspects to planting and maintaining trees in an urban area. Planting trees in urban areas does have pitfalls, such as the potential for limiting air circulation in heavily polluted streets where a thick tree canopy can trap polluted air at low levels. Leaves can block gutters and gulleys, may deflect sunlight from houses and gardens and can





sometimes cause damage to surfaces but this needs to be balanced against the multiple benefits and amenity value of urban trees.

- 9.1.4 In spite of the drawbacks, there is increasing recognition of the potentially positive role that trees can play in improving air quality by controlling particulate matter where urban tree planting is properly coordinated alongside other particulate matter reduction strategies. In comparison to concrete or brick surfaces, trees and green infrastructure have a greater surface area which means that more air pollution can be deposited on the surface and so more air pollution can be removed from the ambient air. <sup>11</sup>
- 9.1.5 Consideration also needs to be given to specific locations where trees would have a positive impact and to the species of tree to be planted and the conditions required for the tree to thrive. The City needs to develop a revised, clear tree policy that demonstrates the importance of trees in their widest contribution.

## 9.2 Setting up a representative citywide group

- 9.2.1 There are a wide range of bodies including universities, government agencies, the third sector, companies and other agencies with a focus on trees in the urban landscape such as Birmingham Trees for Life, Birmingham Tree People (an urban tree warden initiative), The Woodland Trust and Trees for Cities who have knowledge, experience and expertise about urban trees which could be beneficial to the City Council. There is also a wealth of evidence from research emerging all the time about the wider benefits of trees and green infrastructure which could be used to benefit and inform the way that the City Council maintains, manages and develops the Birmingham Urban Forest.
- 9.2.2 The City Council should utilise this knowledge and expertise in conjunction with expertise from directorates across the Council and delivery bodies, including Amey, to bring together a citywide independent-led group which can be called on for advice and expertise. It was suggested in evidence that this citywide group of experts and interest groups could form the basis of a 'Birmingham Forest Group' which could potentially be called on to inform the development of any Future Tree Strategy including a link to the legacy of the Birmingham Commonwealth Games to be held in 2022. **(R11)**

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<sup>11</sup> Pugh, T.A., MacKenzie, A.R., Whyatt, J.D. and Hewitt, C. N., 2012. Effectiveness of green infrastructure for improvement of air quality in urban street canyons. *Environmental science & technology*, 46(14), pp.7692-7699



## 10 Future Urban Tree Management Strategy

### 10.1 Framework

- 10.1.1 The Government is about to release a framework for the creation of a 25 year environment plan. This will be applied nationally through Government projects and schemes but the main delivery mechanism for improvement would come from city and regional locations developing their own 25 year environment plan.
- 10.1.2 Work is ongoing to develop such a plan for the West Midlands to link into and integrate with the plans for economic growth. This framework would provide the ideal vehicle and a timely opportunity for Birmingham to develop a 25 year Urban Tree Management Strategy for the City.

### 10.2 Urban Tree Management Strategy

- 10.2.1 Urban tree management plays a wide role and provides a multitude of benefits apart from mitigating the effects of poor air quality. There is evidence, some of which has been previously referred to, which suggests that access to green spaces can provide health benefits through improved mental wellbeing and levels of physical activity, reduced exposure to pollution and high urban temperatures; green spaces can also improve the quality of life, provide environmental benefits including aiding water management and alleviating the flood risks and can help to cool urban heat islands.
- 10.2.2 However, in order for tree planting to have a positive effect, decisions about tree planting need to be properly coordinated. Decisions need to be based on a unified plan, an Urban Tree Management Strategy which identifies issues such as suitable locations where trees will have a positive impact, that identifies suitable species and also appropriate spacing and suitable planting conditions.
- 10.2.3 To ensure that a sufficiently long-term view is taken and that adequate safeguards and monitoring are put in place for the Birmingham Urban Forest, ideally a 25 year strategic plan should be developed. This could then be used to inform 5 year business/management plans with each tree related service area deriving annual operating plans from these. Consideration would need to be given as to how this would relate to, and what impact this might have on, the PFI contract with Amey. **(R10)**
- 10.2.4 The plan should include the following:
- A target increase for canopy cover within Birmingham. While a long-term vision would be to reach 25-30% this would take many years so smaller increments should be set initially. For example, to increase canopy cover from present levels by 2% (i.e. increase level from



18% to 20%). Movement towards this would need to be monitored and reported on a 5 yearly basis.

- Clear guidance on the system of assessment and valuation of tree stock (such as CAVAT) and the relationship to retention and replacement.
- Information on the assessment of current tree stock including composition, age, condition and species and setting of idealised composition targets. In addition this will guide developers away from species that are over- represented but would still follow the principle of “right tree – right place” while considering current and future threats from climate change and pests and diseases.
- Clear desirable standards for tree planting pits with examples of designs for differing locations such as open ground or hard landscaped areas. Ideally in hard landscaped areas and on new road systems combined Sustainable Drainage Systems (SuDS) and tree planting pits would be used to maximise potential ecosystem benefits.
- Identify funding mechanisms, such as a review of the potential for long-term green bonds.
- The need for greater transparency in the availability of information on the distribution and management of Birmingham’s tree stock. A review of web page information should be included as currently tree management information is disjointed. A one stop shop for tree related information is needed. Citizens should have access to clear and concise information on the value of the City’s tree stock and the role it plays in delivering benefits across the health and well-being agenda along with ecosystem services.
- Information about the City’s 25 year strategic tree plan should be published along with an interactive map of the publically owned tree stock. This interactive map should show location, species, height, condition, valuation (CAVAT or I-Tree Eco), managing department and contact details.

10.2.5 Above all, any new tree strategy should seek to be adopted by full Council and become the single point of reference for all directorates when considering how they manage or influence the Birmingham Urban Forest.

## 11 Conclusion

The most successful and desirable cities in the world can all be measured by their green credentials – not lip-service – but making that centre stage of their identity and USP. This gives confidence to investors. So what builds is an upward spiral as the vital building block not the economy per-se but the engagement of the citizens and businesses – so the green city vision is owned widely across the



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city not just by the municipal institution. The role of the municipal institution is then one of leadership.

A 5 year study based at the University of Birmingham, called Liveable Cities (<http://liveablecities.org.uk/>) has researched all the essential qualities and necessary conditions that need to be in place to craft a liveable city. Using systems thinking modelling it has been possible to reveal how inter-connected and inter-dependent all the various agendas and city challenges are.

One principal finding has been how the solution going forward for many of these inter-connected and complex problems faced by cities – connects back to the vital importance of nature in cities. Modern science has provided new tools such as ecosystem services – where our human dependency on nature can be made visible. And the new accountancy methodologies of natural capital can convert these benefits into multiple values.

These tools coupled with a natural capital approach start to show just how important the role of trees and green infrastructure are in cities.

We need to move from a position whereby the natural environment in cities is seen as the sole responsibility of one small part of the organisation as a whole or that of an external special interest group; and where the assets are listed as a financial liability. The current ‘business-as-usual’ approach needs challenging; urgently. So it can reflect the global advancements in our understanding expressed through new tools and new models that we are in a prime position to trial in Birmingham; so matching the city’s global green ambitions. This would put Birmingham at the forefront of global cities; working in partnership with a wide array of key stakeholders – who through these new models are able to see the business case for putting nature first.

The city’s trees will be safe once we reach this new point of understanding.<sup>12</sup>

- 11.1.1 Birmingham has a relatively high tree cover compared to other UK cities (see section 7.1.1) and is well placed to take up this challenge.

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<sup>12</sup> Nick Grayson, Climate Change and Sustainability Manager, Birmingham City Council; Senior Research Fellow University of Birmingham, Liveable Cities - specializing in Natural Capital; Thoughts on the Terms of Reference



### **Motion**

That the recommendations R01 to R12 are approved, and that the Executive be requested to pursue their implementation.



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## Appendix

Members of the Task & Finish Group would like to thank all those who gave their time and contributed to this report and in particular Simon Needle and Nick Grayson for their invaluable help and support:

- Carl Hides, Senior Service Manager, Birmingham City Council
- Chris Rance, Technical Director, WSP
- Councillor Lisa Trickett, Cabinet Member for Clean Streets, Recycling & Environment
- Councillor Mike Ward, Birmingham City Council
- Dr Emma Ferranti, School of Geography, Earth & Environmental Sciences, University of Birmingham
- Julie Sadler, Principal Arboriculturist, Birmingham City Council
- Joan Goodwin, Chair, City Housing Liaison Board
- Jonathan Webster, Principal Landscape Architect, Birmingham City Council
- Nick Barton, Highway Tree Asset Manager, Birmingham Highways Maintenance and Management Service, Amey PLC
- Paul Muir, Arboricultural Consultant / Contracts Administrator, Treework Environmental Practice
- Peter Parker, Infrastructure Delivery Manager, Birmingham City Council
- Professor John W. Dover, Emeritus Professor of Ecology, Staffordshire University
- Professor Jonathan Sadler, School of Geography, Earth and Environmental Sciences, University of Birmingham
- Richard Cowell, Assistant Director, Birmingham City Council
- Simon Delahunty-Forrest, Head of City Design, Birmingham City Council
- Simon Smith, Trees and Contracts Manager, Birmingham City Council
- Thomas Clarkson-Williams, Highways Asset Manager, Birmingham City Council