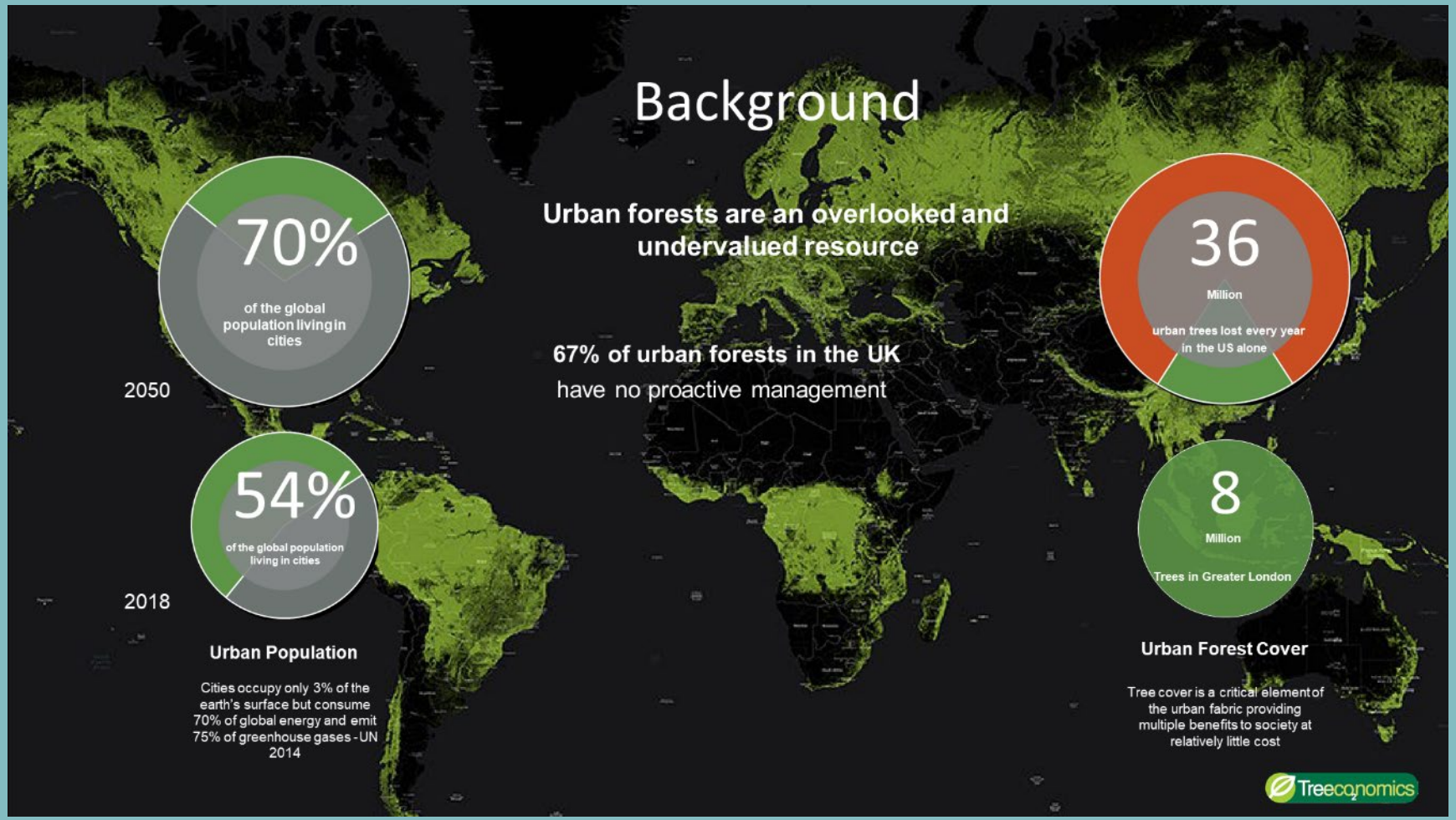
GROWING A GREEN CITY

AN URBAN FOREST MASTER PLAN FOR THE 21ST CENTURY


Background
Urban forests are an overlooked and undervalued resource
67% of urban forests in the UK
have no proactive management
70%
of the global population living in cities
2050
54%
of the global population living in cities
2018
Urban Population
Cities occupy only 3% of the earth's surface but consume 70% of global energy and emit 75% of greenhouse gases - UN 2014
36
Million
urban trees lost every year in the US alone
8
Million
Trees in Greater London
Urban Forest Cover
Tree cover is a critical element of the urban fabric providing multiple benefits to society at relatively little cost
Treeconomics

Birmingham has within its bounds somewhere over 1million trees. (Data taken partially from the National Tree Map produced by Blue Sky ltd)

Of these around 250,000 are in private ownership (major land owners such as Calthorpe Estate and Bourneville Village Trust, Universities, private householders and other non public land)

Of the trees under BCC management this includes:

137,783 Individually plotted non highway trees -This covers Parks, Cemeteries, some schools and BCC social housing land.
These trees are from a diverse range covering 37 Families and 81 Genus

Top Family Rosaceae – 21%
Top Genus Acer – 19%

Trees on the Highway account for around 75,000 individual trees.

The largest bulk of trees are within woodlands this covering some 1398 Hectares. An average density of trees per hectare has been applied (to account for canopy and understory trees) to give a figure of around 630,000

Green Infrastructure

- 13.5 Square miles of Public Open Space
- 9.2 Square miles of designated Nature Conservation sites
- 5.4 Square miles of designated woodlands (in Parks and open spaces).
- 250 miles of rivers, brooks and streams
- 35 miles of canals

What is an Urban Forest Master Plan?

An Urban Forest Master Plan is a Destination.

A strategy is the route.

Tree Strategy vs. Master Plan

	Tree Strategy	Master Plan
Tree Population (Data)	Public (Streets & Parks)	Public & Private
People	City Staff	All Stakeholders
Goals	Wish List	Shared Vision
Creation Timeframe	4 – 6 weeks	9 – 12 months
Implementation Timeframe	5 – 10 years	10 – 50+ years

Criteria & Indicators

Adaptive Management

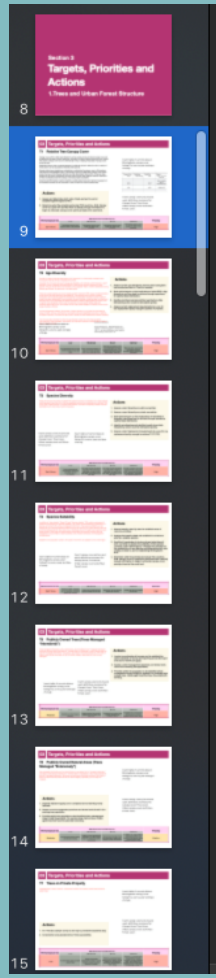
Kenney, W. A., et al. 2011. "Criteria and Indicators for Sustainable Urban Forest Planning and Management." Arboriculture & Urban Forestry 37(3): 108–117.

DAVEY

Treeconomics


ECOSYSTEM SERVICES
CULTURAL
PROVISIONING
REGULATING
SUPPORTING
Mental and physical health
Recreation and ecotourism
Aesthetic values
Spiritual and religious values
Food
Raw materials
Medicinal resources
Fresh water
Air quality regulation
Climate regulation
Water regulation
Erosion regulation
Water purification and waste treatment
Disease and pest regulation
Pollination
Moderation of extreme events
Soil formation
Photosynthesis
Nutrient cycling


Master Plan
Public Realm
Economic Development
Air quality improvement
Energy conservation
Outreach & Education
Community Sustainability
Pest and Disease Management
Policy Formation & Evaluation
Stormwater Management
Climate Adaptation
Green Infrastructure



03 Targets, Priorities and Actions

T1 Relative Tree Canopy Cover

Canopy cover, which is often also referred to as tree canopy cover and urban canopy cover, can be defined as the area of leaves, branches, and stems of trees covering the ground when viewed from above. Canopy Cover is a two dimensional metric, indicating the spread of canopy cover across an area.

Assessing canopy cover is popular because it is relatively simple to determine from a variety of means and it can be calculated at relatively little expense.

Several studies have already been undertaken on estimating the canopy cover in Birmingham, including the Forest Research 2017 i-Tree canopy survey, the 2020 urban canopy cover citizen science survey and the Bluesky National tree map data already held by BCC. However, these studies are not directly comparable with each other as they used different methods, definitions (of what constituted urban tree canopy cover) and project boundaries.

Going forward Birmingham needs to identify a suitable project area and method of assessment so that repeat surveys can be compared in order to track and monitor performance.

Actions

1. Assess and determine which sets of data are best to use for establishing Birmingham's RTC.
2. Determine what the potential and actual TCC could be. (N.B. Canopy cover is a quick win and that there is already enough information to begin to articulate canopy cover quickly at least at the ward level.

Insert table of current data on Birminghams canopy cover listing %'s, source, year and type of study

	A	B	C	D
1	**Canopy Cover**	**Study type**	**Study Year**	**Source**
2	21.2%	I-Tree Canopy	2016	Urban Tree cover web map
3	18.6%		2019?	On bcc website. Also in Birmingham tree policy
4	23%		2017?	In BDP pg77
5				

Insert canopy cover picture and quick definitions summary for: Canopy Cover, Tree Cover, Urban canopy cover and Urban Forest cover.

Performance level	Performance Indicators				Priority
	Low	Moderate	Good	Optimal	
Don't Know	The existing canopy cover equals 0–25% of the potential.	The existing canopy cover equals 25–30% of the potential.	The existing canopy cover equals 50–75% of the potential.	The existing canopy cover equals 75–100% of the potential.	High

Birmingham has had a chequered past in relation to trees and tree management.

Major incident in 1999 led to improvements in tree risk management and review and production of a new Tree Management Policy.

This brought in additional budget and staffing to manage the urban forest however little to no funds for tree replacement.

Over the past 10 – 15 years the pace of development has increased with more pressure put on new transport projects and regeneration of the city centre.

This placed significant pressure on city centre trees.
Despite best efforts of the TO's little consideration was given by either highways or planning department as to long term urban forest management.

Corporation Street is just one such example.

BBC CATEGORIES TV RADIO COMMUNICATE WHERE I LIVE INDEX

BBC NEWS

You are in: England

News Front Page
World
UK
England
N Ireland
Scotland
Wales
Politics
Business
Entertainment
Science/Nature
Technology
Health
Education

Talking Point

Country Profiles
In Depth

Programmes

BBC SPORT
BBC WEATHER
CBBC news

SERVICES
Daily E-mail
News Ticker
Mobile/PDAs

Monday, 15 July, 2002, 18:42 GMT 19:42 UK

Council fined over falling tree deaths

The tree hit three cars and a bus shelter

Birmingham City Council has been fined £150,000 for breaching health and safety law after three people were killed by a falling tree.

Kenneth Davis, his mother Ellen, and Alan Poole were all killed when the ash tree fell on their cars in King's Heath in December 1999 amid gale force winds.

The council pleaded guilty to the charge brought by the Health and Safety Executive (HSE).

2017 Local group campaigns to save the Broad Street Tree from Metro extension plans.

Birmingham Trees for Life

24TH FEBRUARY 2017

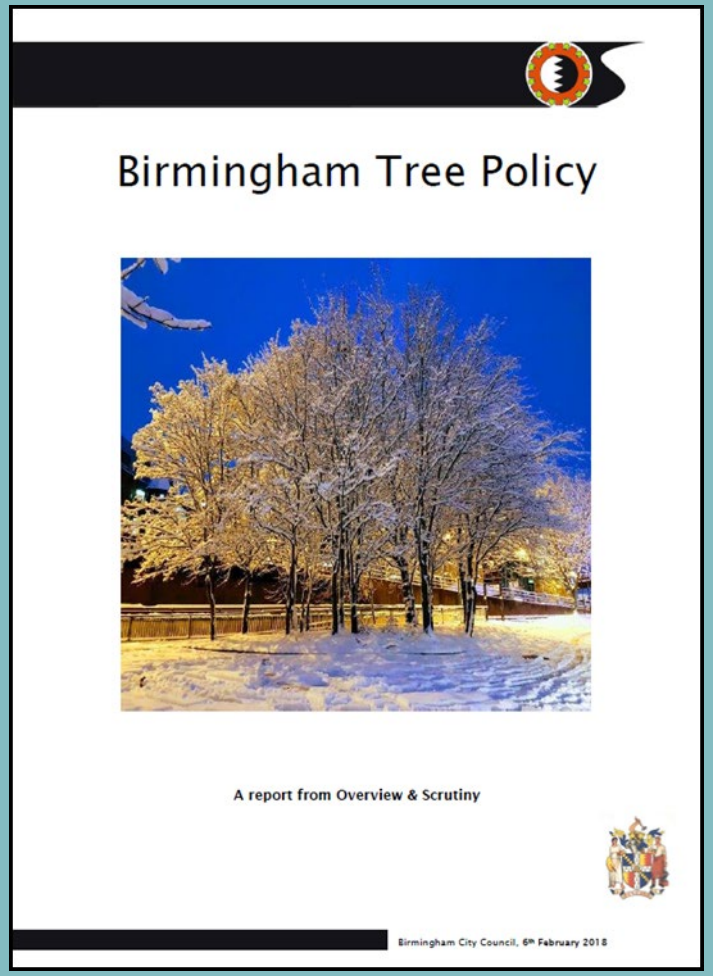
Broad Street Tree battle ….lost!

Today it has been announced that, following extensive investigations, **Birmingham City Council will be removing the Broad Street Tree tomorrow, Saturday.**

Please come along and help us show that many residents of Birmingham are unhappy with this decision. There will be a protest at the tree from 10am tomorrow Saturday the 25th February.

The protest is not to prevent what is now the inevitable felling of this tree, but to show that this battle was still in the forefront of many residents minds. The newly designed Centenary Square will have a number of new trees within it but they will not have anything like the capacity to remove polutants via their immature canopies that this tree does.

Be at the Tree in Broad Street near the Hall of Memory at 10am , tomorrow- Saturday 25th February.



That campaign gained a lot of traction and support through mainstream and social media.
While not successful in retaining the tree it did raise the profile of trees in the city and the vital role they play in our daily lives.

There was much concern from both public and elected members over the attrition being seen in the urban tree population with seemingly insufficient replacements and those replanted not having access to adequate recourses.

During 2017 two councillors took a proposal to full council for a cross directorate review of all policies and practices relating to trees.

The review was agreed and a cross party working group set up assisted by council officers.

The group made a call for evidence which was presented at a public hearing. This was summarised into a report that contained 12 recommendations.

That report on findings and proposal for adoption of the recommendations was presented to full council and unanimously adopted for implementation in February 2018.

Summary of recommendations.

Highways

- Clear and consistent process for assessing footway crossing applications in relation to trees.
- Surveys to BS5837 must be undertaken – for all highway projects that impact trees
- CAVAT assessment for all trees within project areas
- The survey data to inform retention and replacement plans and budget
- Greater involvement of Arboricultural officers at early stages

Clearer guidance from planning:

- Aspirations for canopy cover
- Strengthen policies and planning conditions
- Planting quality – access to soil volumes and water.
- Species diversity
- Integration into multifunctional GI

Cross City

- Canopy cover target of 25% for the city
- New supplementary funding system to create a “Tree Bank” to fund replacement and additional tree planting within the city.
- Creation of an Urban Forest Master Plan
- Formation of a “Tree Board” to oversee the management of the Urban Forest and direct spend from the tree bank. This group to be formed using stakeholders from BCC and external groups such as Birmingham Tree People (local tree warden group).

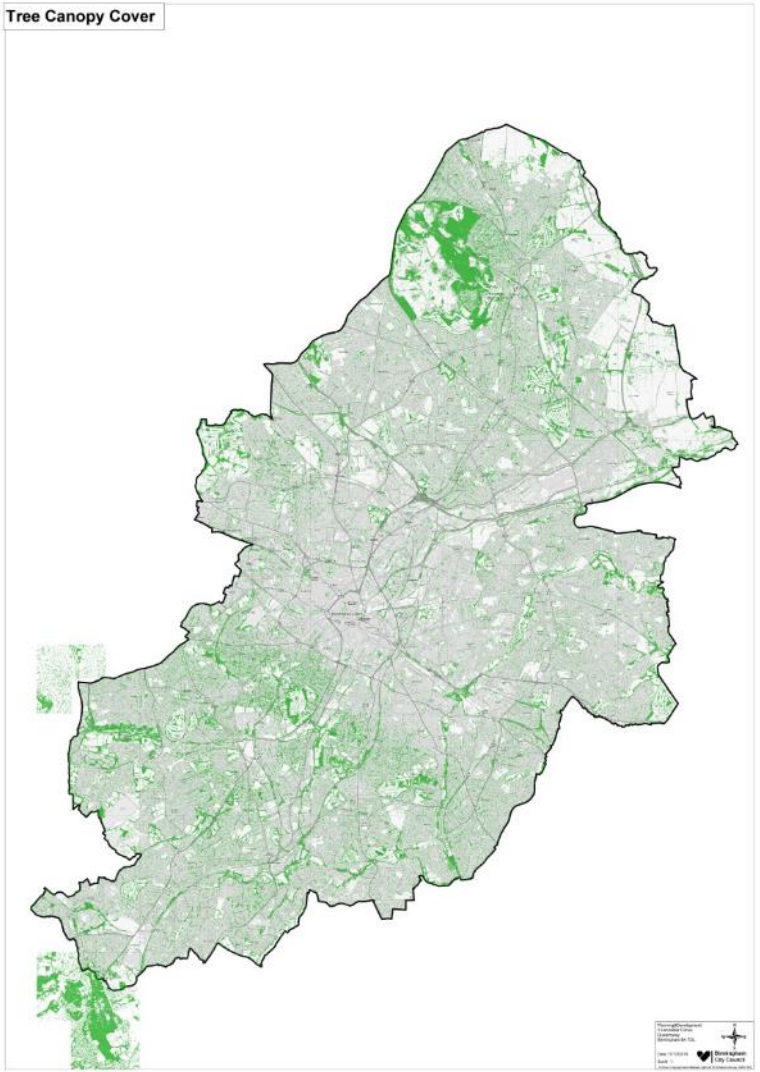
- 2019 Birmingham gained global Tree City Status on the back of policy changes (retained 2020).
- Role of trees play in mitigating and adapting to climate change highlighted in Climate Change declaration and city's plan for a route to net zero carbon
- Higher profile for trees and wider GI in new planning docs. Environmental resilience and Environmental Justice

The Challenges

- Population at 1.1million and rising
- One of the youngest populations in Europe
- Significant number of wards in top 10 percentile IMD
- High levels YLL in certain quarters
- Air Pollution
- UHI
- Pluvial and Fluvial flooding
- Demand for housing.

COVID19 pandemic has brought to the fore the inequality of accessible green space
BAME more impacted by pandemic

Higher levels of BAME in areas of low GI, poorer air quality and high UHI

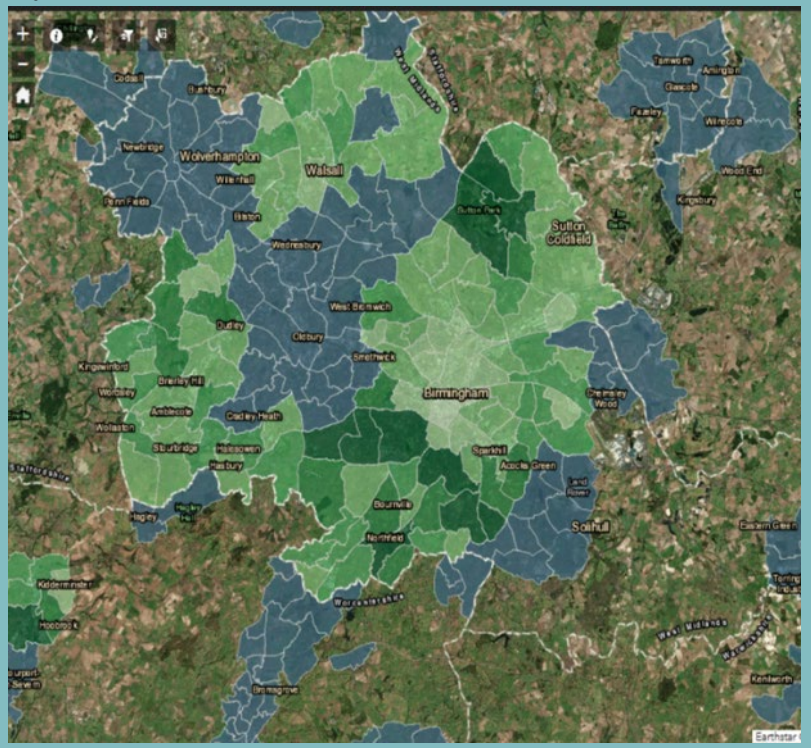


Forest research's canopy cover tool used to derive city and ward canopy cover levels.

- City Average of 18.6%.

Wards lowest and highest.

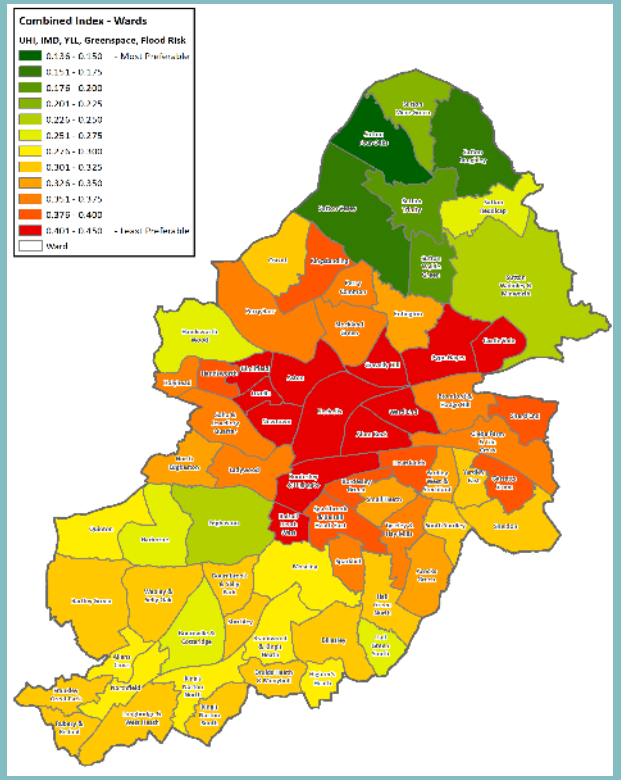
- Bordesley and Highgate - 9.6%
- Sutton Trinity – 46.8%



ENVIRONMENTAL JUSTICE MAP OF BIRMINGHAM

Combined Index by Ward - Mean Value

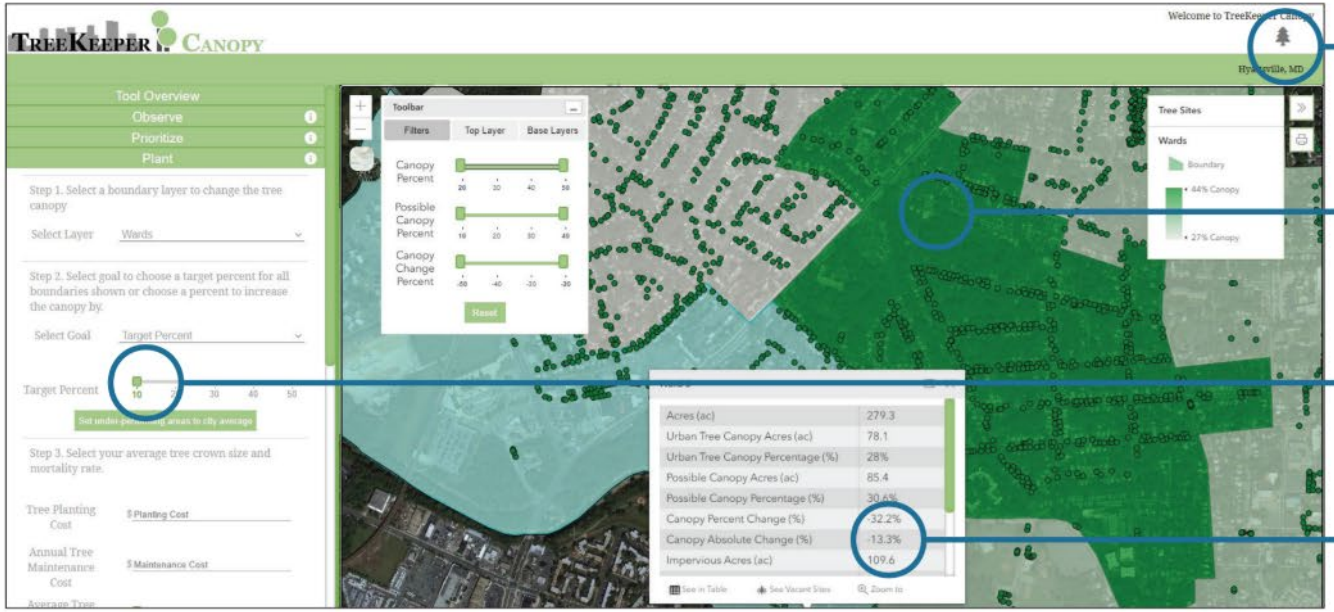
Ward	0.29 - Highter's Heath	0.33 - Acocks Green	0.39 - Heartlands
0.14 - Sutton Four Oaks	0.29 - King's Norton North	0.33 - North Edgbaston	0.39 - Shard End
0.15 - Sutton Vesey	0.3 - Rubery & Rednal	0.34 - Small Heath	0.39 - Handsworth
0.16 - Sutton Roughley	0.3 - Brandwood & King's Heath	0.35 - Yardley West & Stechford	0.4 - Ward End
0.19 - Sutton Wylde Green	0.31 - Bartley Green	0.35 - Erdington	0.4 - Bordesley Green
0.19 - Sutton Trinity	0.31 - Yardley East	0.36 - Bromford & Hodge Hill	0.41 - Alum Rock
0.21 - Sutton Mere Green	0.31 - Billesley	0.36 - Sparkhill	0.41 - Birchfield
0.24 - Edgbaston	0.31 - Bournbrook & Selly Park	0.36 - Ladywood	0.41 - Bordesley & Highgate
0.25 - Sutton Walmley & Minworth	0.31 - King's Norton South	0.36 - Perry Common	0.41 - Pype Hayes
0.26 - Sutton Reddicap	0.31 - Weoley & Selly Oak	0.37 - Soho & Jewellery Quarter	0.42 - Lozells
0.27 - Bournville & Cotteridge	0.32 - Oscott	0.37 - Holyhead	0.43 - Newtown
0.27 - Handsworth Wood	0.32 - Druids Heath & Monyhull	0.37 - Glebe Farm & Tile Cross	0.44 - Castle Vale
0.27 - Hall Green South	0.32 - Hall Green North	0.37 - Stockland Green	0.44 - Balsall Heath West
0.27 - Harborne	0.32 - Stirchley	0.37 - Tyseley & Hay Mills	0.44 - Aston
0.28 - Moseley	0.32 - Frankley Great Park	0.37 - Perry Barr	0.44 - Nechells
0.29 - Allens Cross	0.32 - South Yardley	0.38 - Kingstanding	0.44 - Gravelly Hill
0.29 - Northfield	0.32 - Longbridge & West Heath	0.38 - Garretts Green	
0.29 - Quinton	0.32 - Sheldon	0.39 - Sparkbrook & Balsall Heath East	



Environmental Justice adds:

Access to green space, Urban Heat Island, Flood risk, Excess Years Life Lost to
Indices of Multiple Deprivation and future housing pressure (SHLAA)

Tree Equity and Canopy assessment and growth tools



INTEGRATE TREEKEEPER DATA

VISUALIZE TREE CANOPY ASSESSMENT RESULTS

PRIORITIZE TREE CANOPY GOALS

EXPLORE TABULAR DATA INSTANTLY

Public facing Community Engagement Map

Explore Map

This is the place to get curious, get into the map and find your trees. Click on the trees, you can check out the location, species, size and more. TreePlotter™ Community Engagement Map is where you up your tree knowledge of the trees that you live and work around every day.


BIRMINGHAM
BIG
CITY
PLAN
ROUTE TO ZERO
Our Future City Plan – Central Birmingham 2040

Current drivers for change

Natural Environment Plan – Mandating Biodiversity Net Gain

Existing Local Plan 5 year review.

Revision of Development Management Policies – Strengthen GI policies

Big City Plan Route to Zero – A City of Nature

Declaration of Climate Change Emergency 2019 – Ecological Emergency

Route to Zero (net zero Carbon by 2030) – GI/ BI core theme for adaptation and mitigation along with carbon sequestration

Birmingham Design Guide – GI core theme – Biophilic buildings

Masterplans and SPD's – Have GI as central part to adaptation and mitigation for climate change impacts

Nature Based solutions
Multifunctional - should seek to fulfil at least 3 functions.
Canopy cover targets (WMCA – Virtual Forest – 4M trees across region)

Nature Recovery Network – Building on the Nature Improvement Area
Biophilic City Network
Tree City of the World

GROWING A GREEN CITY

THANK YOU
ANY QUESTIONS?