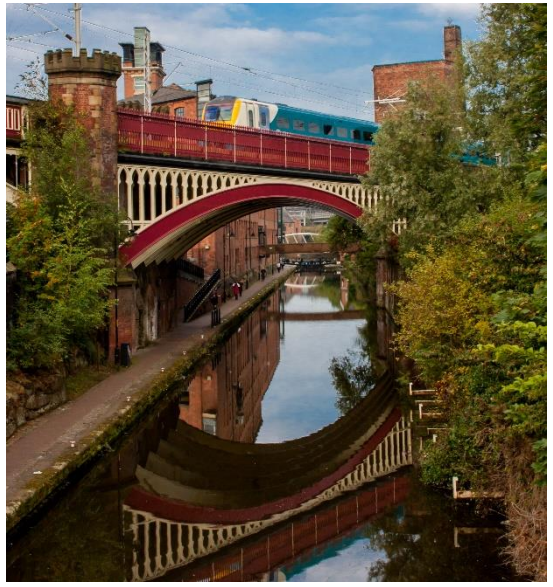
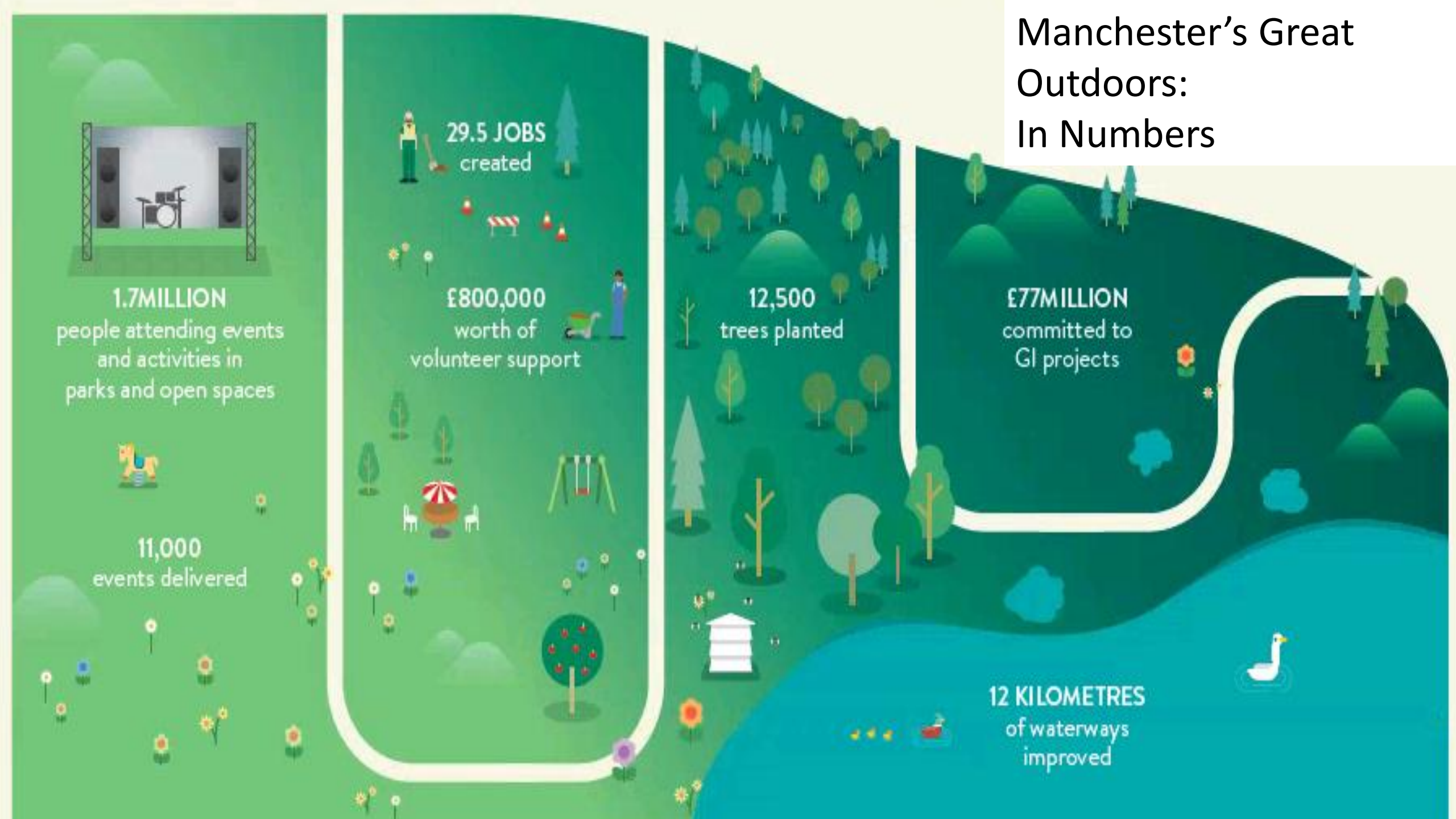
The Nature of Manchester: Green and Getting Greener




OUR MANCHESTER
Manchester's Local Plan
Manchester Climate Change Action Plan
MANCHESTER'S GREEN AND BLUE INFRASTRUCTURE STRATEGY
Biodiversity Strategy
Park Strategy
Tree and Woodland Action Plan

Manchester's Great Outdoors: In Numbers

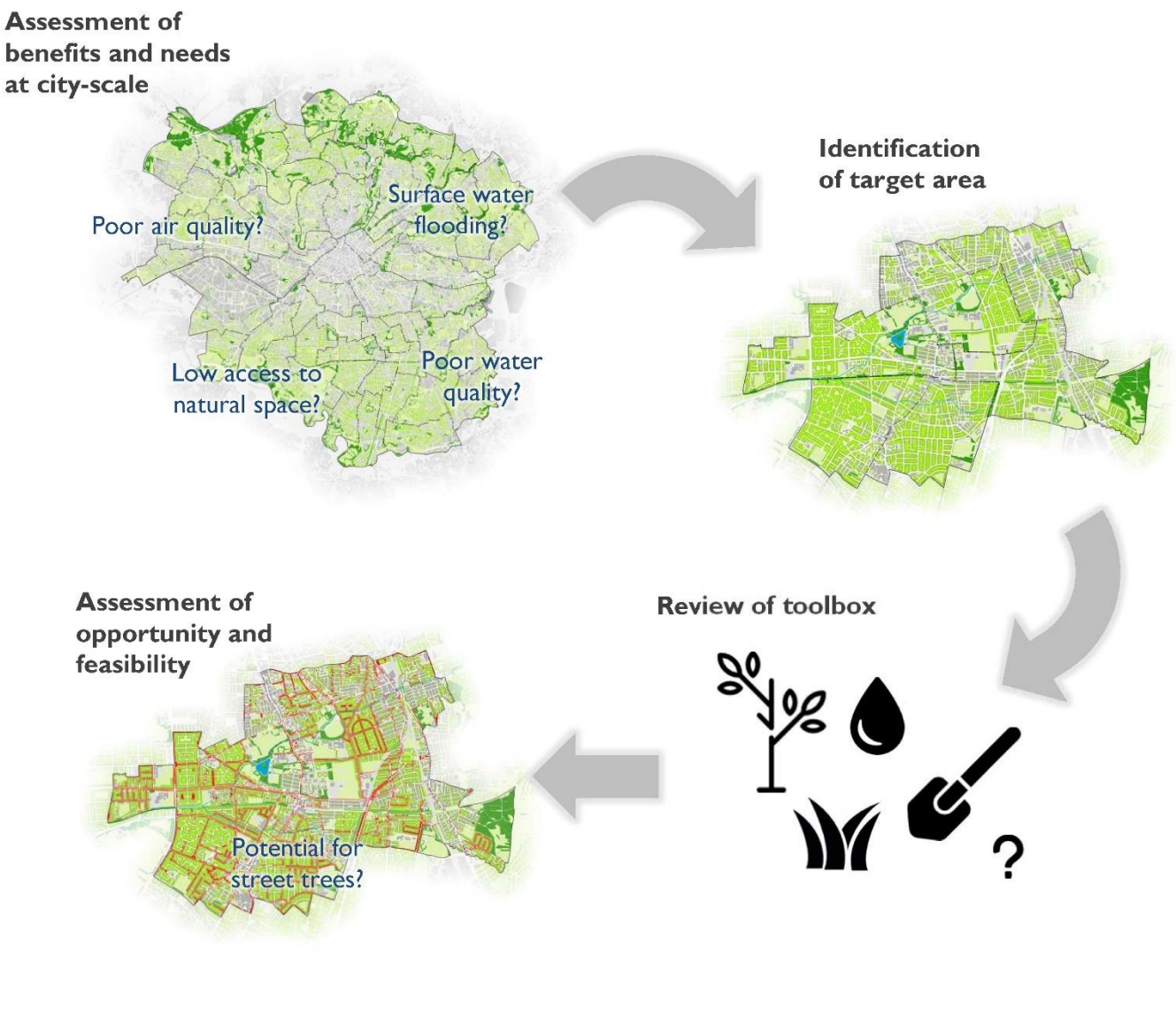


Turning Policy into Practical Action

Our approach aims to create an evidence-base that facilitates local decision making and must therefore take a number of factors into consideration:

- **'Needs' of the community**
- **'Wants' of the community & local policy-makers**
- **Where are there opportunities for action,**
- **Suitability/capacity of the landscape to receive interventions**

Strategic Targeting



NET-BENEFITS WHEELS

Tailored to Manchester

BENEFITS
Economic
Cultural **Social**
Environmental

Average House Price
Mean price paid for a terraced house in 2015.

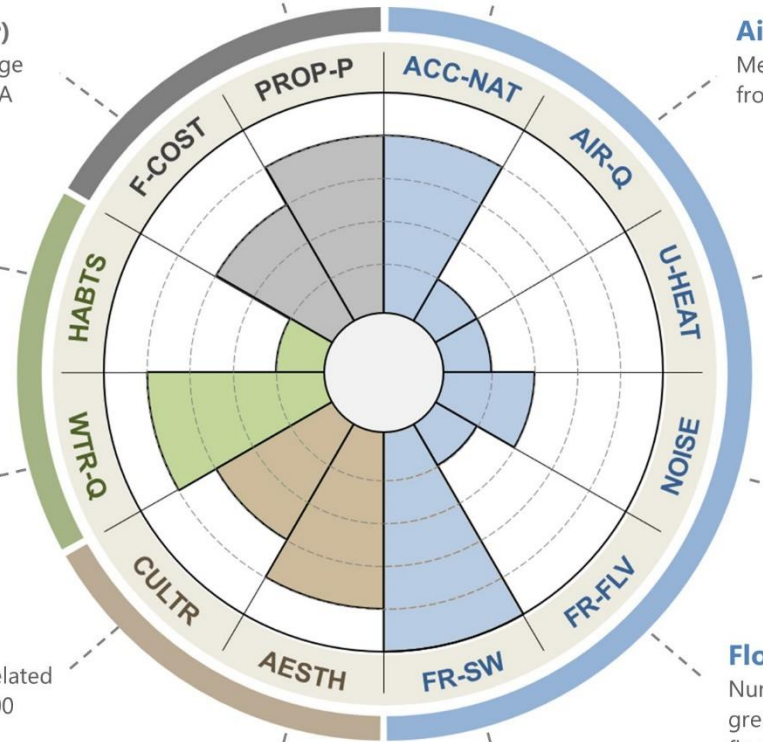
Access to Natural Space
Percentage of people in a ward who live within 600m (10mins) walk of an accessible greenspace.

Flood Damage Cost (Surface Water)
Estimated costs incurred due to flood damage from SW flooding, based on figures in the EA National Flood Risk Assessment (NaFRA).

Air Pollution ($PM_{2.5}$)
Mean concentration of $PM_{2.5}$ modelled for 2018, derived from emissions maps from the UK-AIR data archive.

Habitats for wildlife
Percentage of ward area that is described as a priority habitat in Natural England's Priority Habitats Inventory.

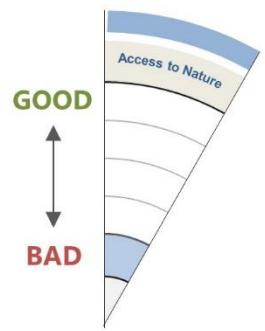
Local Climate Regulation
Urban heat island effect measured using Landsat 8 satellite thermal imaging data.



Water Quality
Number of urban 'reasons for not achieving good WFD status' identified for each river waterbody.

Noise Pollution
Average noise levels from traffic and rail derived from Defra Noise dataset.

EXPERIENCE



Cultural Activity
Number of natural environment-related cultural resources/facilities per 1000 people, including places such as allotments, sports clubs.

Flood Risk (Rivers and Sea)
Number of properties that have a greater than 1 in 100 year chance of flooding from rivers and/or sea.

Aesthetic value of landscape
Number of nature-related photos taken in the area that have been uploaded to Flickr and tagged accordingly.

Flood Risk (Surface Water)
Number of properties that have a greater than 1 in 100 year chance of flooding from surface water.

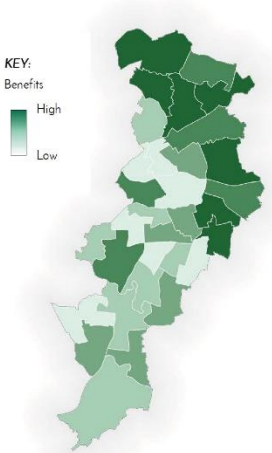
- Ward-scale analysis
- Metrics represent range of values in Manchester
- White spaces represent opportunity for improvement

Consistent Dataset Appraisal

INDICATOR 1

Access to green & blue spaces

Ward-level assessment



Access to Green & Blue Spaces

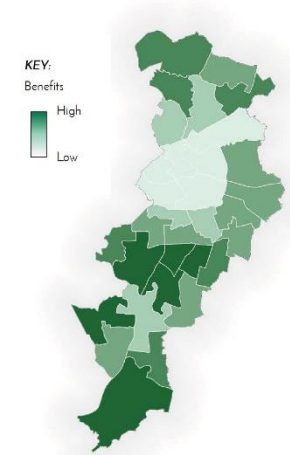
This map shows the natural spaces included in the analysis; accessible green spaces greater than 1ha, accessible water environments, and footpaths and minor roads through greenspaces.

The indicator used for this assessment shows the percentage of people in a ward who live within a short 600m (10mins) walk of an accessible green- or blue-space.

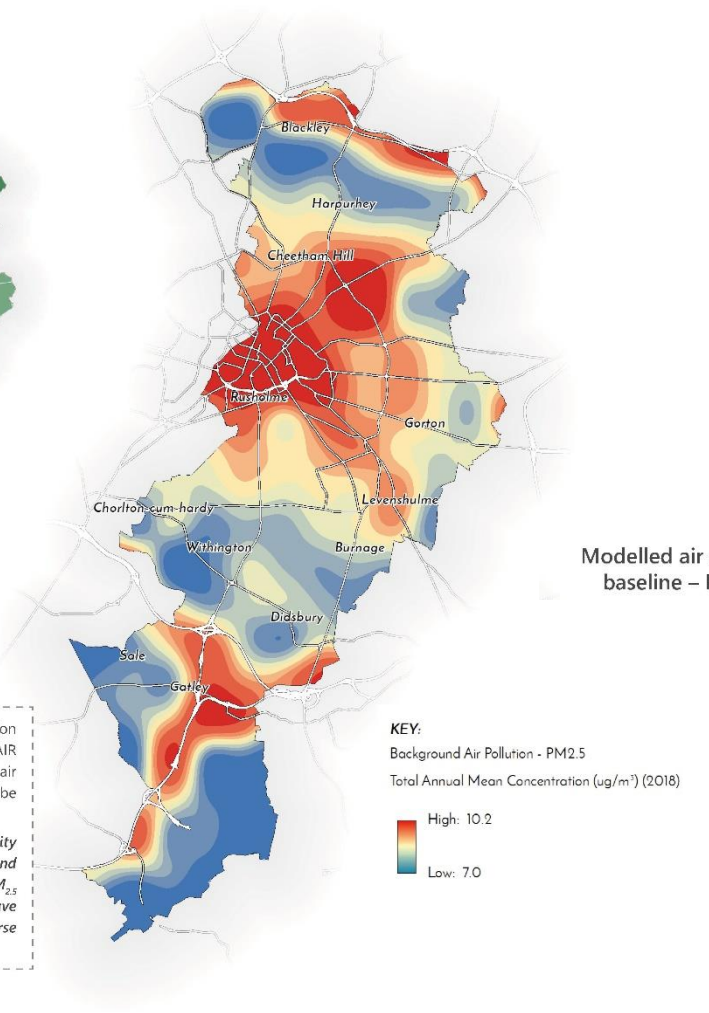
INDICATOR 2

Impacts of air pollution

Ward-level assessment



Modelled air quality baseline – $PM_{2.5}$



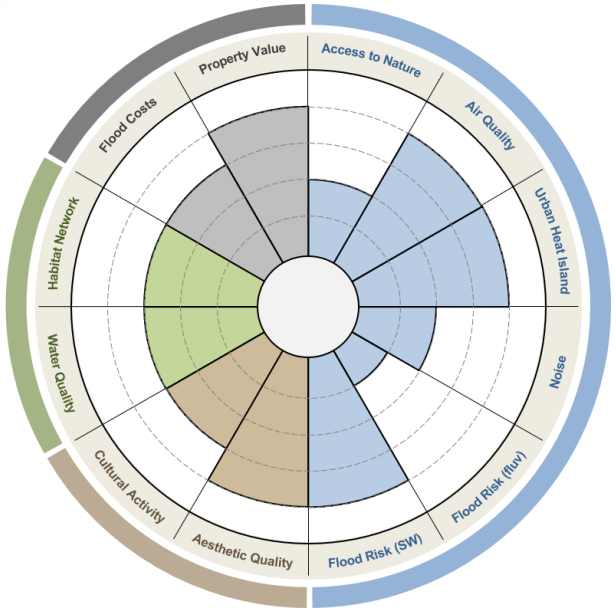
The estimated background air pollution maps available from the Defra UK-AIR website enable the concentrations of air pollutants such as PM_{10} and $PM_{2.5}$ to be mapped across the city.

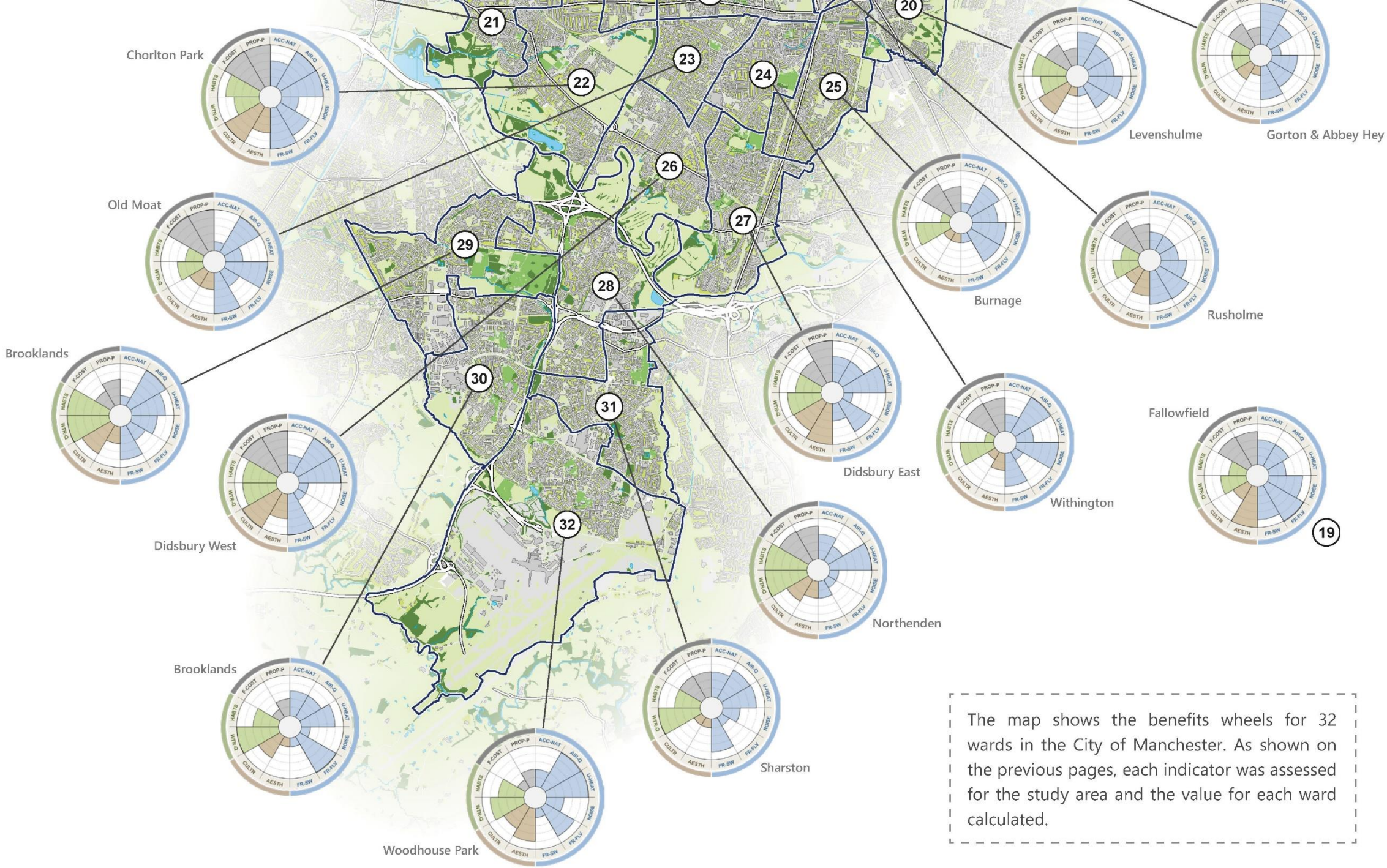
The indicator used to indicate air quality in this study is the mean background concentration of $PM_{2.5}$ in 2018. $PM_{2.5}$ was selected as it is considered to have the strongest correlation with adverse health impacts

Net-Benefits Wheel can provide area-based comparisons

KEY:

- Tree
- Allotment, community garden or urban farm
- Cemetery, churchyard or burial ground
- Derelict land
- General amenity space
- Grassland, heathland, moorland or scrubland
- Institutional grounds
- Orchard
- Outdoor sports facility
- Park or public garden
- Private domestic garden
- Residential flat garden
- Water body or water course
- Wetland
- Woodland



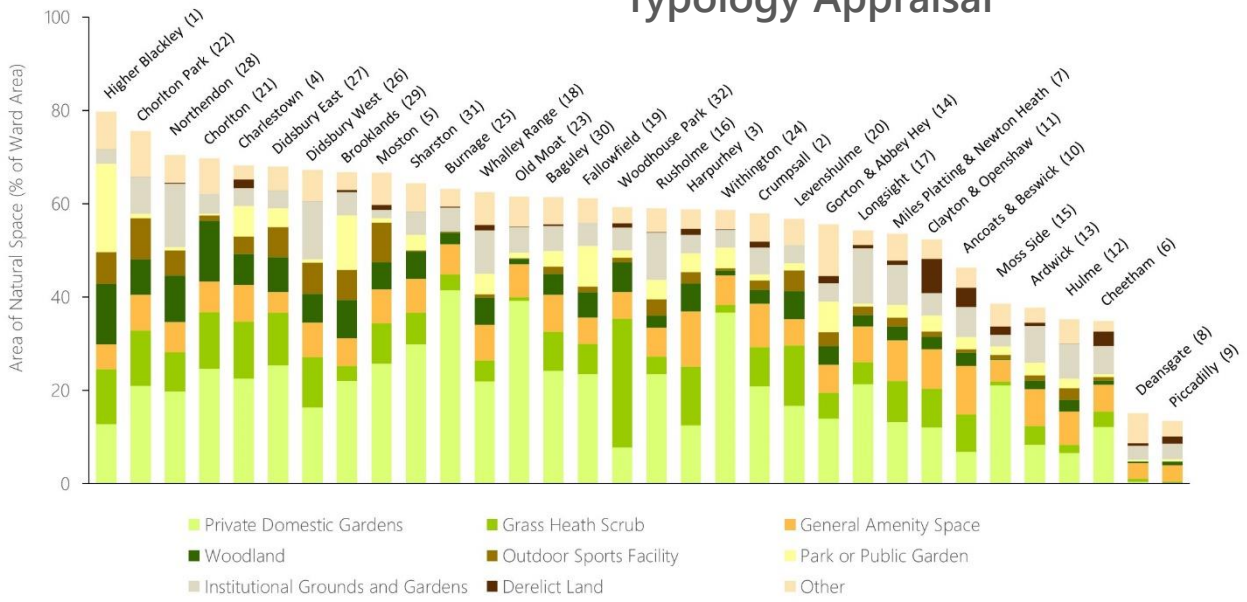


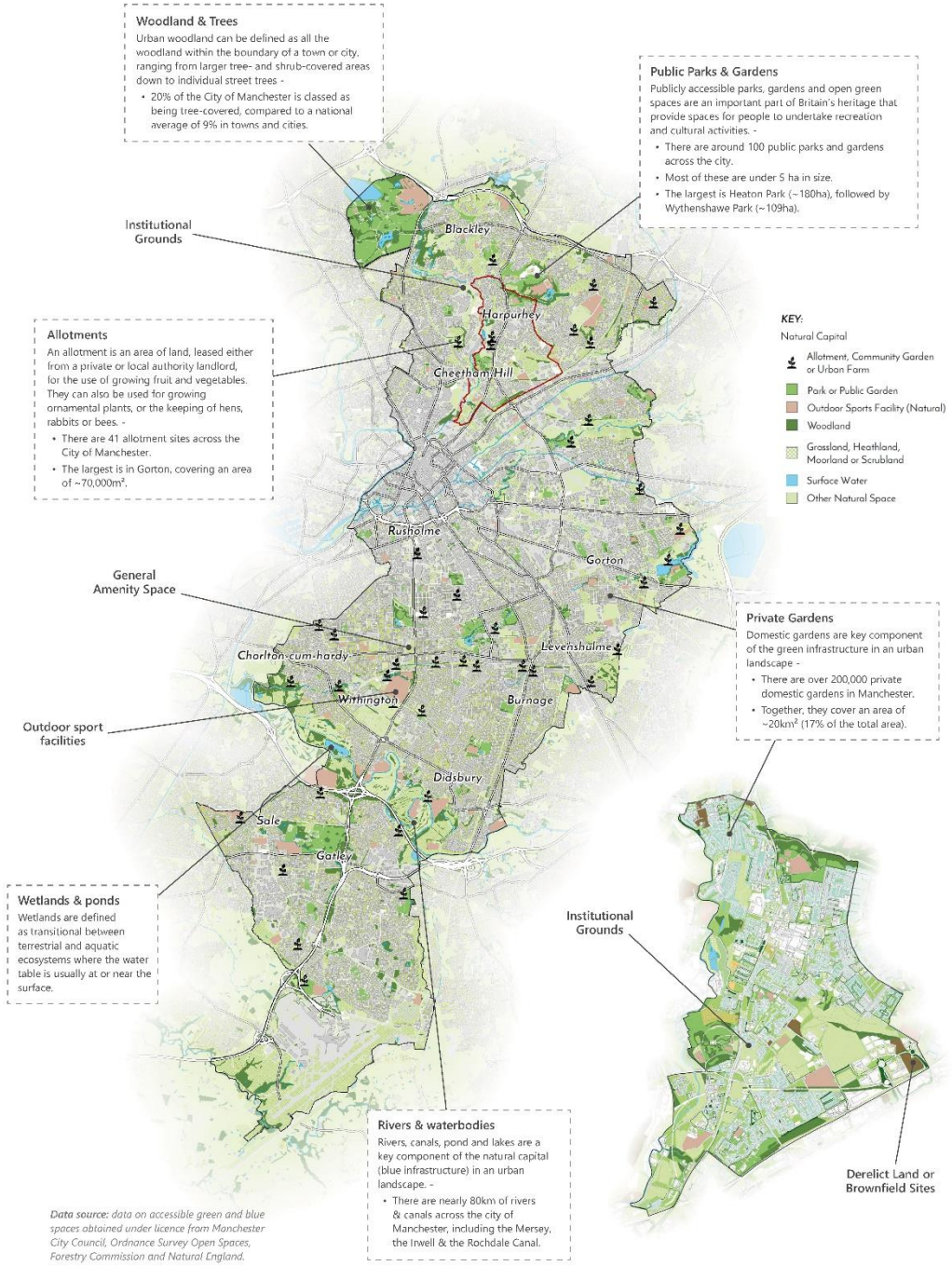
The map shows the benefits wheels for 32 wards in the City of Manchester. As shown on the previous pages, each indicator was assessed for the study area and the value for each ward calculated.

Natural Capital Review

Characterising the green & blue infrastructure assets of Manchester

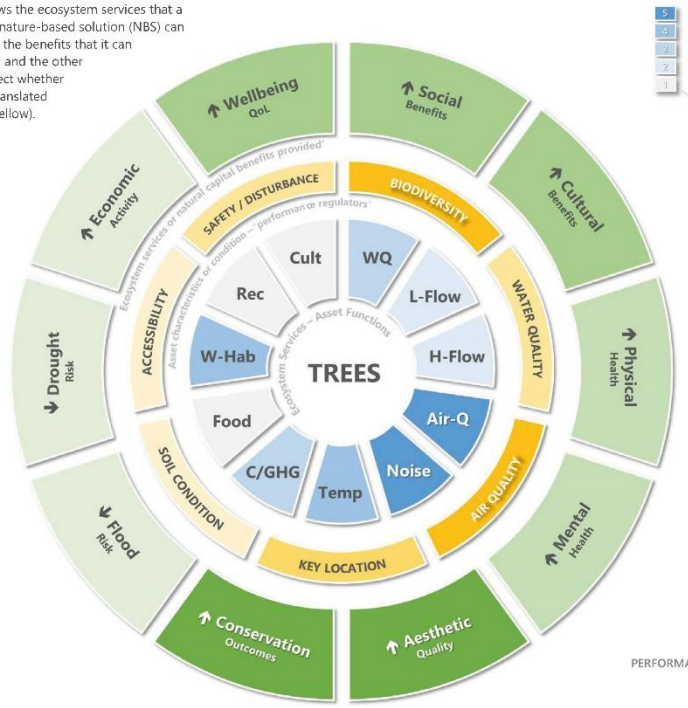
Area of GI per ward area: Typology Appraisal





Detailed GI asset appraisal: Trees

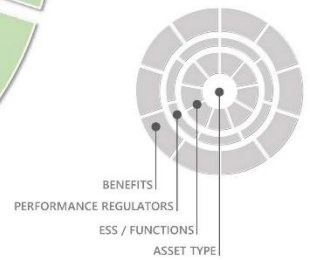
This wheel shows the ecosystem services that a GI typology or nature-based solution (NBS) can regulate (blue), the benefits that it can provide (green) and the other factors that effect whether functions are translated into benefits (yellow).



Ecosystem Services or Functions
Indicates the degree to which assets of this type are known to play a role in regulating ecosystem services or providing environmental functions

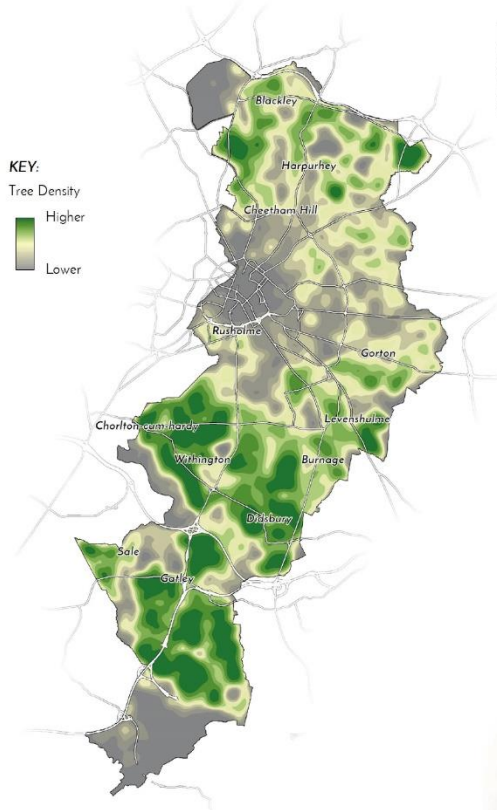
Performance Regulating Factors
Shows the degree to which the characteristics or condition of the assets or the landscape around them regulates their ability to provide ecosystem service benefits

Benefits Provided
By changing the level of ecosystem services provided by a landscape, either creating new assets or changing the condition of existing assets, a number of benefits are produced.



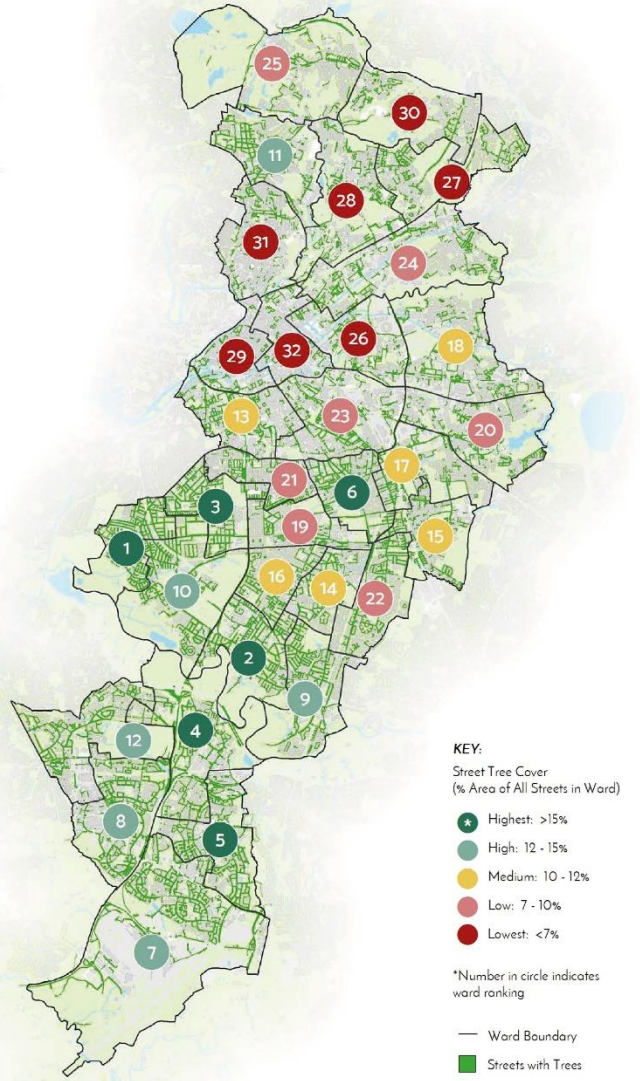
ECOSYSTEM SERVICE CODES

WQ	Regulation of water quality	**Noise**	Reduction of noise/light pollution	**W-Hab**	Habitat for wildlife – pollinators & pests
L-Flow	Regulation of water quantity – low flows	**Temp**	Regulation of local temperatures	**Rec**	Opportunities for recreational activities
H-Flow	Regulation of water quantity – high flow	**Food**	Production of food	**Cult**	Opportunities cultural activities
Air-Q	Purification of air	**C/GHG**	Carbon/GHG/climate regulation		



Tree density
The density of trees across the City of Manchester is shown (left).

Tree coverage by ward
This map (right) shows the 32 wards in Manchester ranked according to the proportion of their road length that has street trees present. The streets with trees present are shown. The highest ranked wards were found to have >15% of their streets with trees present, while the lowest (in the city centre) were found to have <7% of their streets with trees



Urban ‘Toolbox’: Trees & Woodland

Feasibility for tree planting

Streets with space to receive additional trees (pavements >2.5m wide, >4m from buildings and without existing trees) have been mapped to identify opportunities for planting additional street trees (below and inset). These areas can be compared with known pressures or problems (such as poor air quality or poor surface water management) to prioritise and target actions.

Street tree opportunity map - inset

Example:
Hulme Ward

Street tree opportunity map

Potential for Street Trees:

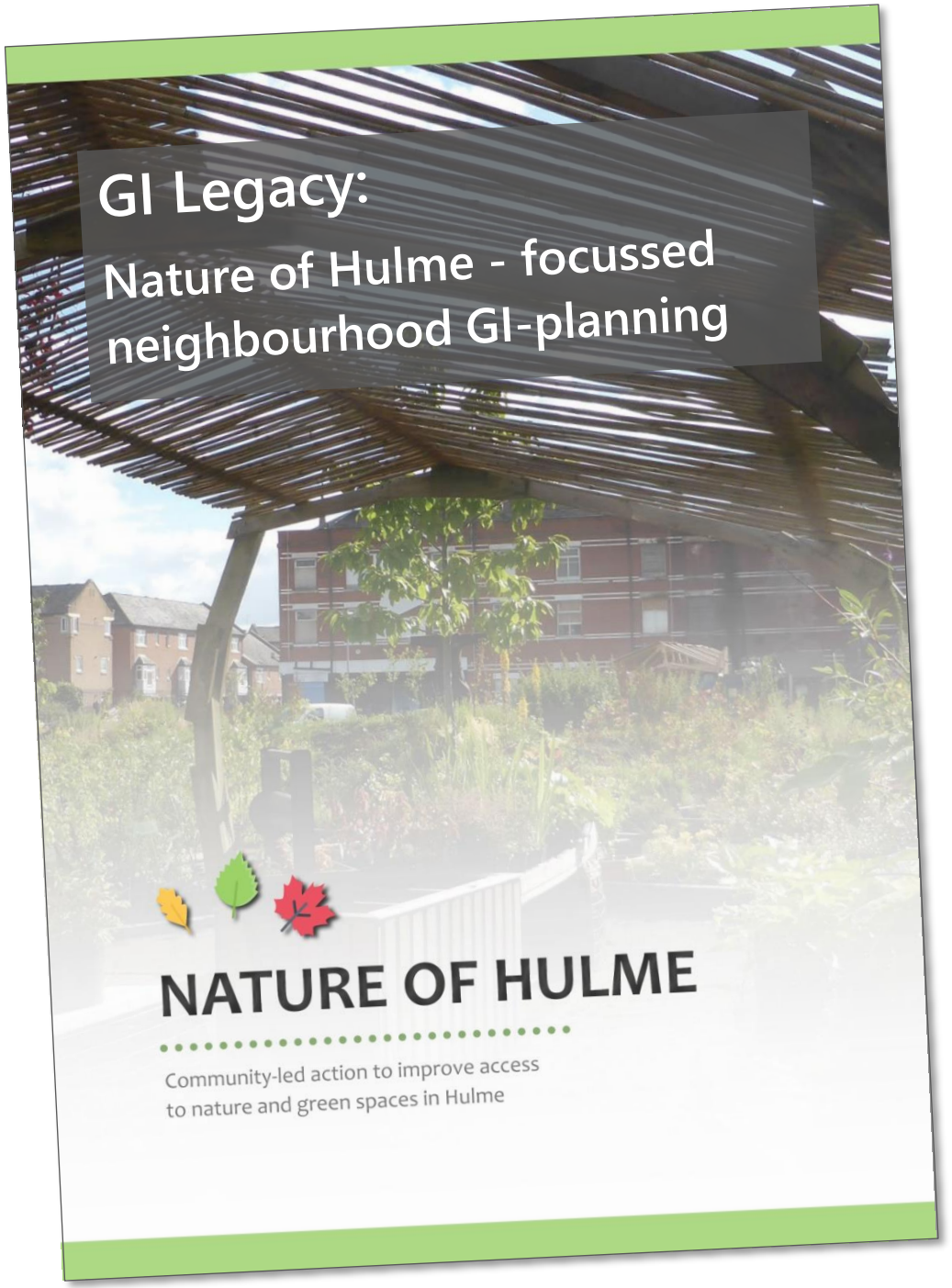
- Roadside (>2.5m width & 4m from buildings)

Costs of implementation

Instalment costs: £15-400 per tree (including planting). Relative costs decrease with increasing number of trees. **Dependent on:** Species and age of the tree, location of planting.

Costs of maintenance

Maintenance costs: 0.1£/m² for managed woodland in managed greenspace. **Higher for singular trees. Main costs:** Pruning Maintenance will be lower the better the tree is suited to the conditions – e.g. soil type, water supply, size of tree pit.


GI Legacy:
Nature of Hulme - focussed neighbourhood GI-planning
NATURE OF HULME
Community-led action to improve access to nature and green spaces in Hulme


"Seeing a bank of wildflowers germinate in Hulme Park"
"Picking wild garlic on Leaf Street"
Bridgewater Canal
Hulme Park
Leaf Street Community Garden
All Saint's Park
Sugden Sports Centre
Gartside Gardens
Trinity Sports Centre
St George's (Barrack) Park
Zion Health Centre Community Garden
Hullard Park
Aquarius Allotments
Seymore Park
Bold Street Sports Ground
Whitworth Park
"Tree planting in Hulme after redevelopment"
Alexandra Park
Hulme Ward Boundary
Road
Building
Street Trees
Park - natural landcover
Outdoor sports ground - natural
Park or outdoor sports ground - mixed
Outdoor sports ground - manmade
General amenity space
Institutional grounds
Private domestic garden
Residential flat garden
Allotment, community garden or urban farm
Grassland, heathland, moorland or scrubland
Woodland
Waterbody
Green space outside Hulme

GI Legacy

46 Case Studies & ‘My Wild City’

MYWILDCITY

mywildcity

THE wildlife TRUSTS
Lancashire, Manchester & N Merseyside

KEEP UP TO DATE WITH MY WILD CITY

WEBSITE	www.lancswt.org.uk/mywildcity
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TWITTER	@lancswildlife
INSTAGRAM	@lancashirewildlifetrust

If you would like to find out more about how you can get involved in the My Wild City project, please don't hesitate to get in touch with a member of the team.

MANCHESTER CITY COUNCIL

Esmée Fairbairn FOUNDATION

GI Legacy: International Partnerships

European conference: Innovative financing for creating green cities

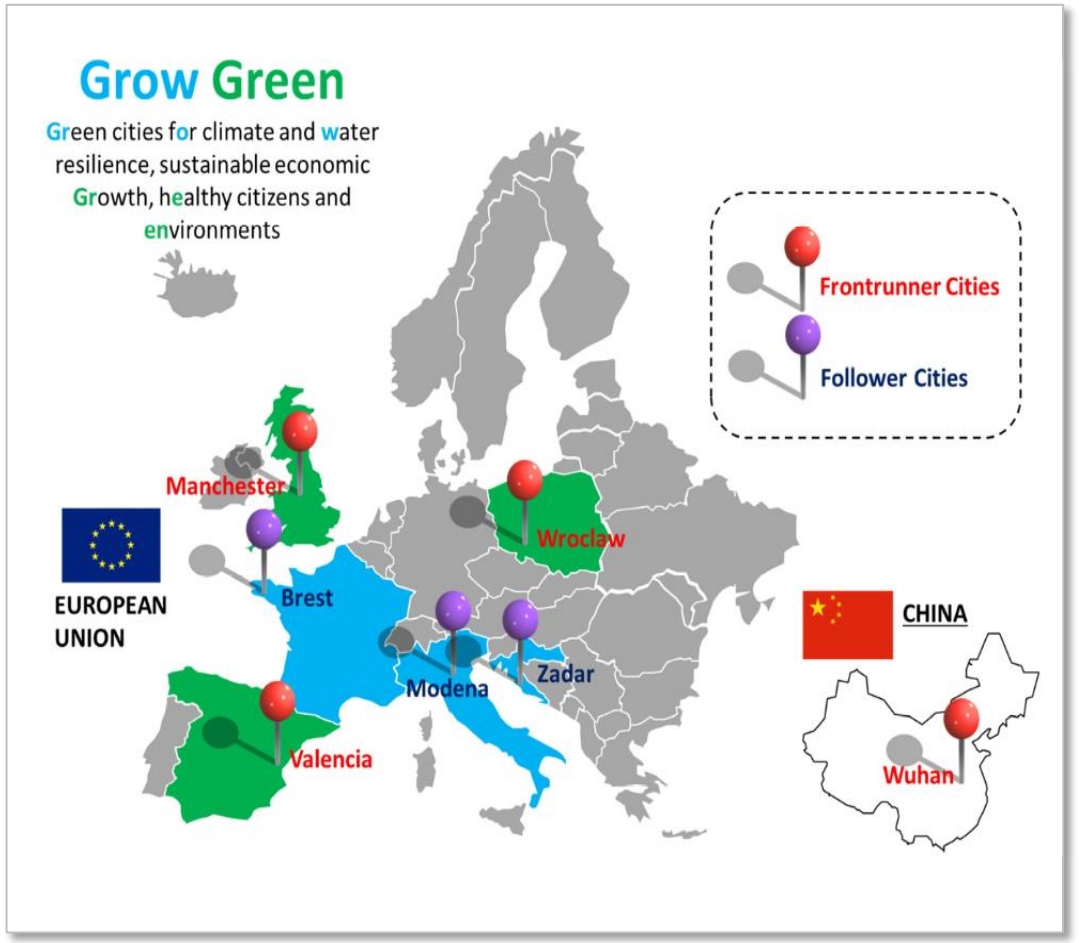
Grow Green

26th – 27th March 2019

Manchester City Football Club

- **Learning, capacity building** and **networking** to **tackle investment gap** for **nature-based solutions** in **cities**
- **Interactive workshops** on **valuing natural assets** and **mobilising finance**
- **Brings together city representatives, investors** and **businesses**

More information: www.growgreenproject.eu



Manchester's GI Strategy: Making things happen

"The Strategy allowed us to demonstrate to Europe, the Government and partners that Manchester has a clear focus and commitment around this agenda."

MATT ELLIS, CLIMATE CHANGE LEAD, ENVIRONMENT AGENCY

"Without a clear policy and strategy for GI in Manchester, the GrowGreen project, and the other funding bids currently in development, simply would not have been possible."

J SADLER, MANCHESTER CLIMATE CHANGE AGENCY

"Our EnRoute project demonstrates that nature-based solutions and green infrastructure are vital components of growing cities. Manchester's G&BI Strategy has helped us illustrate this and serves as an example for many other European cities in our network."

JOACHIM MAES, EUROPEAN COMMISSION – INTERNATIONAL PROJECT CO-ORDINATOR, ENROUTE

"The Strategy has provided us with an obvious focus. This in turn has helped us secure funding for projects that will have a real benefit to Manchester communities."

MARK KNIGHT, LANDSCAPE TEAM MANAGER, GROUNDWORK TRUST

Chartered Institute of Ecology and Environmental Management

CIEEM

Awards 2018

WINNER

The Nature of Manchester: Green and Getting Greener