

The IGNITION Project: A Baseline for Nature- Based Solutions



**GREATER
MANCHESTER**
DOING THINGS DIFFERENTLY



European Union
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Mapping green and blue space across Greater Manchester

Like other city regions across the world, Greater Manchester is facing increasing risks from extreme weather and climate change. Green and blue spaces can play an important role in reducing the impact of climate change. Well-designed green infrastructure (GI) incorporating nature-based solutions (NBS) can also provide a wide range of other environmental, social and economic benefits, making it a useful way to increase wellbeing and quality of life in our cities and urban areas.

To understand the impact of projects like IGNITION, we created an urban GI baseline for Greater Manchester. This would establish how much GI already exists across the city region and map its current distribution. By establishing this baseline, it is possible to monitor change in urban GI over time, as well as to inform decisions on where investment in new GI could be made to support climate change adaptation.

GI is a term that describes 'green' features such as parks, open spaces, playing fields, countryside, gardens, hedges, trees, woodlands, green roofs, and green walls. It also includes 'blue' features such as rivers, canals, ponds and other water bodies. The baseline for Greater Manchester incorporates all these factors.

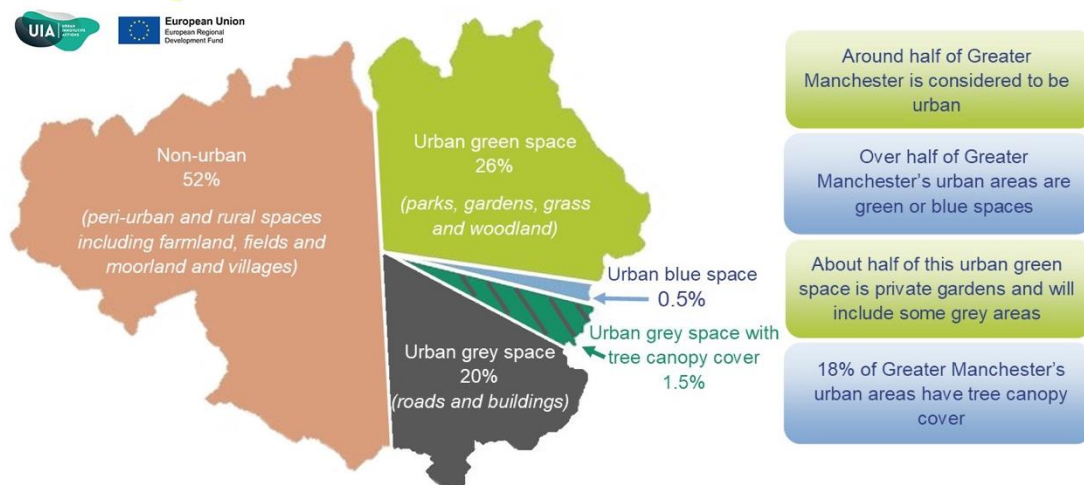


What does the baseline show?

The **University of Manchester** has created the IGNITION project baseline using the most comprehensive spatial data currently available for the city region, drawing on Ordnance Survey (OS) land cover data and **City of Trees** tree canopy cover data.

The baseline provides the most accurate estimate of Greater Manchester's urban GI that is currently available, showing both green and blue spaces as well as tree canopy cover over different land types that make up Greater Manchester's urban area.

University of Manchester infographic showing green and blue space in Greater Manchester



Further details of the Urban GI baseline available on the [IGNITION website](#)

What have we learnt?

The baseline has revealed that Greater Manchester's urban areas are often already surprisingly green places to be. There are still many areas for improvement, and the baseline helps to identify locations where further investment in GI would be valuable. Some of the key learnings emerging from the baseline include:

- Over half of Greater Manchester's urban area is covered by green and blue spaces
- Almost 20% of Greater Manchester's urban tree canopy is over hard surfaces such as paths, carparks and squares. These trees provide important climate change adaptation functions including shading, cooling and capturing rainwater
- Around half of Greater Manchester's urban GI is private gardens. Private gardens are included as part of Greater Manchester's urban GI (OS classify private gardens as greenspace). In reality, they are multi-surface land cover types incorporating buildings and hard surfaces alongside green spaces, meaning that a significant amount of private garden space could potentially be converted from grey to green

The road ahead

55.28% of Greater Manchester's urban area is currently green or blue space. Converting hard surfaces to green areas, incorporating green roofs on buildings and enhancing the functionality of existing GI, for example by installing sustainable drainage systems (SuDS), will all increase the functional green space in Greater Manchester and provide ways of building greater resilience to climate change.

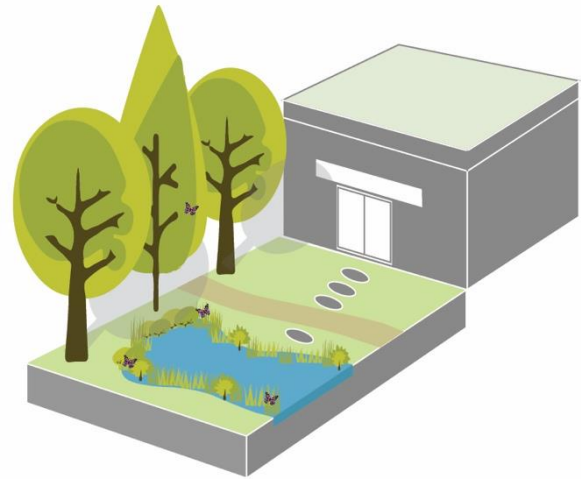


Diagram of building with a rain garden

Table 1: Tree canopy cover over land cover types in Greater Manchester's urban area (see Table 2 for further details of land cover types)

Land cover types found in Greater Manchester's urban area	Land cover area (km ²)	Land cover % to Greater Manchester's urban area	Canopy cover (km ²)	Canopy cover % to total canopy cover	Canopy cover % to Greater Manchester's urban area
Blue space	6.51	1.06	1.21	1.10	0.20
Green space	332.17	54.22	90.89	82.07	14.84
Other natural	0.14	0.02	0.02	0.01	0.00
Total	338.82	55.3	92.12	83.18	15.04
Building	100.74	16.44	1.64	1.48	0.27
Carpark or manmade surface	94.43	15.42	8.92	8.05	1.46
Land use changing	0.84	0.14	0.14	0.12	0.02
Mineral workings	0.17	0.03	0.01	0.01	0.00
Transport network	72.50	11.83	7.14	6.45	1.17
Undefined	5.12	0.84	0.79	0.71	0.13
Total	273.82	44.7	18.63	16.82	3.05
All land cover types	612.63	100.00	110.75	100.00	18.08





Table 2: Subcategories included in each land cover type

Land cover type	Sub-categories included
Blue space	Aqueduct: Canal, Aqueduct: Watercourse, Canal, Canal Feeder, Canal: Marsh, Conduit, Drain, Ford, Fountain, Inland Water, Lock, Lock Gate, Mill Leat, Reeds: Reservoir, Reeds: Static Water, Reeds: Watercourse, Reservoir, Spring, Static Water, Swimming Pool, Watercourse, Waterfall, Weir, Well
Building	Archway, Building, Structure: industrial structure
Carpark/manmade surface	Carpark, Carpark: Manmade surface
Green space	Allotment Surface, Boulders, Cemetery, Coppice Or Osiers, Grass, Grass: Scrub, Marsh, Marsh: Rough Grassland, Mineral Workings (Inactive), Multi Surface, Orchard, Private Garden, Rock (Scattered), Rough Grassland, Rough Grassland: Boulders (Scattered), Rough Grassland: Bridge, Rough Grassland: Scrub, Scrub, Bridge: Scrub, Scrub: Coppice Or Osiers, Scrub: Marsh, Scrub: Marsh: Rough Grassland, Scrub: Soil, Spoil Heap, SUDS, Woodland
Land use changing	Areas that are changing land cover type, e.g. brownfield land currently being developed
Manmade	Chimney, Conveyor, Conveyor: Overhead Construction, Crane, Crane: Overhead Construction, Cross, Manmade Surface, Slipway, Sloping Masonry, Tank, Telecommunications Mast, Upper Level of Communication
Mineral workings	Mineral workings
Other natural	Bare Soil, Sand, Shingle
Transport network	Bridge, Bridge: Step, Footbridge, Footbridge: Step, Gantry, Level Crossing, Path, Path: Structure, Rail Signal Gantry, Road or Track, Step, Track, Traffic Calming
Undefined	Areas that OS have not classified as a specific land cover type