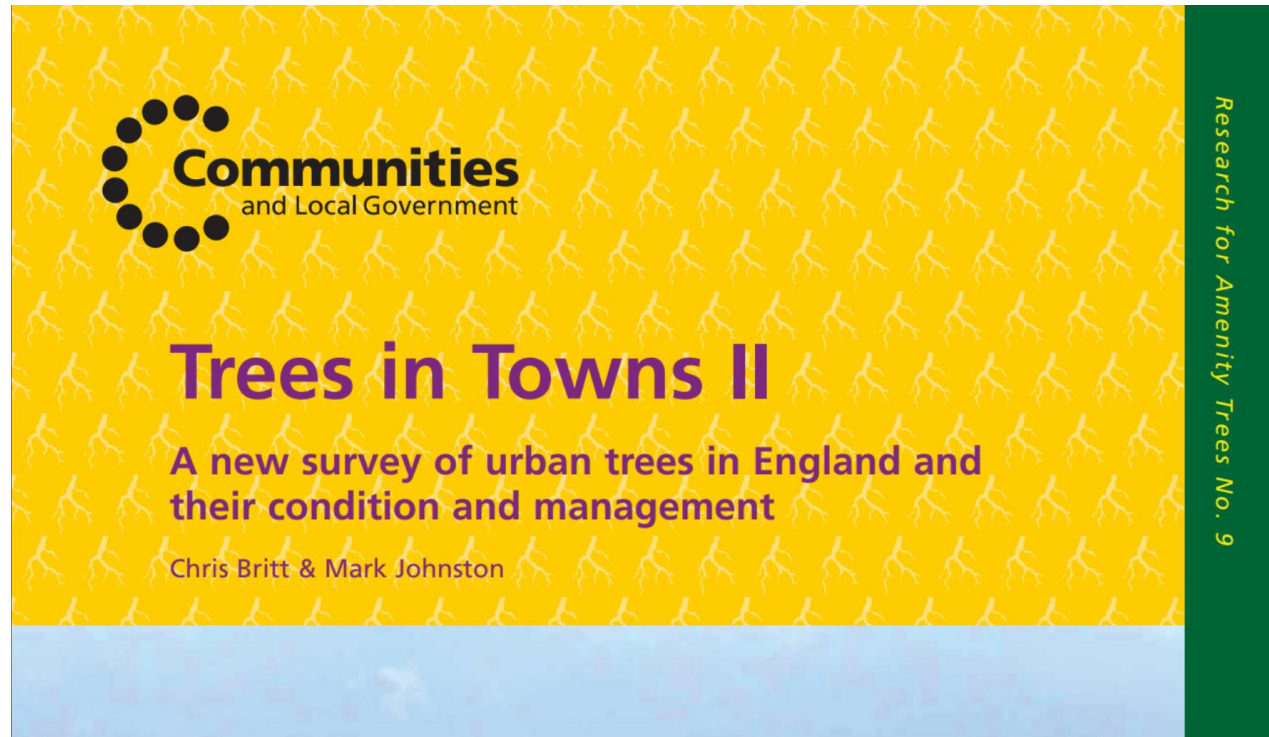




Tree Canopy Cover Assessment and Monitoring: Oxford City Council

Introduction:

Oxford's 'urban forest' comprises all the trees and woody vegetation in the city, located across a range of land ownerships, and which provide ecosystem services, habitats, and benefits to human health and wellbeing.



A comprehensive tree strategy is the starting point for a modern, planned approach to tree management. That tree strategy must also be integrated and embedded into the LA's Local Plan and other relevant policies.

Oxford Urban Forest Strategy

- ▶ Sets the vision and UF canopy targets for the city
- ▶ Coordinate UF stakeholder activity
- ▶ Engage and Influence stakeholder behaviours

Tree Management Policy

- ▶ Sets out the Management policies for the Council's own tree stock
- ▶ **Planting Plan policy**
- ▶ **Tree Risk Zoning, Survey intervals**
- ▶ Responses to complaints and claims etc

Oxford Local Plan 2036

- ▶ **Sets Spatial & Development Management Policies**
- ▶ **Controls Development**
- ▶ (TPO CA trees planning function; not OLP)

Each of which are informed and supported by Canopy Cover Assessments

Canopy Cover Assessment Typologies:

Strategic Level: Country, Region, City

Local or Site Level: Scenario Modelling for Development

Canopy Cover Assessment (Strategic Level): Why Do It?

Quantifying tree canopy cover has been identified by many authors (Britt and Johnston, Escobedo, Nowak, Schwab) to be one of the first steps in the management of the urban forest.

- Planned, Strategic, Integrated management requires geo-spatial data
- Apportion resources and budgets in proportion to the assets' size and complexity
- Monitoring and Managing: manipulate its size and composition
- Measuring the benefits
- **Canopy cover is a simple Proxy metric- To quantify Ecosystem services, and human benefits- simply; more canopy cover = more benefits.**



Public Parks
and Open
Spaces

Residential
Gardens

Allotments and
Community
Orchards

Linear Routes
(along railways
or waterways)

Woodlands and
Nature Reserves

Graveyards

Street
Trees

Institutional
Grounds
(Universities,
schools, hospitals
etc)

Treescape Types

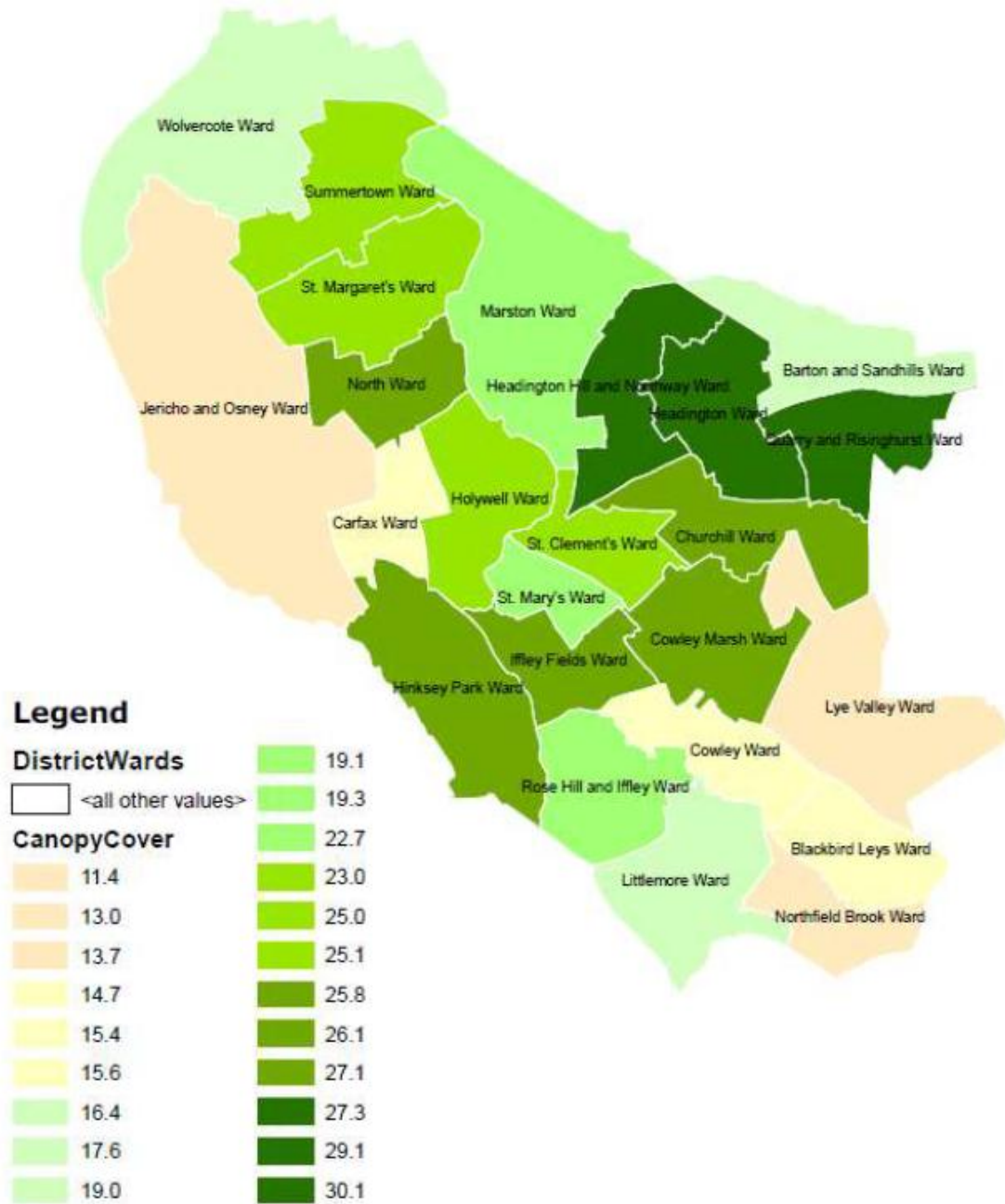
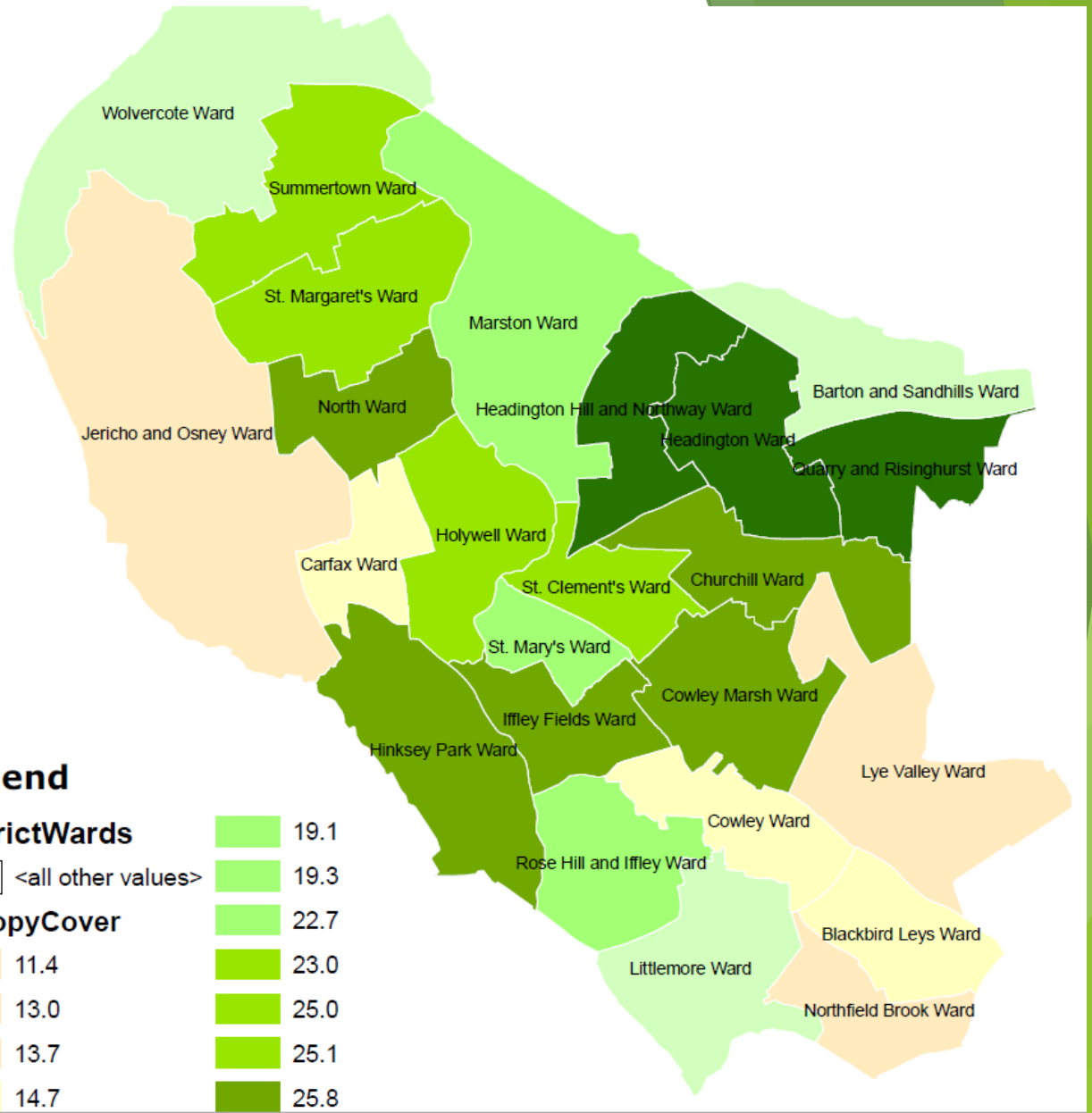


Figure 2 – Canopy Cover Percentages by Ward

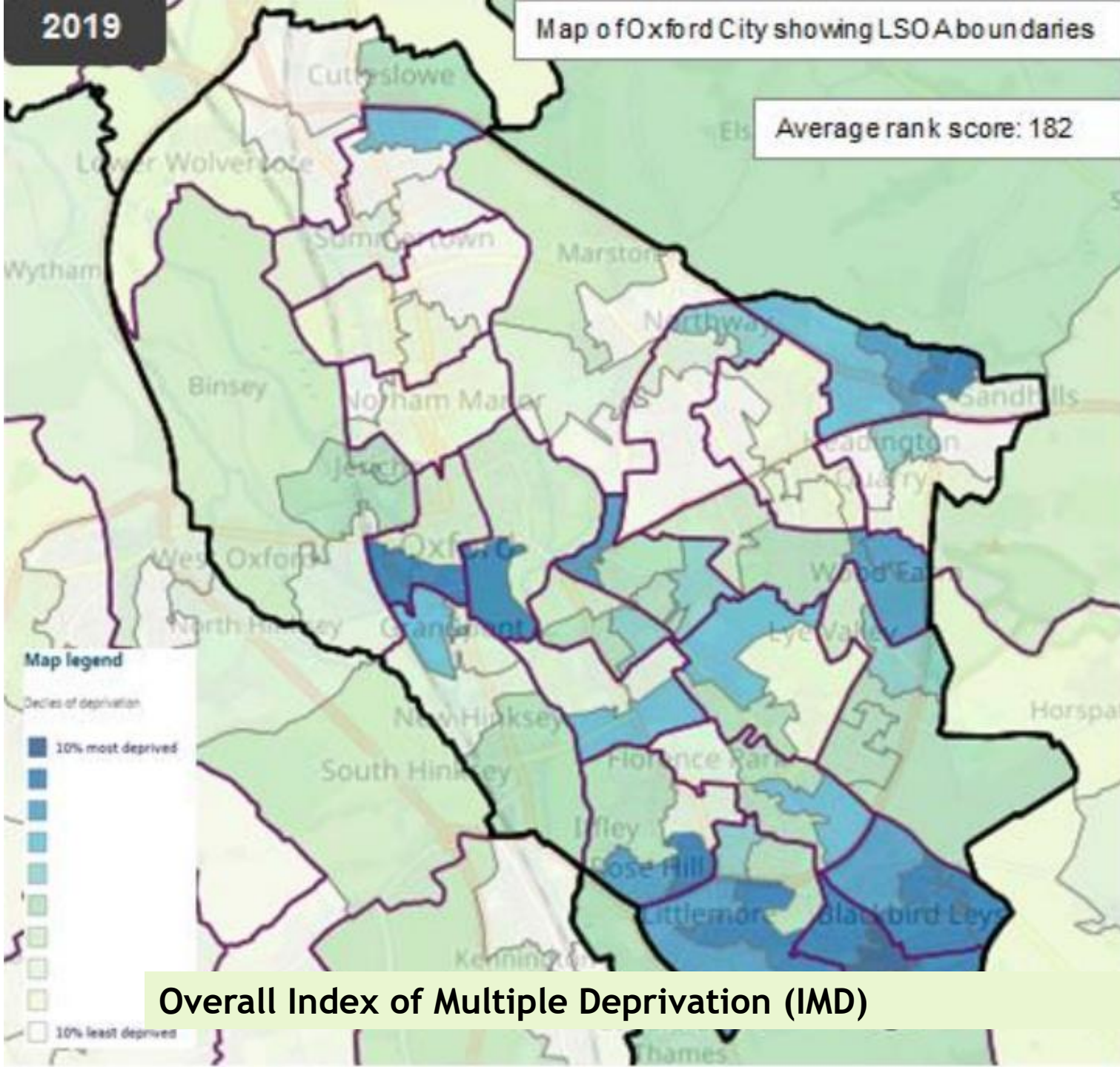


Geographical Factors

2019

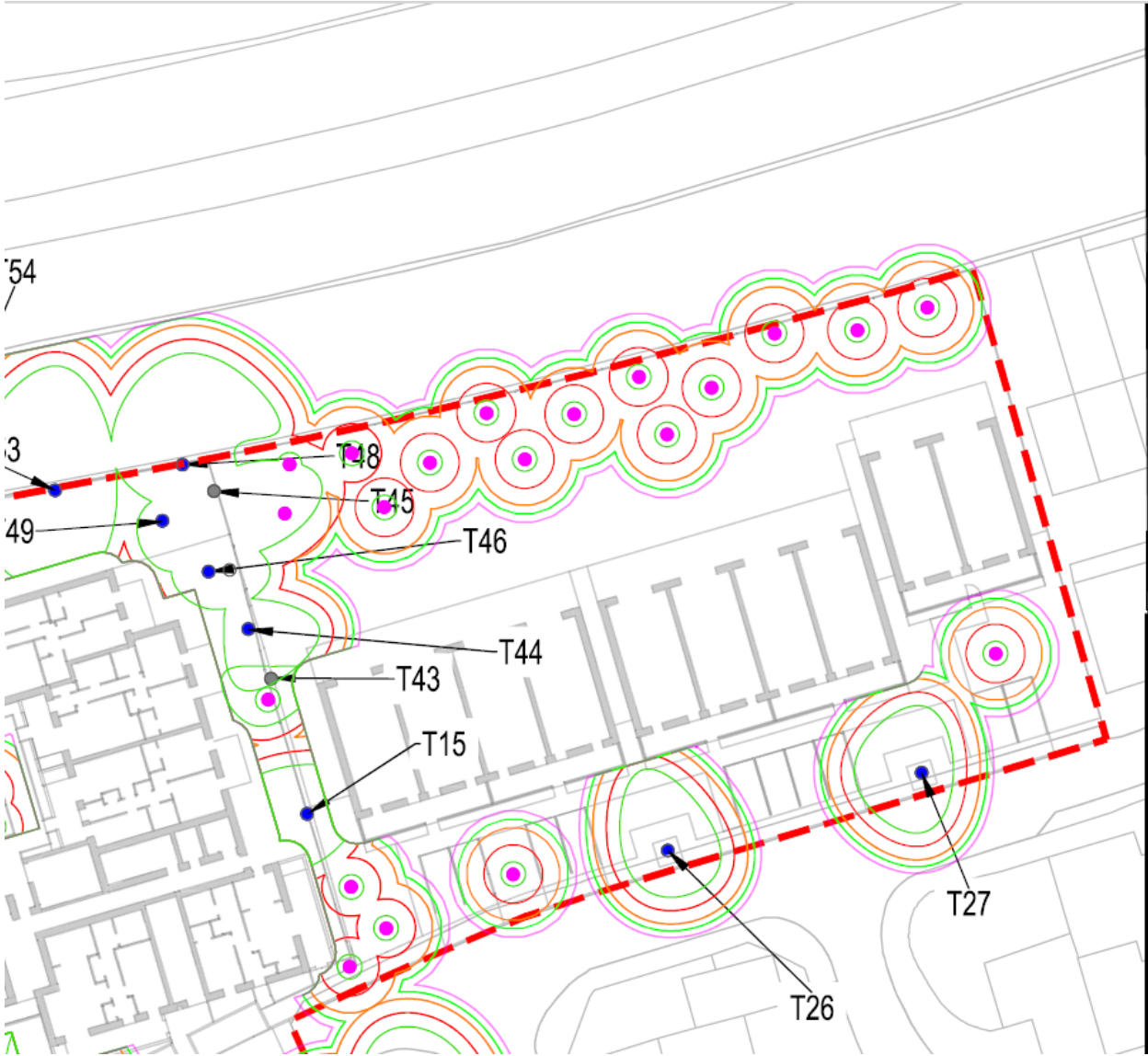
Map of Oxford City showing LSOA boundaries

Average rank score: 182



Overall Index of Multiple Deprivation (IMD)

Development Site Tree Canopy Cover Assessment



BS 5837 CATEGORY / QUALITY

- A CATEGORY / HIGH
- B CATEGORY / MODERATE
- C CATEGORY / LOW
- NEW TREE PLANTING

CROWN SPREAD - YEAR 0
 CROWN SPREAD - YEAR 10
 CROWN SPREAD - YEAR 20
 CROWN SPREAD - YEAR 25
 CROWN SPREAD - YEAR 30

RED LINE BOUNDARY PROPOSED DEVELOPMENT

P01	21/09/2021	JM	FIRST ISSUE	HB
REV	DATE	BY	DESCRIPTION	CHK

DRAWING STATUS: **TECHNICALLY APPROVED**

wsp

1 Capital Quarter, Tyndall St, Cardiff, CF10 4BZ, UK
 T+ 44 (0) 292 076 9200
 wsp.com

CLIENT: **OXFORD CITY HOUSING LIMITED**

ARCHITECT:

Oxford Local Plan 2036

- ▶ Policy recognizes the values of trees as GI.
- ▶ Hierarchy Test: Tree retention. Feasibility test for any losses Compensated by new trees
- ▶ With consideration of the predicted (**modelled**) future tree canopy following development.

Policy G7: Protection of existing Green Infrastructure features

Planning permission will not be granted for development that results in the loss of green infrastructure features such as hedgerows, trees or woodland where this would have a significant adverse impact upon public amenity or ecological interest. It must be demonstrated that their retention is not feasible and that their loss will be mitigated.

Planning permission will not be granted for development resulting in the loss or deterioration of ancient woodland or ancient or veteran trees except in wholly exceptional circumstances. Planning permission will not be granted for development resulting in the loss of other trees, except in the following circumstances:

- a) it can be demonstrated that retention of the trees is not feasible; and
- b) where tree retention is not feasible, any loss of tree canopy cover should be mitigated by the planting of new trees or introduction of additional tree cover (with consideration to the predicted future tree canopy on the site following development); and
- c) where loss of trees cannot be mitigated by tree planting onsite then it should be demonstrated that alternative proposals for new Green Infrastructure will mitigate the loss of trees, such as green roofs or walls.

- ▲ *Types of planning application that Tree Canopy Cover Assessment applies to and examples of compensation that should be targeted where necessary.*

Application Type	Targets for mitigation for development impacting upon trees (according to application type and existing tree canopy cover)
MINOR/HOUSEHOLDER/OTHER	<u>Regardless of Existing Canopy Cover</u> NO NET LOSS at development OR NO NET LOSS at 30 Yrs post development (compared against base-line before development)
MAJOR	<u>Existing Canopy Cover $\geq 15\%$</u> NO NET LOSS at development OR NO NET LOSS at 30 Yrs post development (compared against base-line before development)
	<u>Existing Canopy Cover $\leq 15\%$</u> NET INCREASE to $\geq 15\%$ at development OR NET INCREASE to $\geq 15\%$ at 30 Yrs post development (compared against base-line before development)
MAJOR ($\geq 1.5\text{ha.}$)	<u>Existing Canopy Cover $\geq 20\%$</u> NO NET LOSS at development OR NO NET LOSS at 30 Yrs post development (compared against base-line before development)
	<u>Existing Canopy Cover $\leq 20\%$</u> NET INCREASE to $\geq 20\%$ at development OR NET INCREASE to $\geq 20\%$ at 30 Yrs post development (compared against base-line before development)

Methodology for Tree Canopy Cover Assessment:

1. Calculate total area of existing baseline tree canopy cover within the application site.
2. Calculate existing baseline tree canopy cover as % of total application site area.
3. Taking account of key site specific tree canopy cover dynamics (e.g. tree growth, tree age, tree life expectancy/future contribution etc.) project forward over time from the point of completed construction to predict total tree canopy cover within the application site at:
 - Baseline + 10 years, and
 - Baseline + 20 years, and
 - Baseline + 30 years.
4. Calculate impact on existing baseline tree canopy cover by subtracting area of tree canopy cover for no development (the baseline) from the area of tree canopy for a development scenario, both at baseline + 30 years.

Oxford Urban Forest Strategy

A Master Plan to 2050

SEPTEMBER 2021

www.oxford.gov.uk

