

# Explore Your Neighbourhood: GB Data Dashboard

Data Sources & Methods Summary

## STUDY OVERVIEW



This work is part of the University of Glasgow's [OPTIMA](#) (Orienting Policy Towards Inequality Minimising Action) research project. The dashboard explores what services are available in neighbourhoods across England, Wales and Scotland. These

neighbourhoods approximate the area residents can reach within a 20-minute return walk, wheel, or cycle.

## DATA SOURCES

- **20MN Boundaries:** Ordnance Survey (OS) Code-Point dataset 2023; 800m road-network catchments for 1,734,361 unit postcodes across England, Wales & Scotland.
- **Service Locations:** OS Point of Interest data (see Table 1 for OS codes), October 2023. Presence/absence of 16 daily-living domains recorded within each 800m boundary.
- **Bus Frequency:** UK Government Bus Open Data Service GTFS timetables (March 2025). High-frequency stops defined as  $\geq 4$  buses/hour on weekdays 06:00–21:00.
- **Deprivation:** Income domain quintiles from the 2019 Index of Multiple Deprivation (England & Wales, LSOA) and 2020 Scottish IMD (Data Zone).
- **Population Density:** Mid-year estimates from 2021 Census (England & Wales) and 2022 Census (Scotland) at Output Area level. People/km<sup>2</sup> divided into quintiles.
- **General Health:** The Scottish and UK census (2022, 2021 respectively). Self-rated general health in 5 categories, from very bad to very good. The counts of people reporting bad/very bad health were summed within a datazone/LSOA and divided by the total population from the closest available year within the area to get % of people in bad or very bad health.
- **Housing Prices:** Housing prices were obtained from the Registers of Scotland (2024) for datazones and Office for National Statistics (2022) for England and Wales. These represent the mean price paid for residential properties; where the most recent year was unavailable, the next most recent year where there was data was used in place.
- **Median Age:** Median Age data was obtained from the National Records for Scotland (2021) and Office for National Statistics (2022) for England and Wales. These datasets recorded counts of people living in the corresponding area in each age category, and the median age for the area was calculated using a weighted median function

## ANALYTICAL METHODS

- **Service Coding:** Binary presence/absence indicators used for each of 17 domains (16 POI + high-frequency bus).
- **Clustering Algorithm:** Bisecting K-means hierarchical clustering identified six neighbourhood typologies, with a seventh “zero-service” type defined prior to clustering.

## NEIGHBOURHOOD TYPOLOGIES

- **Zero services:** without access to any of the 17 services
- **Minimal access:** few services, more likely to have public transport and greenspace
- **Mixed access without healthy food:** moderate access, limited healthy food
- **Mixed access with healthy food:** moderate access, more likely to have healthy food
- **Broad access with gambling:** many services including gambling venues
- **Broad access with cultural services:** well-served with cultural amenities
- **Comprehensive:** access to most services

## INSIGHTS

- **Deprivation  $\neq$  worse service proximity:** In general, the most deprived places had *more* neighbourhoods with access to services, while the least deprived places had fewer neighbourhoods with access.
- **Access to unhealthy services is not equal:** 67% of neighbourhoods in the most deprived decile have access to gambling services, while only 22% of neighbourhoods in the least deprived areas do.
- **Public transport access is unevenly distributed:** While most neighbourhoods had access to a public transport stop (95% in England, 91% in Scotland, and 89% in Wales, 56% of neighbourhoods in England and 57% in Scotland had access to a frequent bus stop, while only 36% in Wales did).

## Learn more about OPTIMA

The OPTIMA project aims explore the impact of more localised living, and the potential benefits and unintended consequences for health inequalities across communities. As the UK works to build accessible places, understanding these differences helps highlight where improvements could make life easier. To learn more about our work or to get in touch:

<https://www.gla.ac.uk/research/az/optima/>

**Note:** Deprivation, general health, median age, housing prices, (LSOA/DZ) and population density (OA) measures are at broader geographies than the unit-postcode 20MN level. These measures represent characteristics of the wider area in which each 20MN sits, not the 20MN itself.

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Table 1. OS POI Service Domains

Service Domain	Definition	OS code
Healthy food retail	Large supermarket (for example, ASDA); Medium sized supermarket chains (for example Tesco Metro, Sainsbury's Local).	9470819; 9470699.
Public Transport	tram; metro; underground.	10590732; 10570738; 10570756; 10570761.
Primary health care	General Practitioner (GP) surgery; Clinics and health centres.	5280369; 5280365.
Pharmacy	Pharmacy	5280364.
Education (primary)	Primary schools	5310375
Education (secondary)	Secondary schools	5310379
Library	Library	6340458
Place of worship	Place of worship	6340459
Financial	Cash machines; Banks and building societies; Post offices.	2090141; 2090138; 9480763.
Natural spaces	Count of access points of natural spaces (Public Park or Garden; Playing field; Play space.)	Open Greenspace Map (access points)
Retail centre	Retail centre	CDRC – retail centre
Recreational facilities	Gymnasiums, sports halls, and leisure centres; Athletics facilities; Golf ranges, courses, and clubs; Sports grounds, stadia, and pitches; swimming pools; and tennis facilities.	4240289; 4240292; 4240302; 4240304; 4240305; 4240293.
Social and cultural locations	Gallery; Historic buildings; Museum; Theatre; Cinema; Social clubs.	3170813; 3170244; 3170248; 4250315; 4250314.
Eating establishments	Restaurants, cafes	01020013; 01020043.
Unhealthy food and drink retail	Fast food and takeaway outlets; Fish and chip shops; Pubs, bars and inns; Alcoholic drinks including off-licences and wholesalers.	01020018; 01020020; 01020034; 09470671.
Gambling outlets	Bookmakers; Casinos.	4220279; 4220280.
Bus Frequency	Count of 'high frequency' bus stops (average $\geq 1$ bus / 15 minutes M-F)	Bus Open Transport Data