

Demographic System in London:

Analyzing a “Soft System” of a City

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Introduction

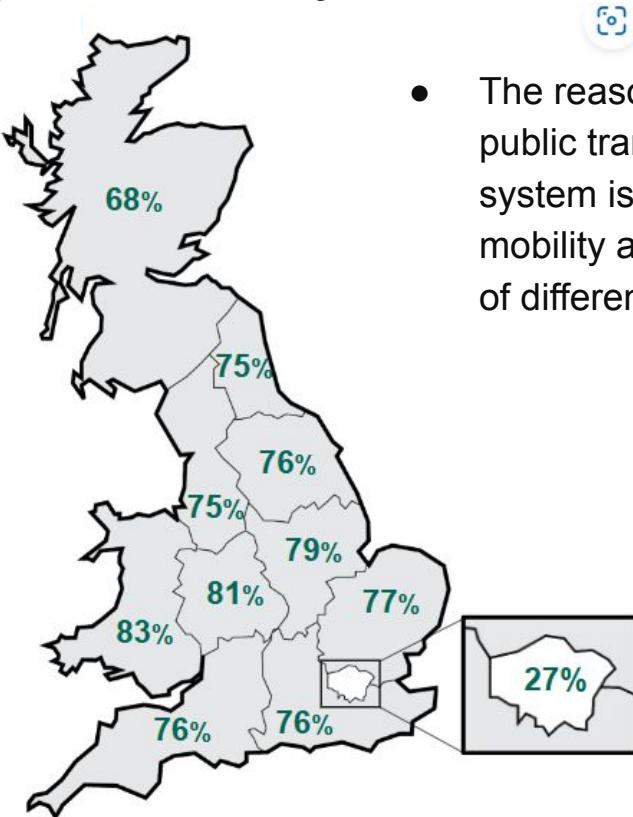
From Transportation to Demographic:

The reason for building a public transportation system is to improve the mobility and accessibility between different regions of London.



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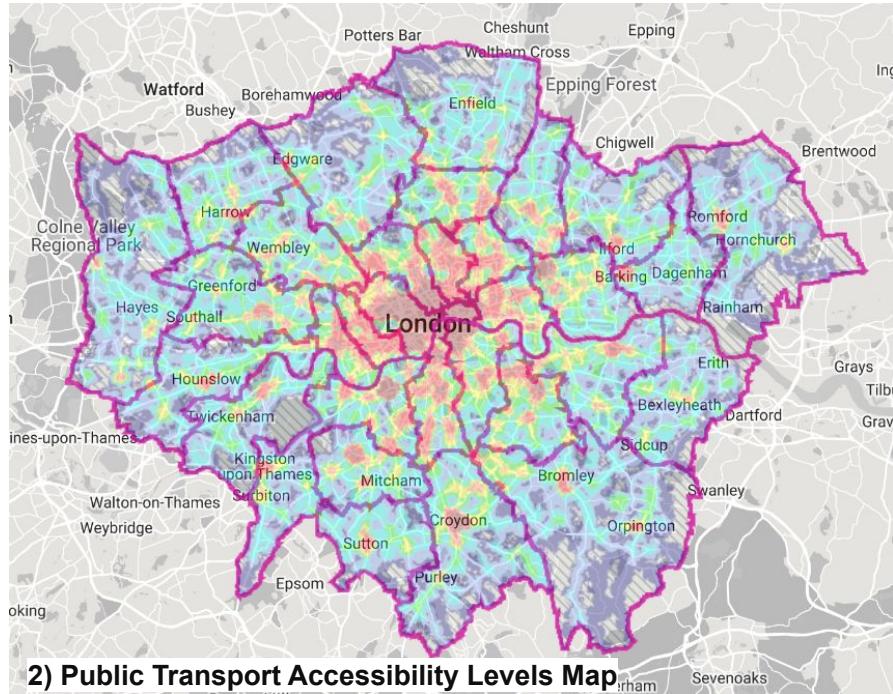
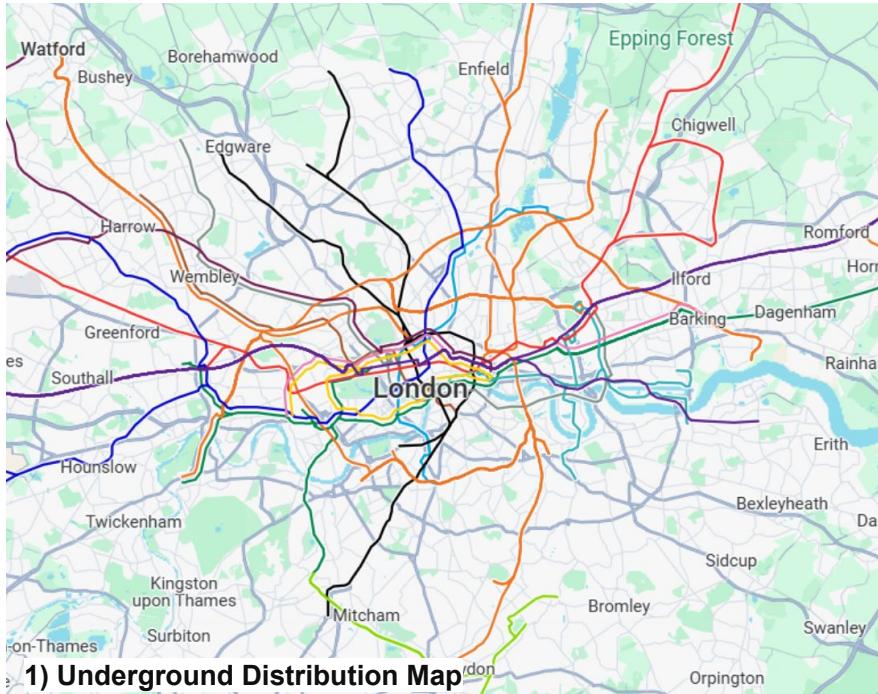
Recap of Project 1: Transportation System



- The reason for building public transportation system is to improve the mobility and accessibility of different regions.

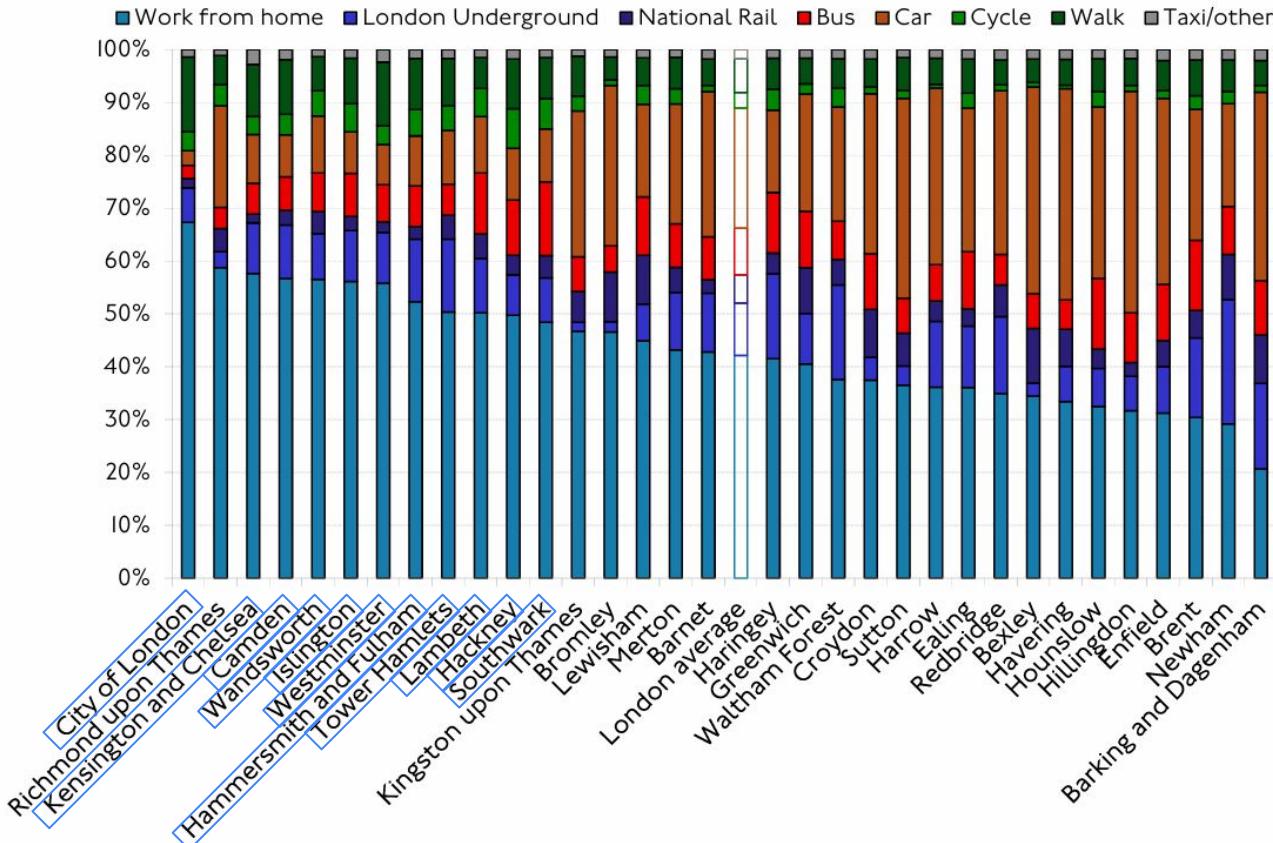
Percentage of workers usually travelling to work by car by region of workplace, 2020

Recap of Project 1: Transportation System



- Building public transit is to enhance the accessibility for all the Londoners.
- (However,) accessibility gap exist, where outer London is having significantly lower accessibility.

Mode share of usual method of travel to work by borough, 2021



Boroughs with a central location usually have higher accessibility to **public transport** as well as a higher rate of **work from home**, whereas workers living in the suburbs are more likely to rely on **cars**.

From the Perspective of Transportation...

- Boroughs in outer London have lower accessibility to public transportation.
- People living in outer London had a lower rate of teleworking during pandemic.

To the Scope of Demography...

- Who are the people living in these regions with lower levels of accessibility? Are they necessarily disadvantaged individuals?
- Is there a certain degree of social segregation across regions? And who are the demographic groups that have been segregated from the others?

Network

How population of different demographic groups
are distributed across London?

A : Population Distribution

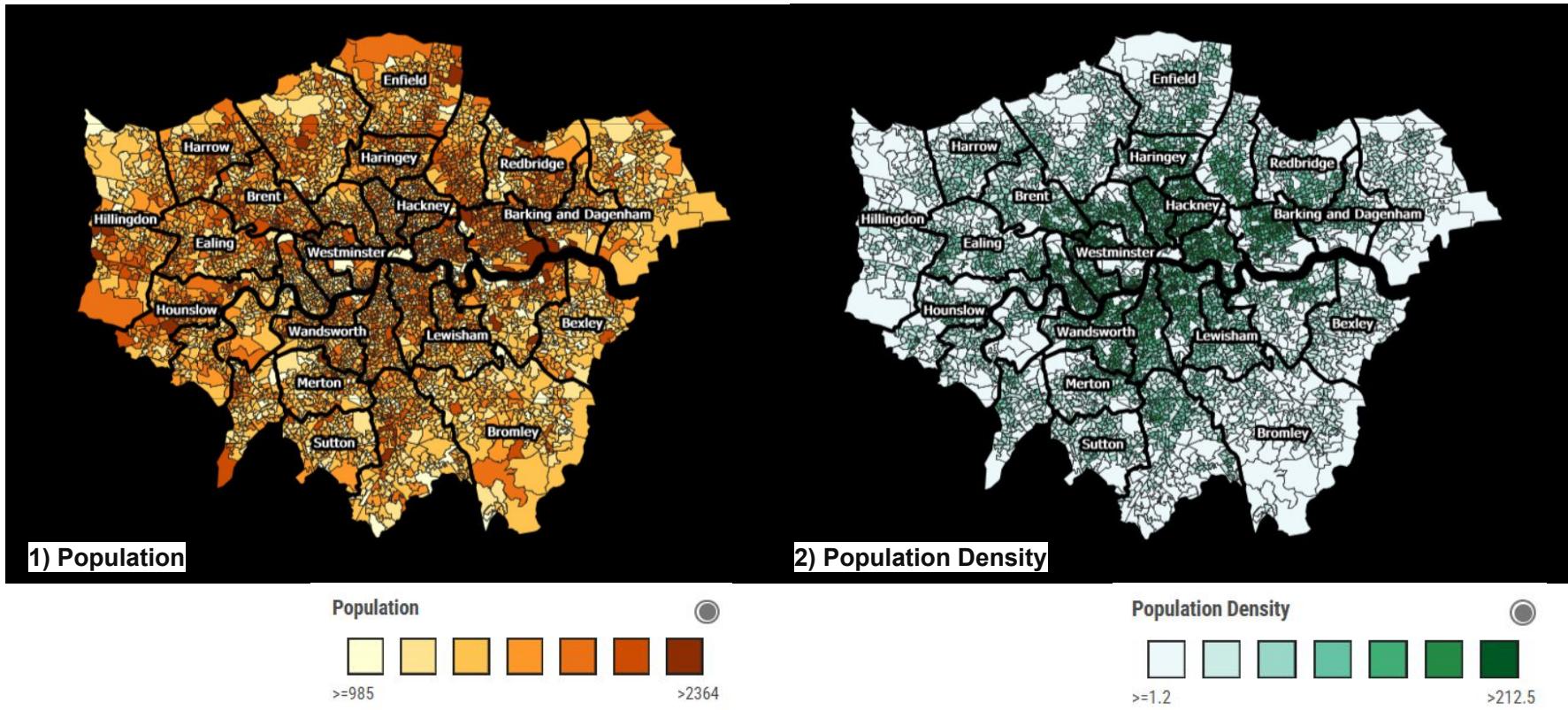
B : Income Distribution

C : Ethnicity Distribution

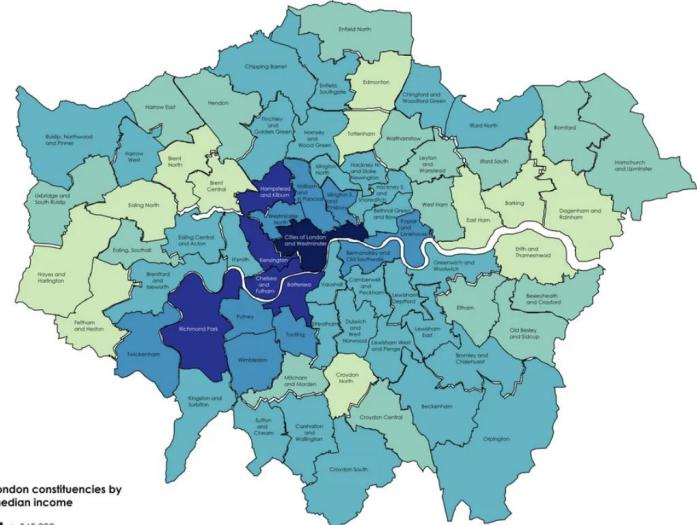


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A) Population Distribution



B) Income Distribution



Median Income

London constituencies by median income

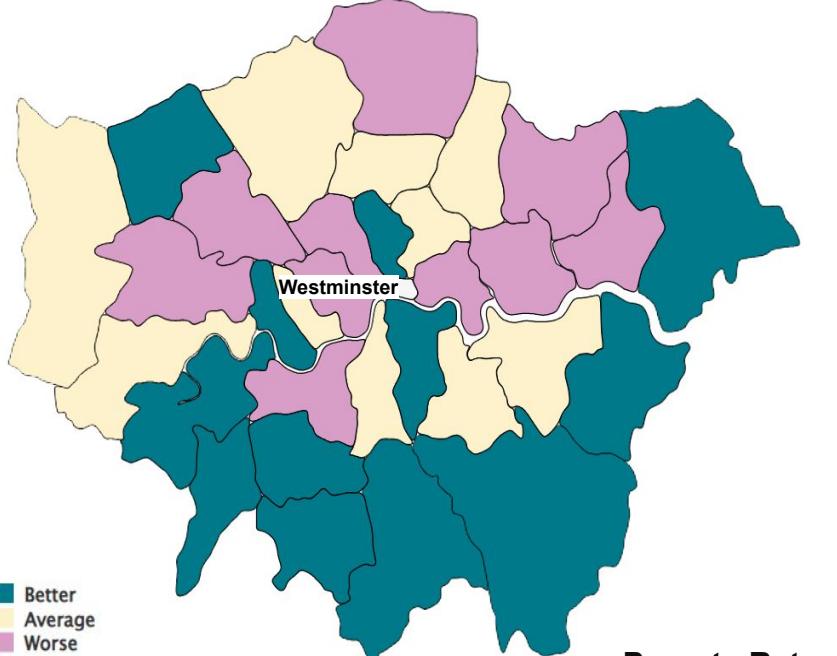
- > £45,000
- > £40,000
- > £35,000
- > £30,000
- > £27,500
- > £25,000

24%

of Londoners are living in poverty

34%

of Londoners living in non-white households are living in poverty

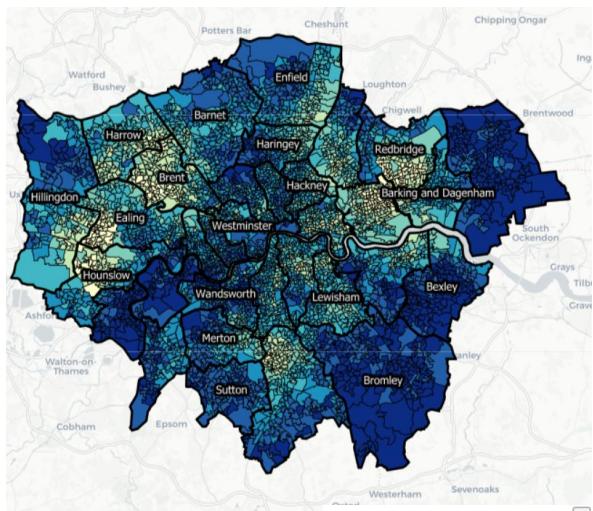


Poverty Rates

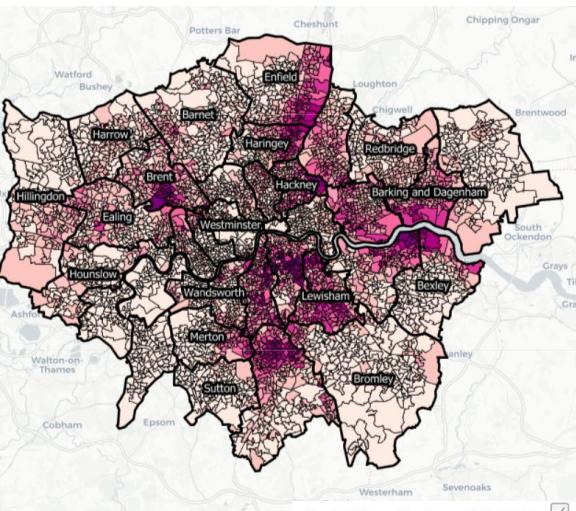
47%

of single parents households in London are living in poverty

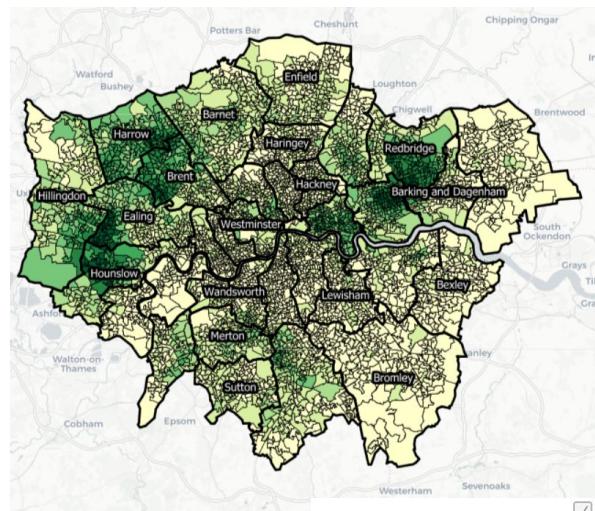
C) Ethnicity Distribution



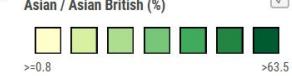
White



Black



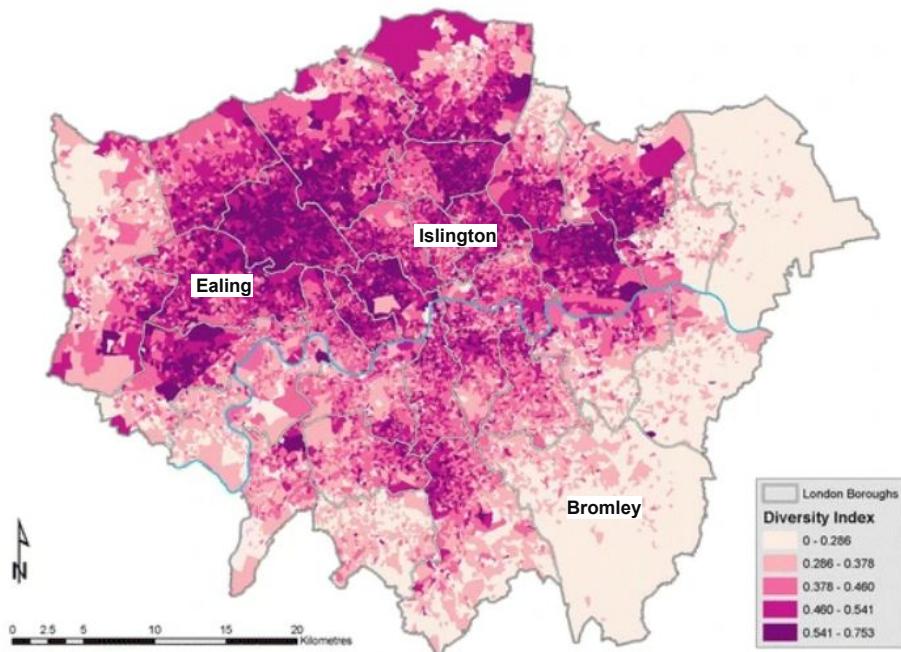
Asian



Top 3 ethnic groups in London:

- “White, British” - 37%
- “White, Other” - 15%
- “Black, African” - 8%

C) Ethnicity Distribution



(2014)

Separation anxiety
Ethnic segregation among London boroughs
2021



Sources: ONS; Rich Harris, University of Bristol; *The Economist*

(2021)

Nodes

How population interacts, shares resources, and builds community strength

A : Healthcare and Wellness

B : Educational Institutions and Cultural Centers

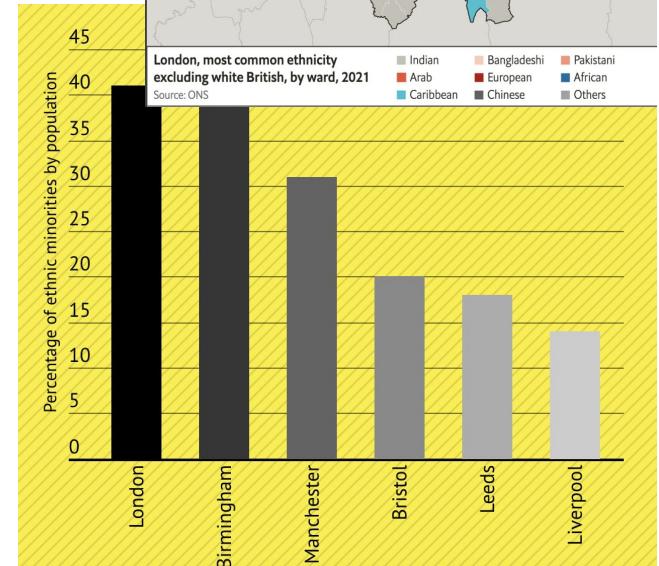
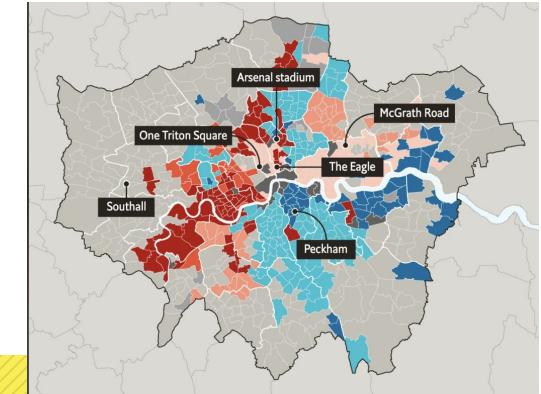
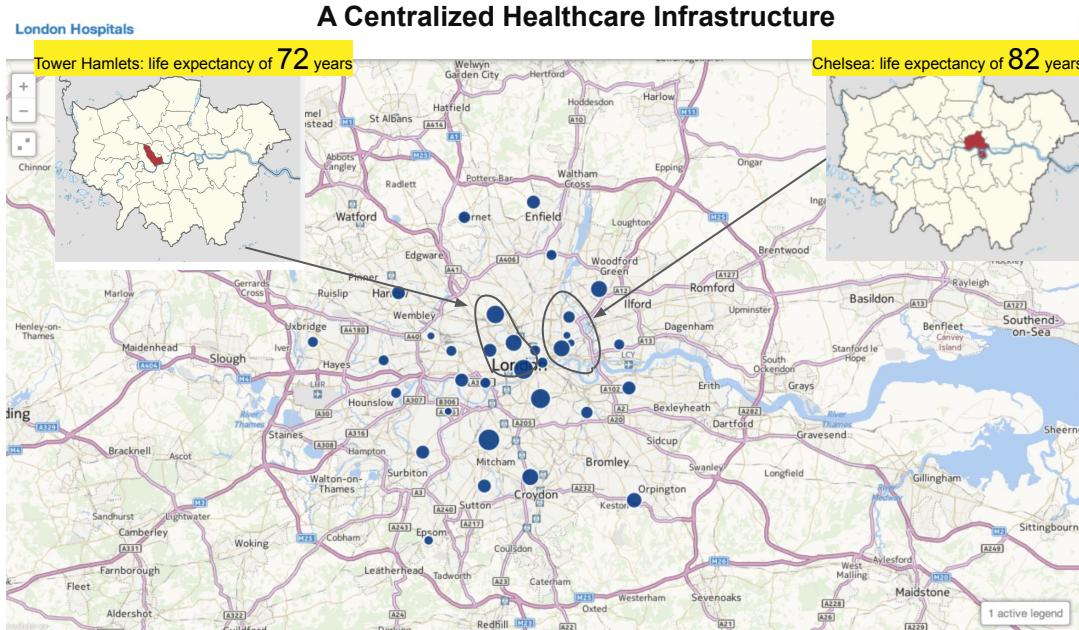
C: Digital Communities and Online Platforms



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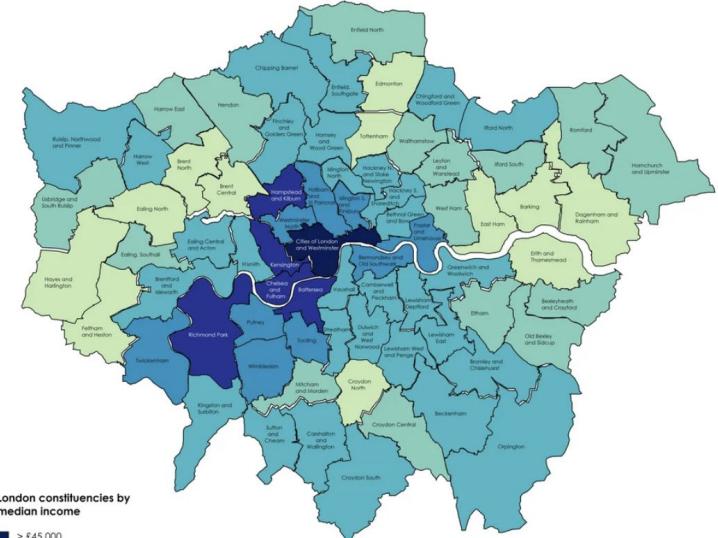
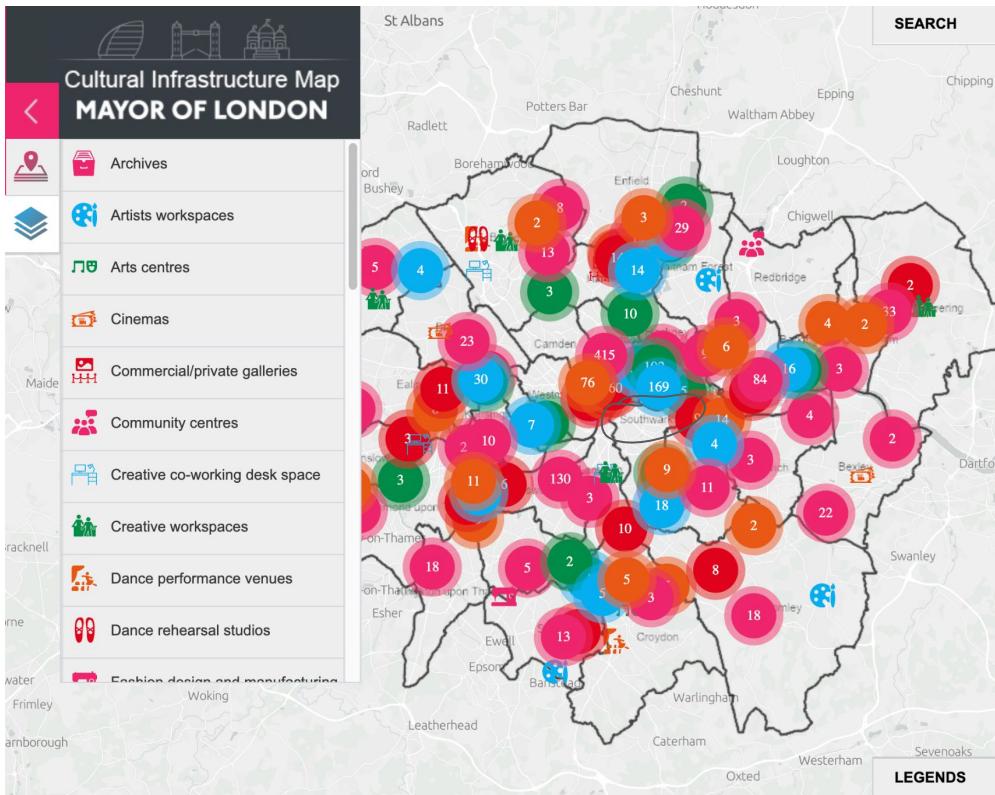
Nodes - healthcare

Hospitals: There are around 30 **acute hospitals** spread across London. They provide the full spectrum of acute and emergency care for adults, children and maternity services.



Nodes - cultural infrastructure

<https://apps.london.gov.uk/cim/index.html>

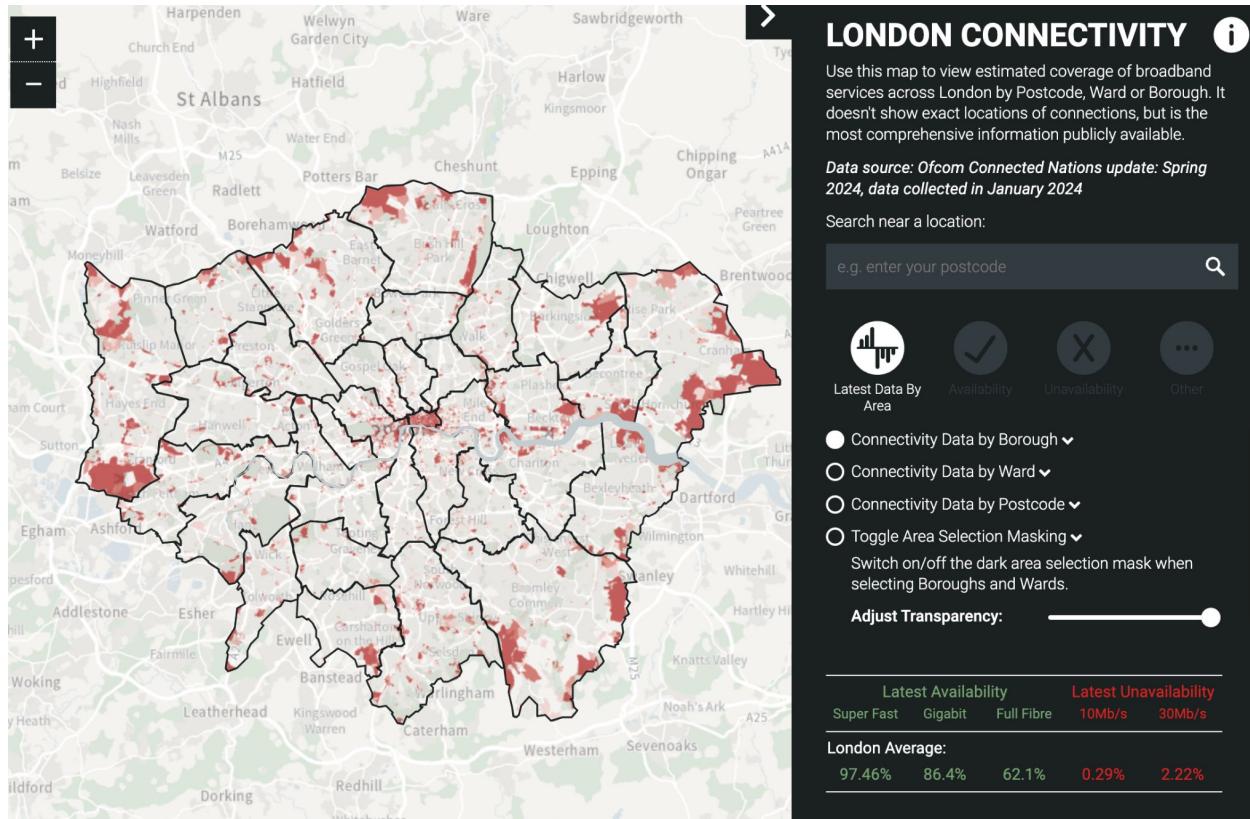


Source: HMRC (8 March 2023)

- Access Gap to Cultural Infrastructure
- Cultural Participation and Diversity
- Geographic and Transportation Barriers

Nodes - digital connectivity with (boroughs, wards, postcodes)

<https://apps.london.gov.uk/connectivity/#/51.492499698989036.0.15380859375000003.10/data/17.16.15.12.11.10.9.8.7.120.0/17.16.15.10.9.8.1/none/none/>



Socioeconomic Segregation Geographical and Infrastructural Segregation

- impact on education: hinder educational and employment opportunities, especially in an increasingly digital economy.

Agents

organizations, groups, and individuals
who shape the city's social and economic environment



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Agents -

1. Government and Policy Makers

- Local Government
- National Government



2. Urban Planners and Development Agencies

- London Development Agency (LDA)
- Transport for London (TfL)



3. Community Organizations and Advocacy Groups

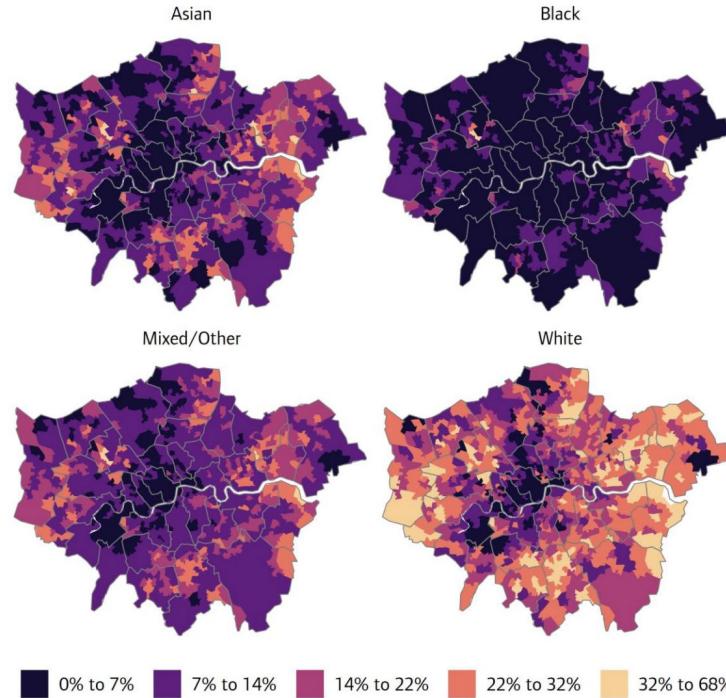
- Housing and Tenants' Associations -----reduce-----
- Cultural and Ethnic Community Groups--segregation----



The London
Cultureseekers Group

London, United Kingdom
32,680 members · Public group
· Opened by Adam (organizer)

Share · F · T · G · M



Proportion of renting households able to afford lower-quartile house prices, by ethnicity.

Source: GLA analysis of Family Resources Survey and Land Registry data

Flows

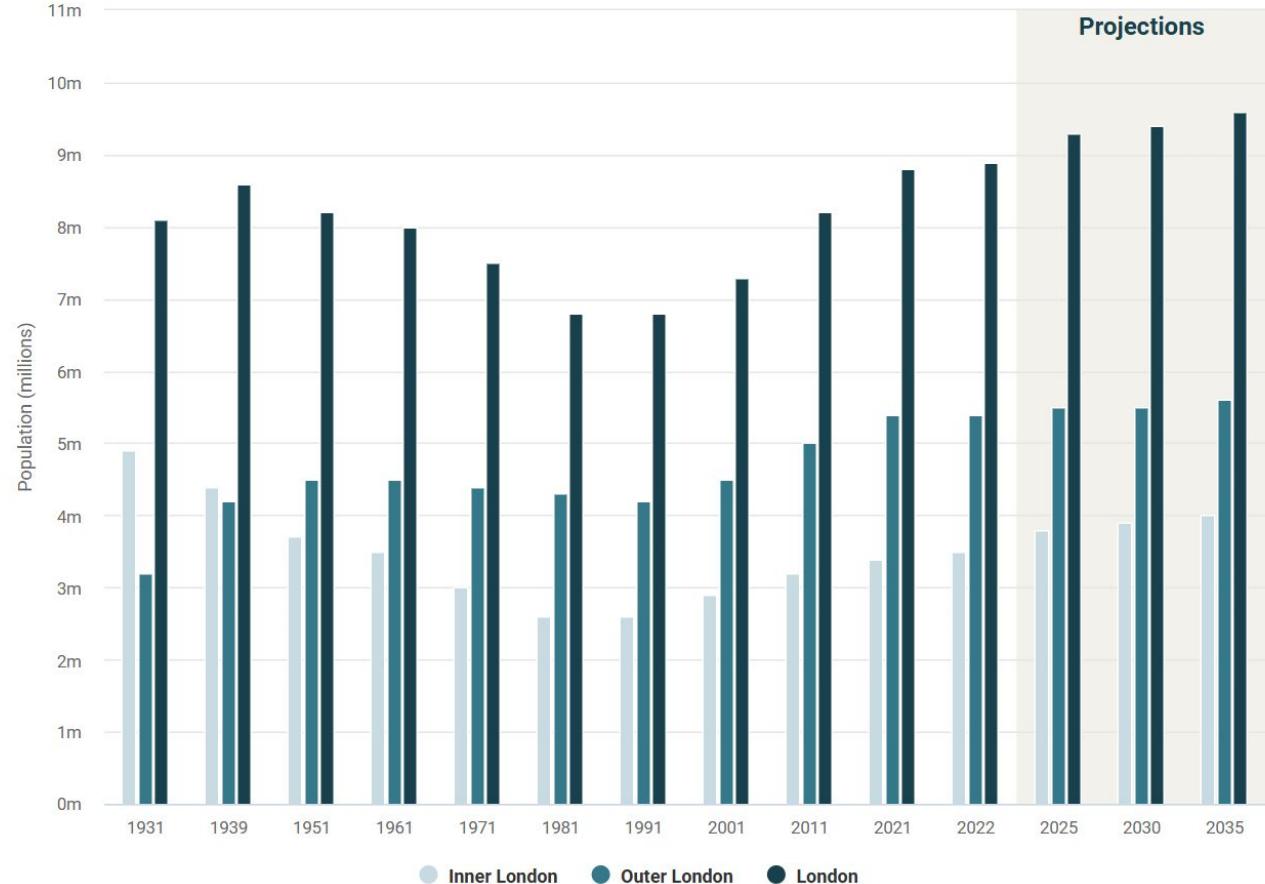
London's demographic flows refer to the movement of people in or the city , as well as the movement of goods, services, and resources across the city that influence people.

A : Migration Flows

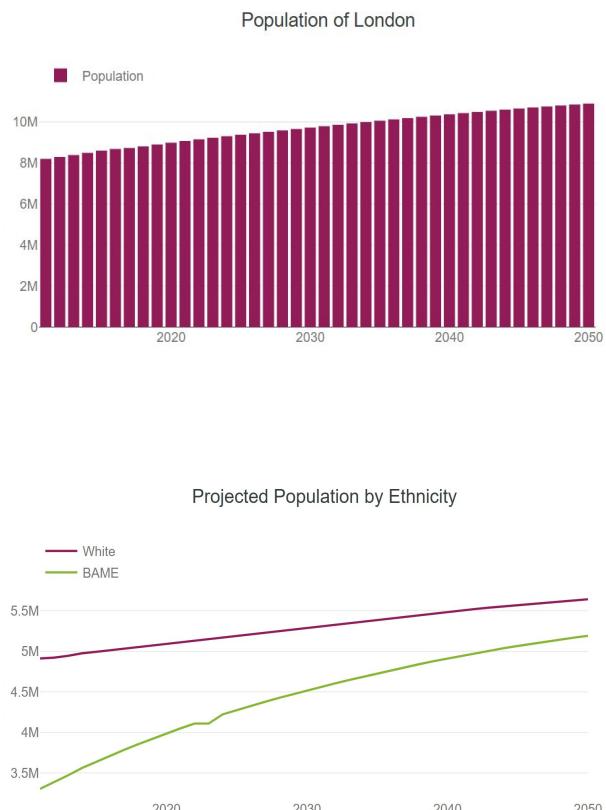
B: Commuting Flows



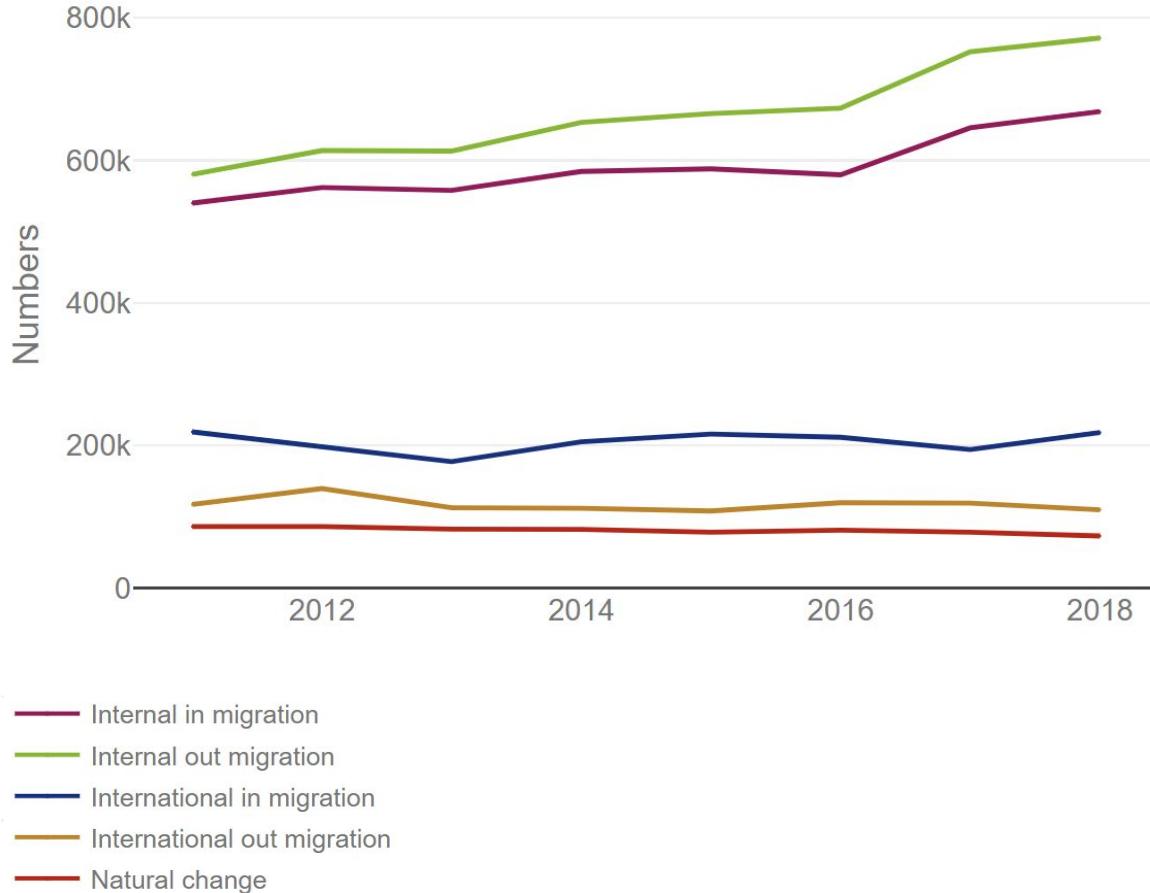
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London's Poverty Profile 2024



Components of Population Change



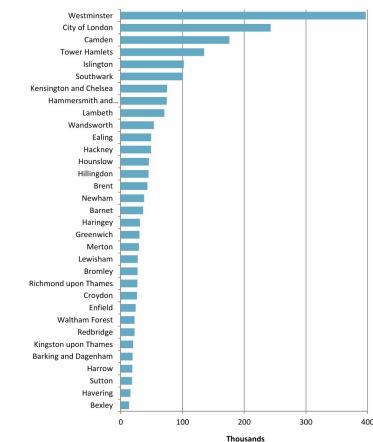
Londoners by Country of Birth (Top 20, 2018)



Migrants by country (Top 20, 2018/19)

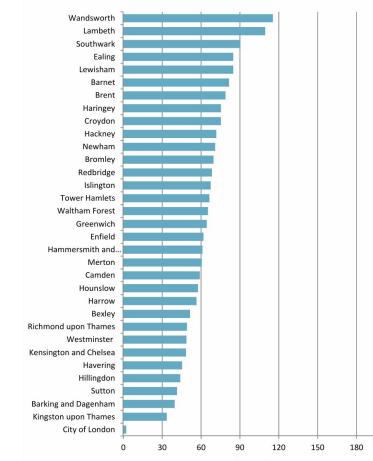


Figure 2: Commuting inflows within London by London Local Authority



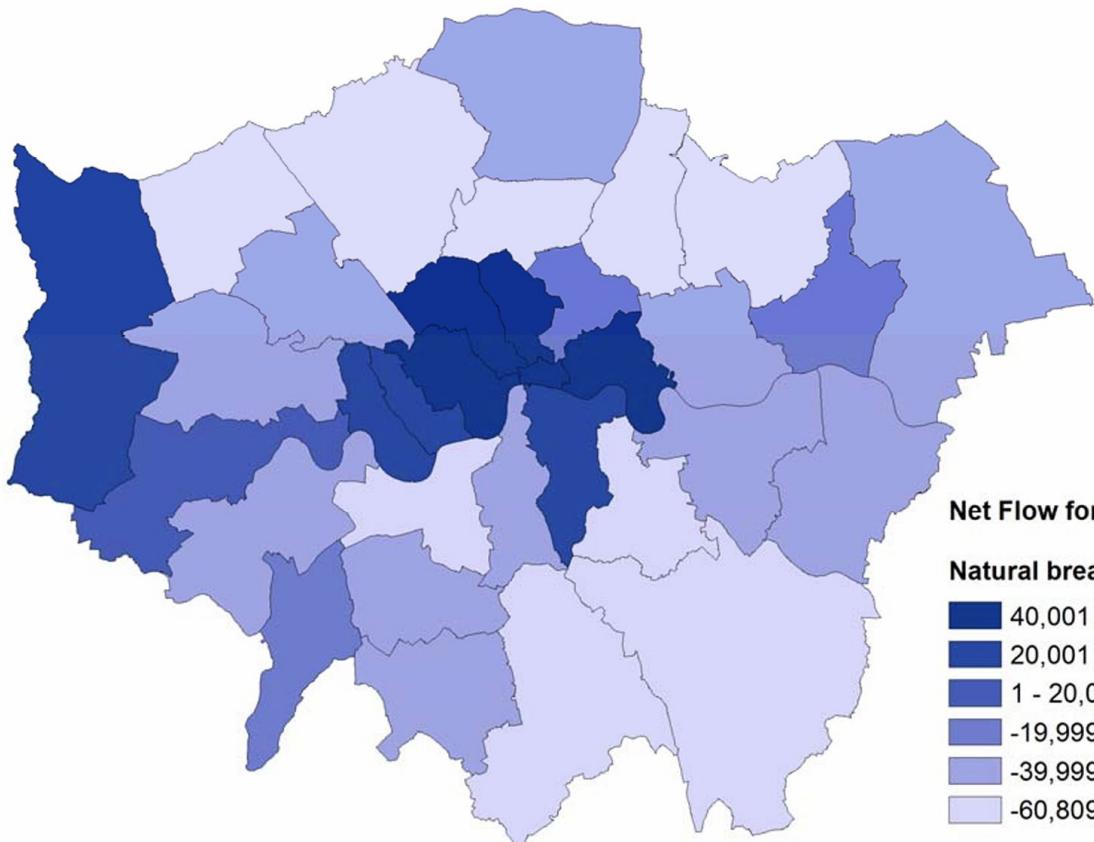
Source: 2011 Census table WU01EW

Figure 3: Commuting outflows within London by London Local Authority



Source: 2011 Census table WU01EW

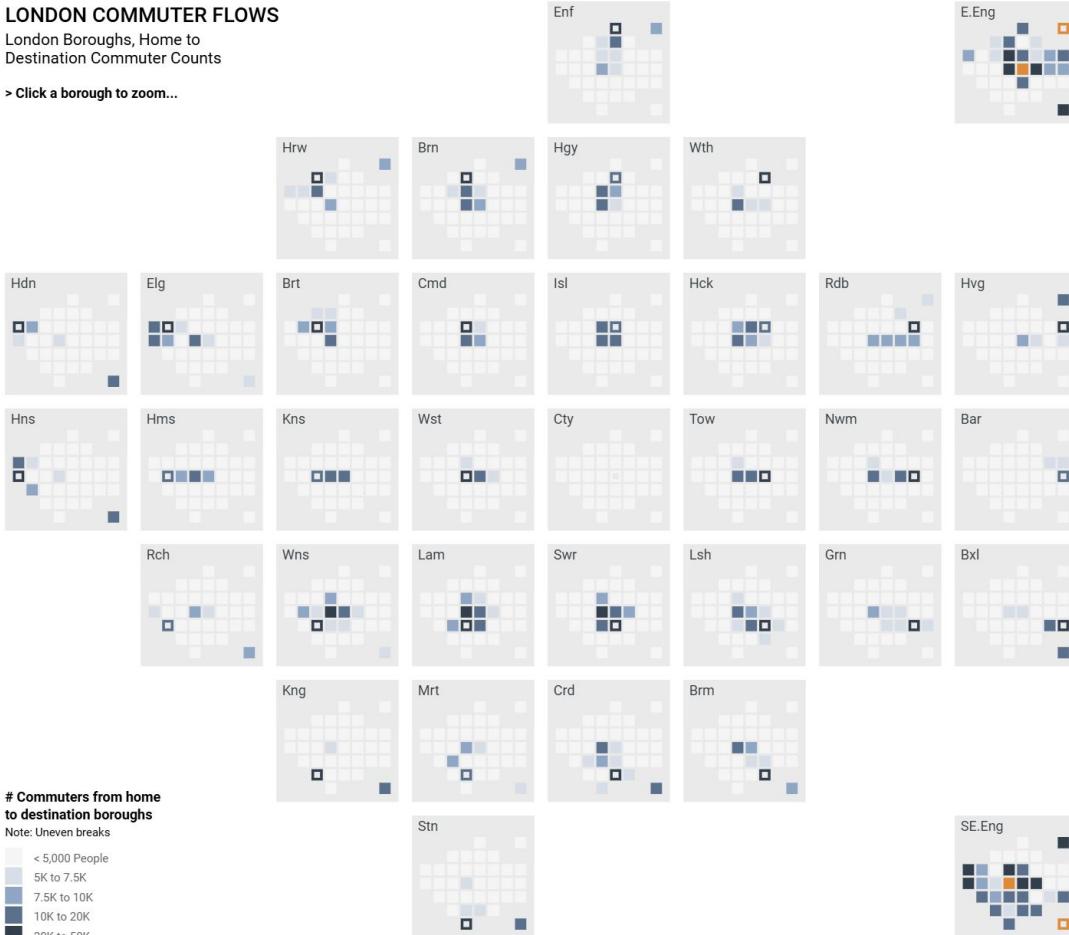
Figure 1: Net flow for districts in London



LONDON COMMUTER FLOWS

London Boroughs, Home to
Destination Commuter Counts

> Click a borough to zoom...



Commuters from home to destination boroughs

Note: Uneven breaks

< 5,000 People
5K to 7.5K
7.5K to 10K
10K to 20K
20K to 50K
50K+
Home Borough

Source: 2011 Census Workplace Statistics | London Squared by After The Flood | Based on previous work by @robradburn

Note that figures exclude people working at home or with no fixed workplace.

Outer Boroughs with Poor Transit Connectivity

Outer Boroughs with Poor Transit Connectivity
Boroughs such as **Barking and Dagenham, Havering, and Hillingdon** show **weaker public transit networks**.

These outer boroughs have higher concentrations of **low-income and minority communities**, who rely on affordable public transit. Limited connectivity isolates these groups, reducing their access to high-paying jobs, healthcare, and education, further entrenching **social and economic segregation**.

Eastern and Southeastern Boroughs

Newham, Tower Hamlets, and Lewisham are seeing population growth, but transit challenges persist, especially with overcrowded trains and buses.

These boroughs have large **immigrant communities** and often face higher unemployment rates. Poor connectivity limits social integration and upward economic mobility, creating barriers to reducing **social segregation**.

Impact of Digital Technology on Population Interaction

This part focuses on how digital tools can improve population interaction and reduce segregation. Open data platform, smart infrastructure system, and digital institution help provide equitable access to resources and opportunities.

For instance, London's open data supports urban planning, infrastructure system improve service access, and digital institution empower underserved communities, promoting social cohesion and inclusion.

A: Open Data Platform

B : Smart Infrastructure System

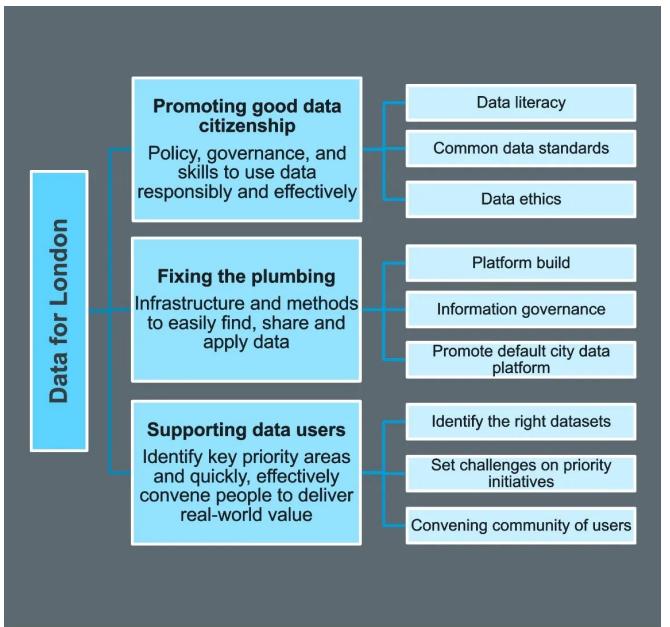
C: Digital Institution



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Open Data Platform

Open Data Platform improves the flow of city data across boroughs, agencies and partners for new insights, products and services



Planning authority
■ All
■ Barking & Dagenham
■ Barnet
■ Bexley
■ Brent
■ Bromley
■ Camden
■ City of London
■ Croydon
■ Ealing
■ Enfield
■ Greenwich
■ Hackney
■ Hammersmith & Fulham
■ Haringey
■ Harrow
■ Havering
■ Hillingdon
■ Hounslow
■ Islington
■ Kensington & Chelsea
■ Kingston
■ Lambeth
■ Lewisham
■ LLDC
■ Merton
■ Newham
■ OPDC
■ Redbridge
■ Richmond
■ Southwark
■ Sutton
■ Tower Hamlets
■ Waltham Forest
■ Wandsworth
■ Westminster

Tenure
✗ <input type="checkbox"/> Intermediate tenures
✗ <input type="checkbox"/> Low cost rent
✗ <input type="checkbox"/> Market tenures
✗ <input type="checkbox"/> N/A & Not known

Type of supply
✗ <input type="checkbox"/> C3/C4 residential
✗ <input type="checkbox"/> Ealing-195239FUL
✗ <input type="checkbox"/> Non-permanent dwellings
✗ <input type="checkbox"/> Non-self-contained

Residential pipeline

The 'pipeline' consists of any residential units that are live at the end of the financial year. This means that they have been granted permission and have not been completed, superseded by a later permission or lapsed due to not being implemented. The end of the year is 31 March, so the 2020 pipeline includes anything that is live at 31/03/2021. These totals include self-contained houses and flats, non-self-contained accommodation (including student halls, care homes, hostels and large HMOs) as well as non-permanent dwellings that are someone's primary residence. The filters on this page also apply to the map page.

The data in this report is drawn from the Planning London Datahub. The system is still in development and the data is being checked. The totals are therefore indicative and likely to change.

Select a year

2022

Year

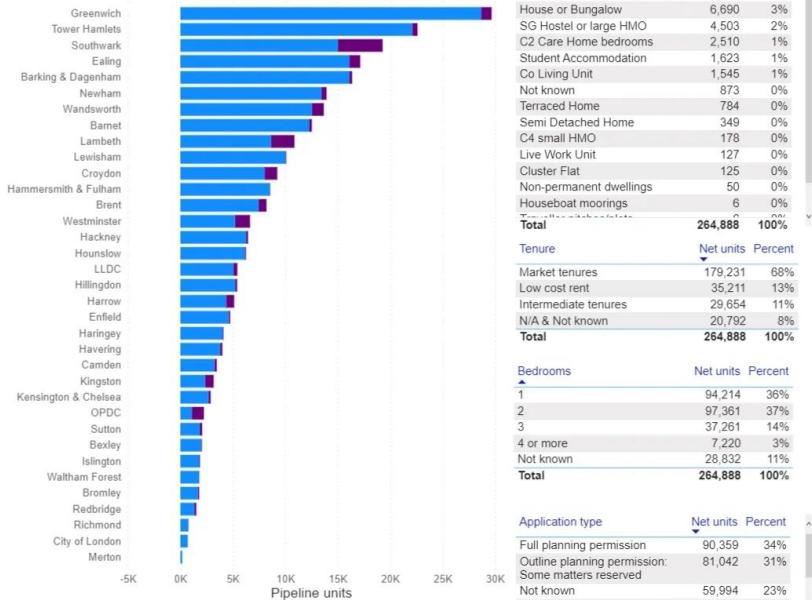
Pipeline date

2022/23

31/03/2023

Residential pipeline

Type of supply ● C3/C4 residential ● Non-permanent dwellings ● Non-self-contained



Net pipeline

265K

Net bedrooms

451K

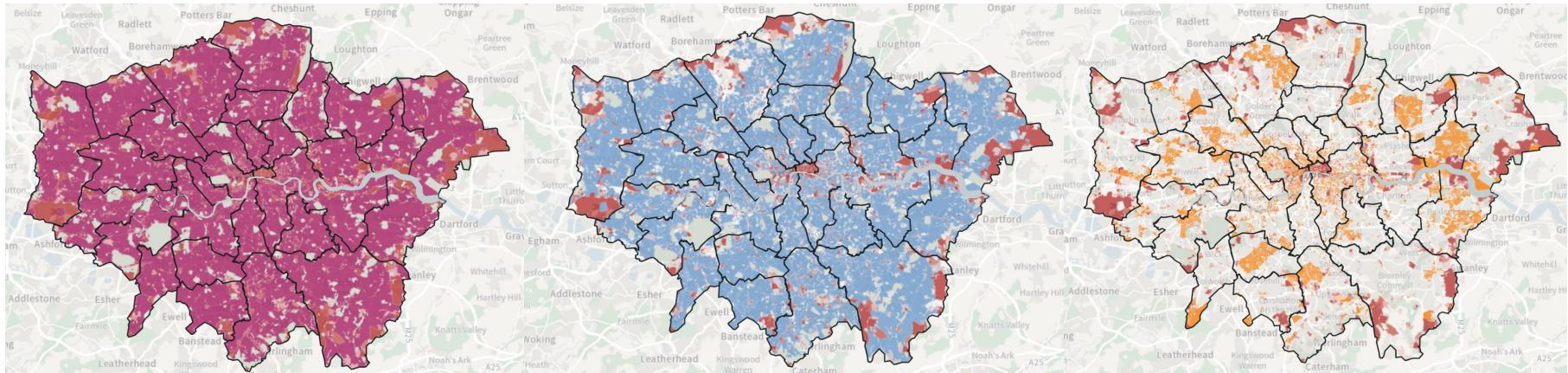
Net affordable

65K

Smart Infrastructure System - better digital connectivity

Connected London Team

data collected in January 2024



Superfast Broadband

Gigabit Broadband

Full Fibre Broadband

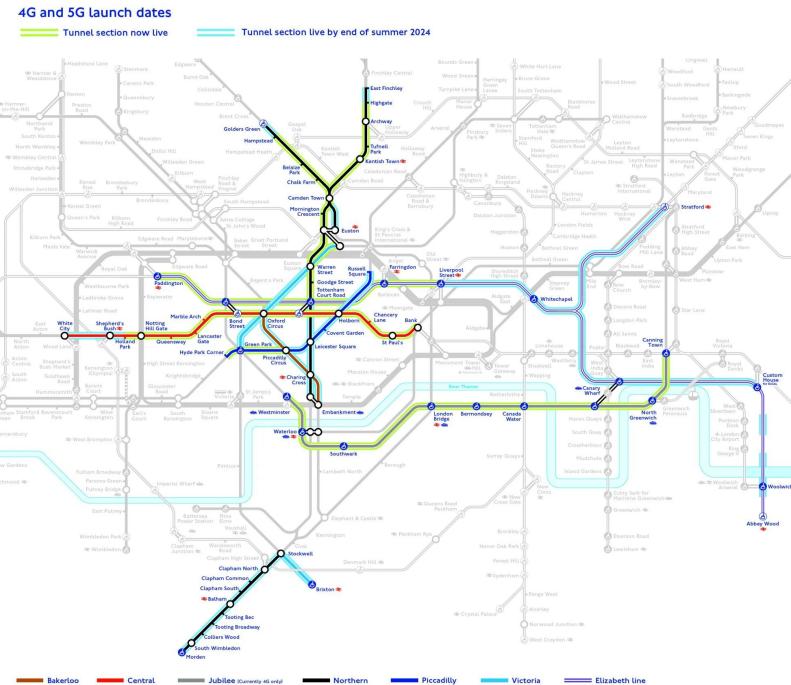
Smart Infrastructure System - better digital connectivity

TfL and Boldyn Networks

Uninterrupted 4G and 5G mobile coverage is being rolled out to all underground station ticket halls, platforms and tunnels on the Tube. Around 80% will be connected by the end of 2024, that's around 220 of 272 stations.

At stations with coverage, customers can send and receive calls and texts, surf the Web, or scroll through social media feeds without losing the connection when going from above ground to underground.

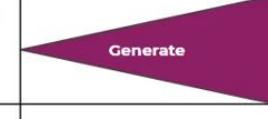
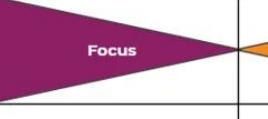
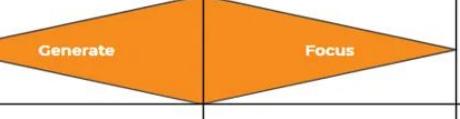
Tube map showing below ground 4G and 5G coverage



Digital Institution - 'Get Online London' programme

LOTI Outcomes-Based Methodology

Start here ↓

	PROBLEMS		SOLUTIONS		OUTCOMES
Phase	2 - Discover	3 - Define	4 - Develop	5 - Deliver	1 - Direct
					
Key Question	What problems currently prevent our desired outcomes?	What specific problem(s) are within our influence to solve?	What ideas do we have for potential solutions?	Which specific solutions will we test and evaluate?	What real-world outcomes do we want to enable?
Tech & Data	What problems relate to technology and data?		What role can technology and data play in enabling the desired outcomes?		Which specific people do we want to be better off in which specific ways because we acted?
People & Process	What problems relate to people, processes, policies and conditions?		Beyond technology and data, what's needed to achieve the desired outcomes?		

Nearly 2000 devices have already been distributed to those in need, along with thousands of Londoners enrolling in basic skills training.

Reference

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Thank you for listening!

Q & A



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