



# Data Talks: The Indices of Deprivation (IoD)

A BEGINNER'S GUIDE TO THE IOD



# About me



- I'm the Social Research and Data Lead at [London Plus](#)
- London Plus supports the voluntary sector through networking, advocacy and insights (<- I'm responsible for this bit!)
- Back in November 2019 I wrote a blog about getting started with the IoD, which can be viewed here: <https://datawise.london/resources/IoD-how-to/>
- I collaborate with colleagues from the HEAR Network and the Coalition for Efficiency to deliver Datawise London's '*Qualitative Data Essentials*' series

To find out more about what we're up to, sign up to our newsletters and follow DataWise London on [Eventbrite](#) 😊





# Open Data Manchester

Party in  
at local  
ent level



About Services News Events Directory Talent and Skills Jobs Join

Open Data Manchester: Pic N Mix - An Introduction to the UK Data Service

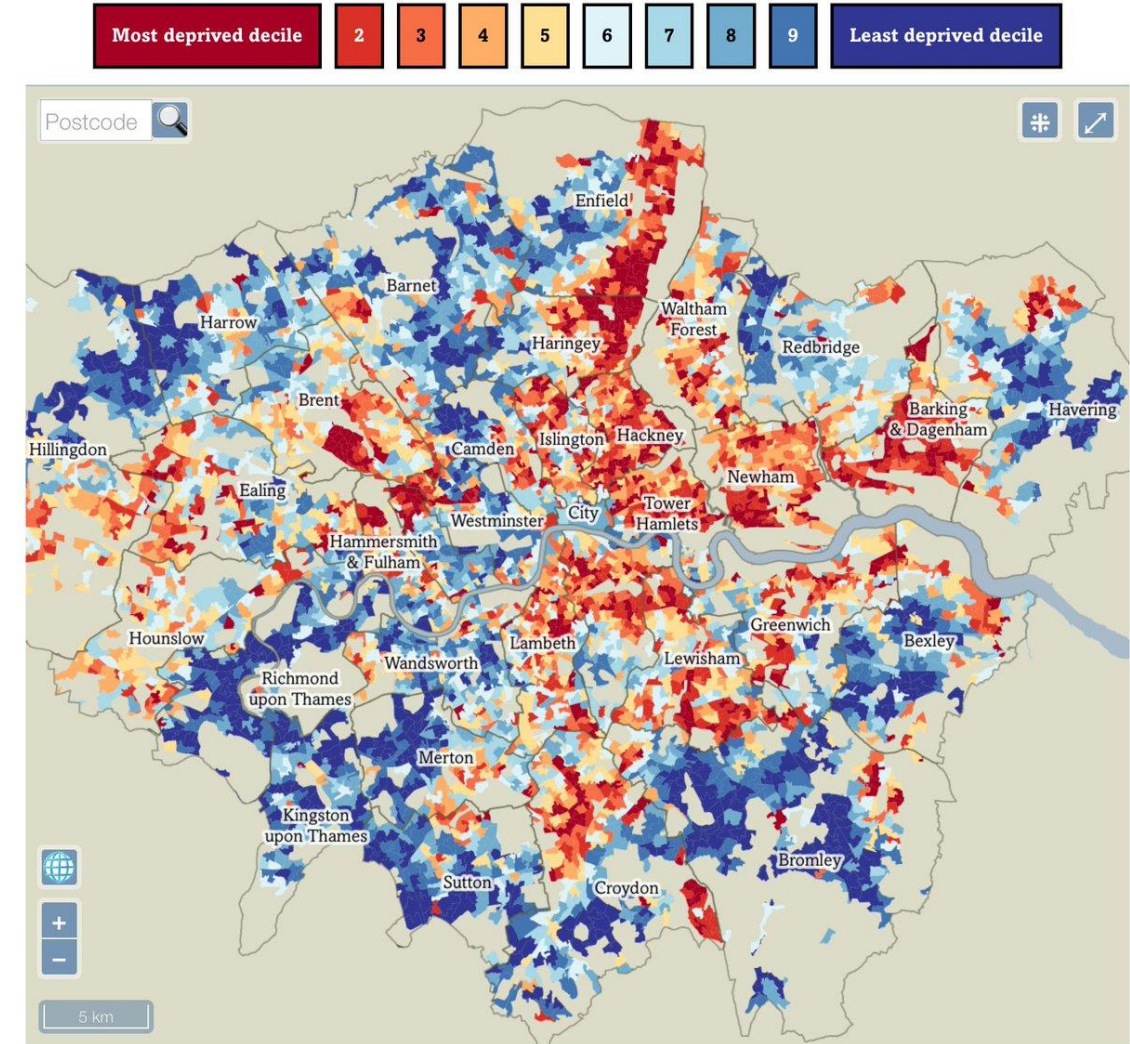
Deprivation  
for each  
ough





# What are the IoD?

The who, where, what, why and how



# Who?

- ✓ The Government started publishing the IoD in the year 2000
- ✓ The Ministry of Housing, Communities & Local Government are currently responsible for publishing the IoD
- ✓ The IoD is published periodically, but not frequently/during specific intervals
- ✓ Existing IoD data sets are:

- IoD 2000
- IoD 2004
- IoD 2007
- IoD 2010
- IoD 2015
- IoD 2019

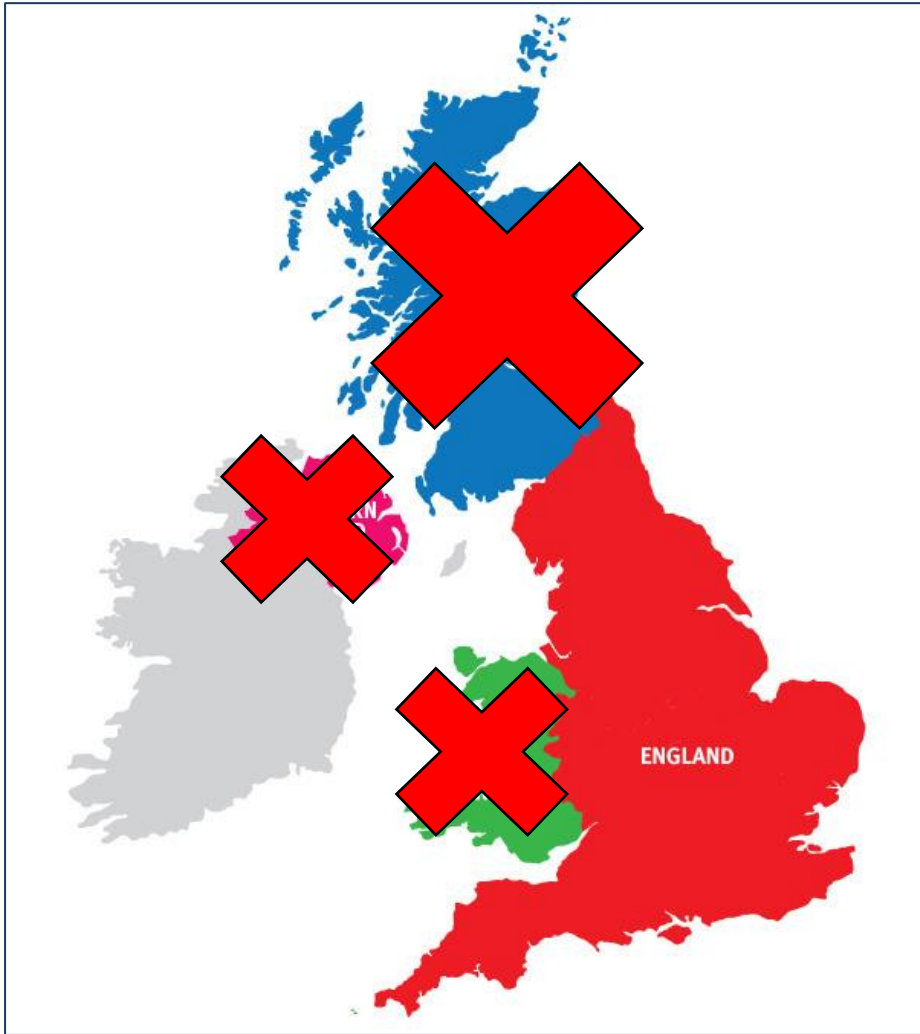
**2000s**



**2010s**



# Where? (*IMPORTANT INFORMATION!*)



- ✓ The Indices of Deprivation are officially named '*The English Indices of Deprivation*'
- ✓ The dataset accounts for **England**, but not Scotland, Wales or Northern Ireland. This is mainly due to political jurisdiction over government intelligence.

For Scotland, Wales and Northern Ireland:

- [Scottish Index of Multiple Deprivation](#)
- [Welsh Index of Multiple Deprivation](#)
- [Northern Ireland Multiple Deprivation Measure](#)

*You cannot directly compare the IoD to these sets without doing some complicated calculations. This is because different data collection methods are used, meaning that **each set is a "case" in it's own right** and variables used would therefore have to be weighted accordingly.*





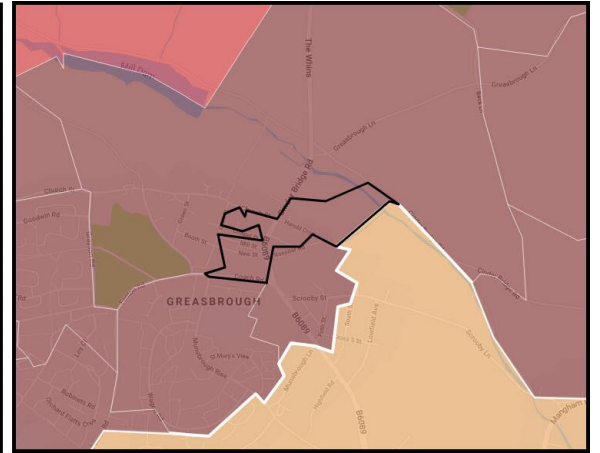
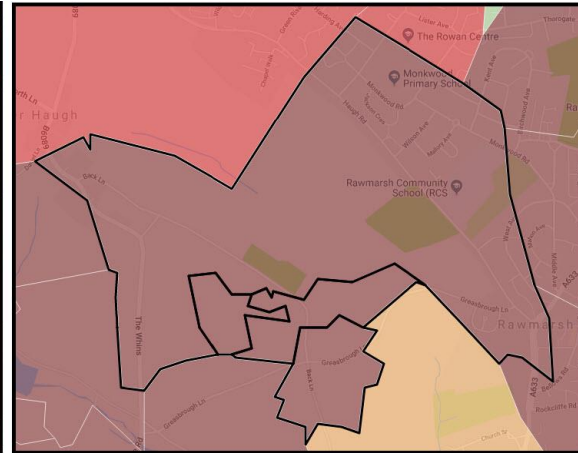
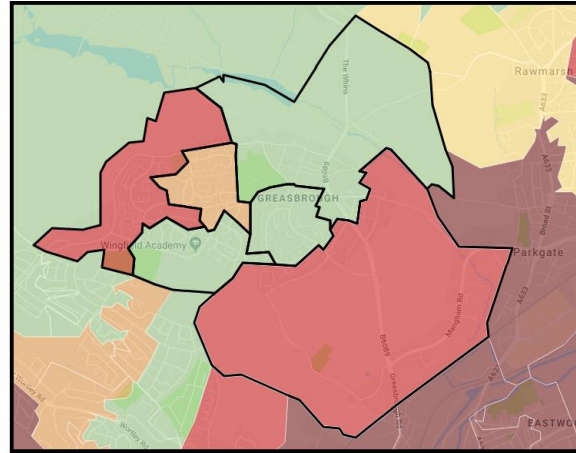
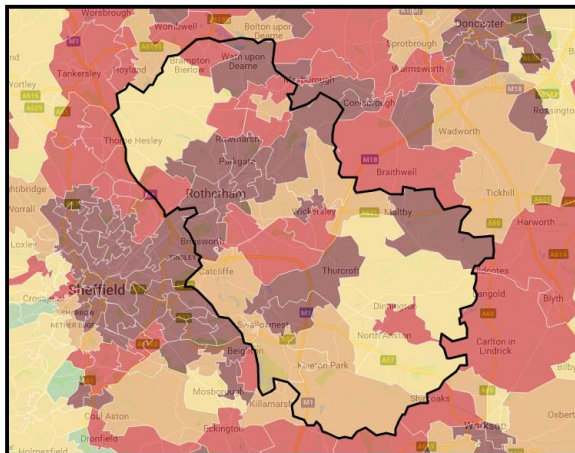
# What?

The IoD are gathered and analysed on a geographic basis (*“statistical geographies”*). This means that each piece of data in the IoD is specific to the area it was measured from.

The IoD uses a particular type of “base” map which measures deprivation at a small local area level. These areas are known as Lower-layer Super Output Areas and they contain 1,000-3000 people or 400-1,200 households (Open Data Manchester, 2018).

*Largest*

*Smallest*



Local Authority

MSOA

LSOA

OA

*Image via OSC1 2019*



# Like an onion, statistical geographies have many layers...



\* Output Area = 300 people \*\* Lower Layer Super Output Area = 1,700 people (London)

\*\*\* Middle Layer Super Output Area = 7,200 people (London)

\*\*\*\* Ward 13,000 people (London)





# Still confused? Don't worry, we've got you covered!

- ✓ **MapIt UK** (a website where you can enter a postcode and find an array of information about it's statistical geography) <https://mapit.mysociety.org/>
- ✓ **The Local Authority look up dashboard**  
<https://app.powerbi.com/view?r=eyJrIjoiOTdjYzlyNTMtMTcxNi00YmQ2LWI1YzgtMTUyYzIxOWQ3NzQ2IiwidCI6ImJmMzQ2ODEwLTljN2QtNDNkZS1hODcyLTl0YTJlZjM5OTVhOCJ9>
- ✓ **The Local authority map drive** (where you can find your IA map to download)  
<https://imd2019.group.shef.ac.uk/>
- ✓ **The IoD explorer tool** (we'll come back to this!)  
[http://dclgapps.communities.gov.uk/imd/iod\\_index.html](http://dclgapps.communities.gov.uk/imd/iod_index.html)
- ✓ **GLA IoD Resources** (we'll come back to this too!)  
<https://data.london.gov.uk/download/indices-of-deprivation/9ee0cf66-e6f9-4e38-8eec-79c1d897e248/ID%202019%20for%20London.xlsx>



# What?

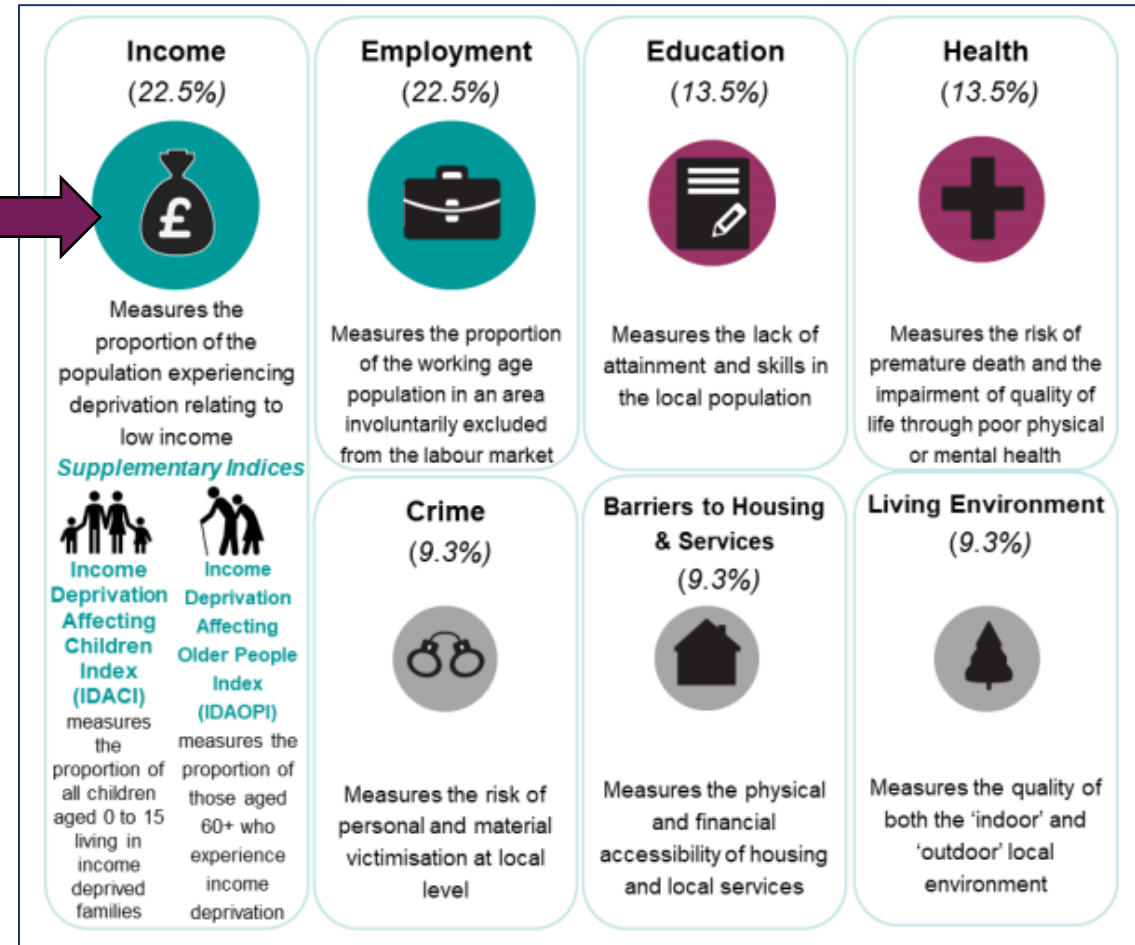
Each LSOA is scored (and ranked) based on **its performance across the 7 domains of deprivation.**

The 7 domains of deprivation measure the variables pictured to the right. **Each of these are measured per area and given an overall value. These values are then weighted and combined to provide an overall deprivation score for the LSOA.**

Each of 7 domains have been selected based on the academic literature around deprivation. These are meant to provide a holistic measure of deprivation in an LSOA. **Deprivation, like quality of life and happiness, is a difficult thing to measure.** It therefore requires the analyst to consider several different variables, rather than a single measure in isolation i.e crime.

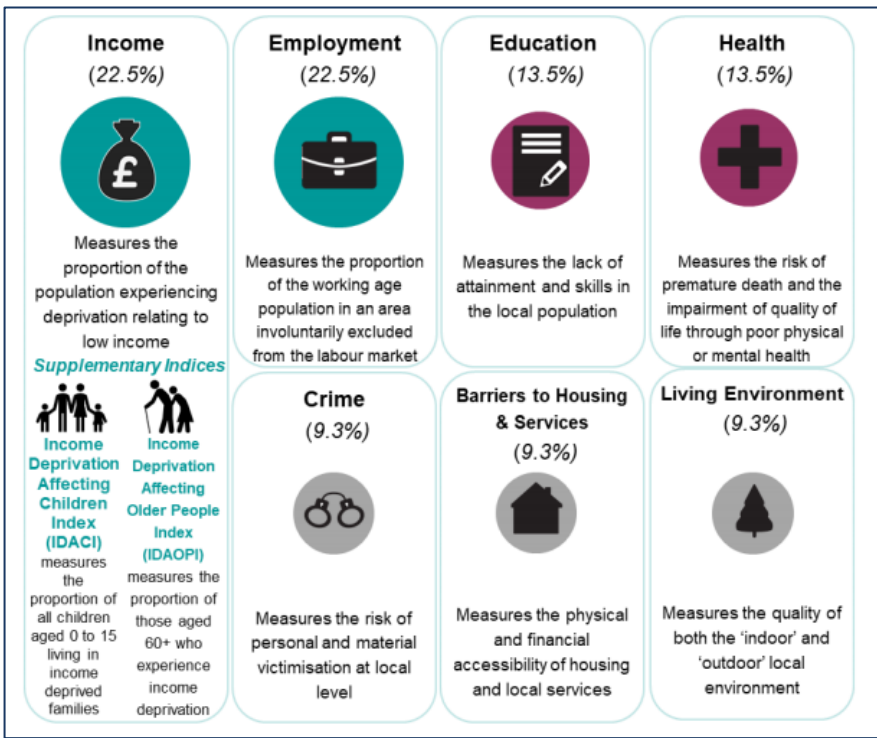
Once a score is generated for each LSOA, **each LSOA across England is ranked to create a scale** i.e most deprived to least deprived.

....and this scale is known as *the Index of Multiple Deprivation!*



**NOTE: the Indices of Deprivation and the Index of Multiple Deprivation (IMD) are not the same thing!**

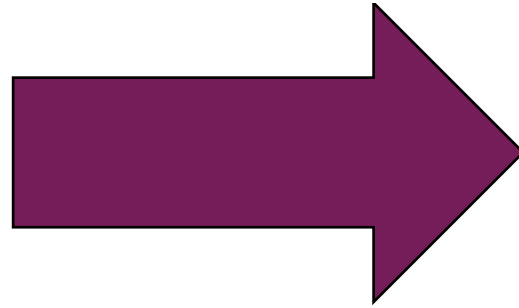




$$y'_u y = u^2 + 3\sqrt{u} - 1 \quad u = x^4 + 1 \quad y'_x =$$

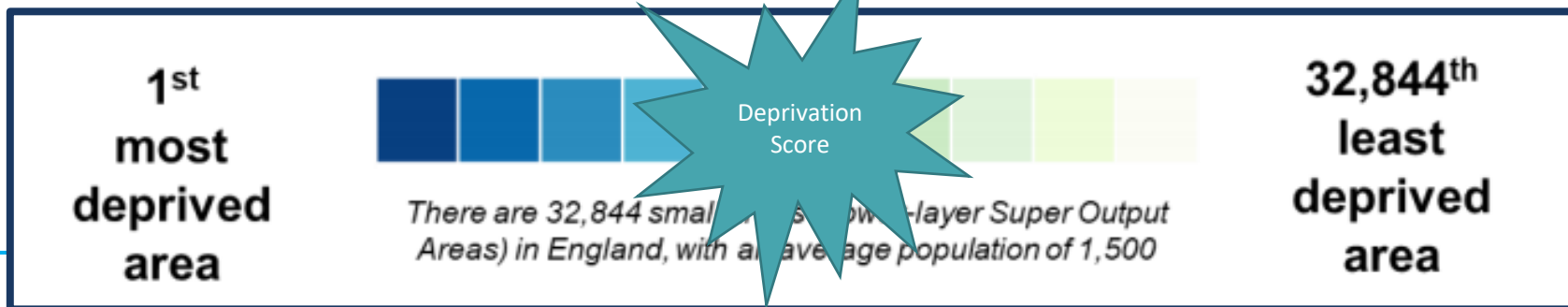
$$= (u^2 + 3\sqrt{u} - 1)_u (x^4 + 1)'_x = (2u + \frac{3}{2\sqrt{u}}) * 4x$$

$$y'_x = (2x^4 + 2 + \frac{3}{2\sqrt{x^4 + 1}}) * 4x$$



## The Index of Multiple Deprivation

The Index of Multiple Deprivation (IMD) ranks every small area in England from 1 (most deprived area) to 32,844 (least deprived area). **The closer to 1, the worse the ranking.**



# Why? (and who?)

- ✓ Enables individuals from different sectors and occupations to **better understand the social challenges** facing an area of interest (i.e postcode, town, city, ward, borough, region.)
- ✓ Commonly described as *the “billion pound dataset”*, the IoD/IMD are **used to inform decision making** on a national, regional, pan-city/town and local authority basis.
- ✓ The main users of the IoD/IMD are therefore *“intelligent generalists”* i.e no specific domain of expertise *per se*, but a “hunch” or interest they want to follow up on.
- ✓ I.e *Policy Makers, Data Scientists, Politicians/Parties, Journalists, Teachers, Local Councillors, Charities/ThinkTanks, Infrastructural organisations i.e CVSSs, Activist Groups and individuals!*
- ✓ The IoD/IMD are open access to encourage **Citizen Science-** and the department behind the set have been working hard to create **accessible tools to engage a wider audience of users** i.e interactive maps.







Ministry of Housing,  
Communities &  
Local Government



Controlling Migration Fund

Uses



Estimating Life  
Expectancy

Coastal  
Communities  
Fund



Education Funding Allocation



Core Spending Power



Future High  
Streets Fund

Road  
Condition  
Analysis



Stronger Towns Fund



Police  
Funding  
Formula



Local Growth  
Analysis



More than 105,000  
#TroubledFamilies

Troubled  
Families  
Programme



us Kakapos

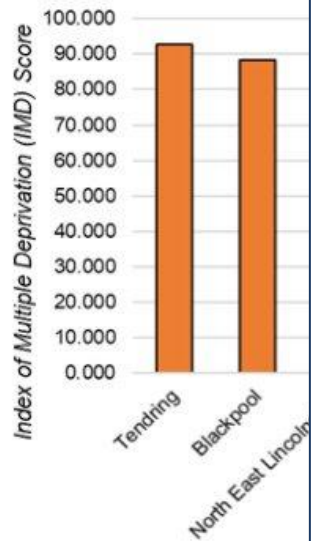
- most deprived (8)
- most deprived (99)
- % most deprived (688)
- % most deprived (2,031)
- east deprived (2,009)



IMD & Crim



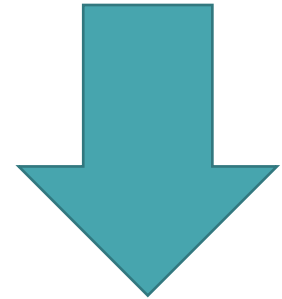
Most d



# How? (i.e how should I use this data?)

- The IoD/IMD is **not “wild” activity/data-** it has been **heavily processed** by the statisticians working on the dataset, so do not be surprised if things don't seem to match up with other “wild” resources or datasets you may have.
- When looking at a particular domain of deprivation score for an area, be attentive to the fact that **the overall deprivation score has been weighted** accordingly i.e **its not a 1/7<sup>th</sup> split!**
- **DEPRIVATION SCORES** are a very different type of value from **INDEX RANKS**. The Index is a unique measure relative to other entries within the dataset. It cannot be analysed in isolation.

*The IoD/IMD is, like all data, at best a representation of something happening within the social world.*





# DEADLY SINS for IoD/IMD ... *(aka do not try this at home!)*

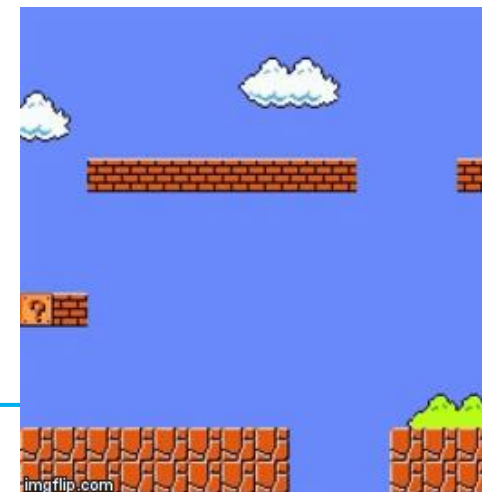
- ✘ DO NOT be tempted to “add it up”. Adding values together within this set will not give you the answers you’re looking for. Each piece of data is linked to the other, so things are not as easy as they might seem!
- ✘ Despite the statisticians behind the data creating a 2015/2019 mapping tool, you cannot measure **absolute change** over time between the sets. i.e *“there has been a % increase in x from 2015 to 2019”* isn’t allowed! *(strictly speaking)*
- ✘ This is because all of the measures are determined by the data gathered during the collection period, meaning that each set has its own variables on which it is contingent i.e 2015 political targets and ways of measuring crime may have been drastically different in 2019, etc.

If in doubt, find a route out:

- ✓ FAQ Document  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/853811/IoD2019\\_FAQ\\_v4.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/853811/IoD2019_FAQ_v4.pdf)
- ✓ DataWise London- contact us for help with your hunches 😊
- ✓ Google it! (I recommend using stack overflow <https://stackoverflow.com/>)

***And finally... watch out for rabbit holes! It's too easy to become overwhelmed with information and get lost in the details!***

---



# Getting Started

A brief introduction to accessing and analysing the IoD





# Where to find the IoD/IMD

**Location** -> <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019> (don't type IoD into google, you'll get the Institute of Directors!!!)

It seems an obvious point, but:

- There are a lot of files available. **Downloading the right dataset for your type of query is key to getting the most appropriate answers.**
- The IoD webpage is rich with **resources and interactive tools** to help everyone participate in Citizen Science. Make sure you're not missing out on these freebies!

My favourite freebies:

- [Mapping resources](#)
  - [Statistical Release- Main Findings](#)
  - [The English IoD 2019 Infographic](#)
  - [Frequently Asked Questions](#) (don't worry about the jargon. This resource is really useful for IoD related troubleshooting. **Ctrl+f is my best friend.** )
  - [Technical Report](#) (if you're hardcore....)
- 



# Basic Wrangling – exploring the IoD in my area



*A recipe for basic wrangling with Excel*



1. [Download File 10](#)
2. Open Excel
3. Create Tables for each Domain (Ctrl +T function)
4. Create a new sheet (name it after the area you're interested in i.e "Newham")
5. Filter each domain for the area of your interest and copy/paste each average score
6. Press Ctrl + T again to create a table (this will help you order values in your graph)
7. Highlight both columns of table, go to insert and select bar graph
8. Filter your average score data from smallest/largest, or vice versa
9. Use the format ribbon to add titles, legends, labels and adjust the design and colour of your table

# Average Scores at a glance...

Table 3.2. The higher-area summary

Summary measure	Description
Average score	The 'average deprivation' Lower-layer As all Low to create covering b population Output Ar methodol measure is simplified
LSOA	The main that more 'extreme' average o areas will measure t Once the 'higher-level this meas



# Guidelines for interpreting average scores and rank of average score

## ***AVERAGE SCORE***

- Average scores are calculated based on an area's performance across the seven domains of deprivation.
- The more highly an area scores for a domain i.e. income, the more badly that area has performed.

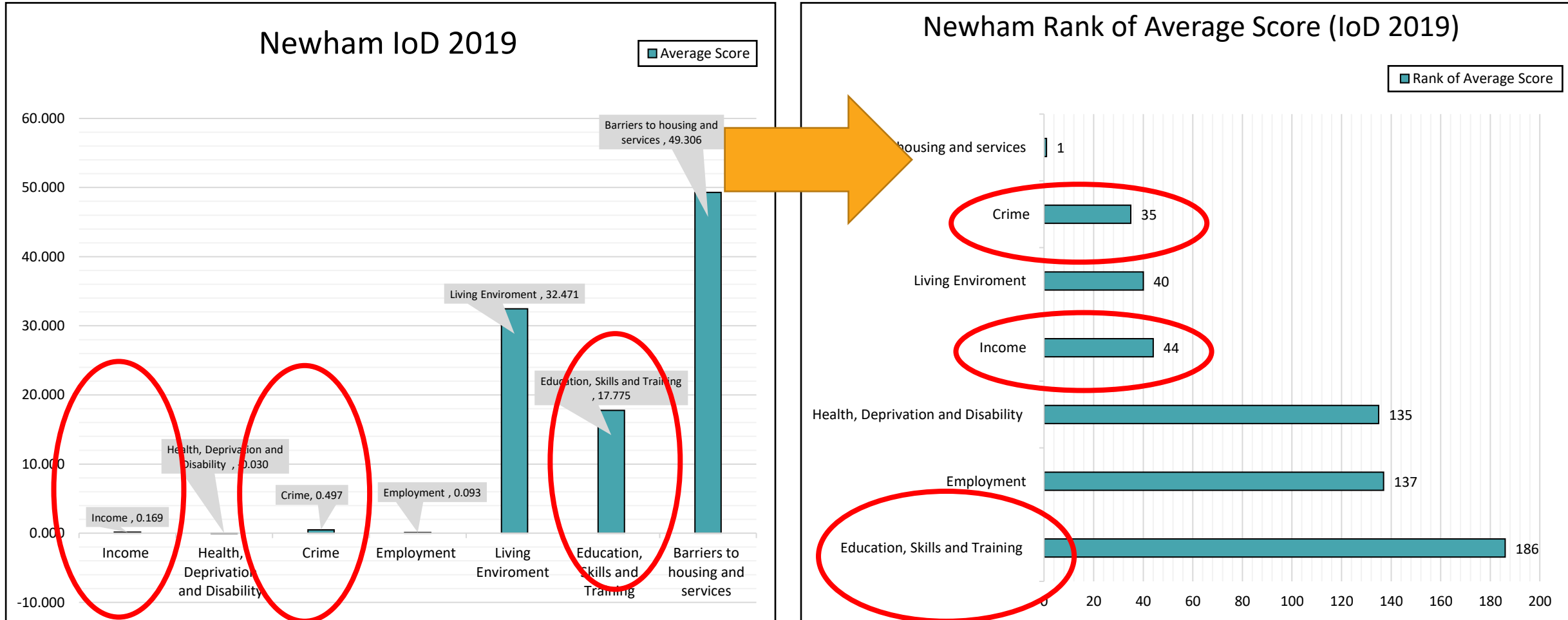
## ***RANK OF AVERAGE SCORE***

- The RANK of average score is a comparative measure, based on how the overall average score for an area has compared against other areas (i.e. 1 the worst to 32,244 being the best).
- The lower an area scores on the ranking system (i.e. 1), the more badly that area has performed.
- NOTE: The range of the ranking system (i.e. 1-32,244) differs depending on which type of geographical layer is measured i.e. there are less Local Authorities nationally than Lower Super Output Areas.





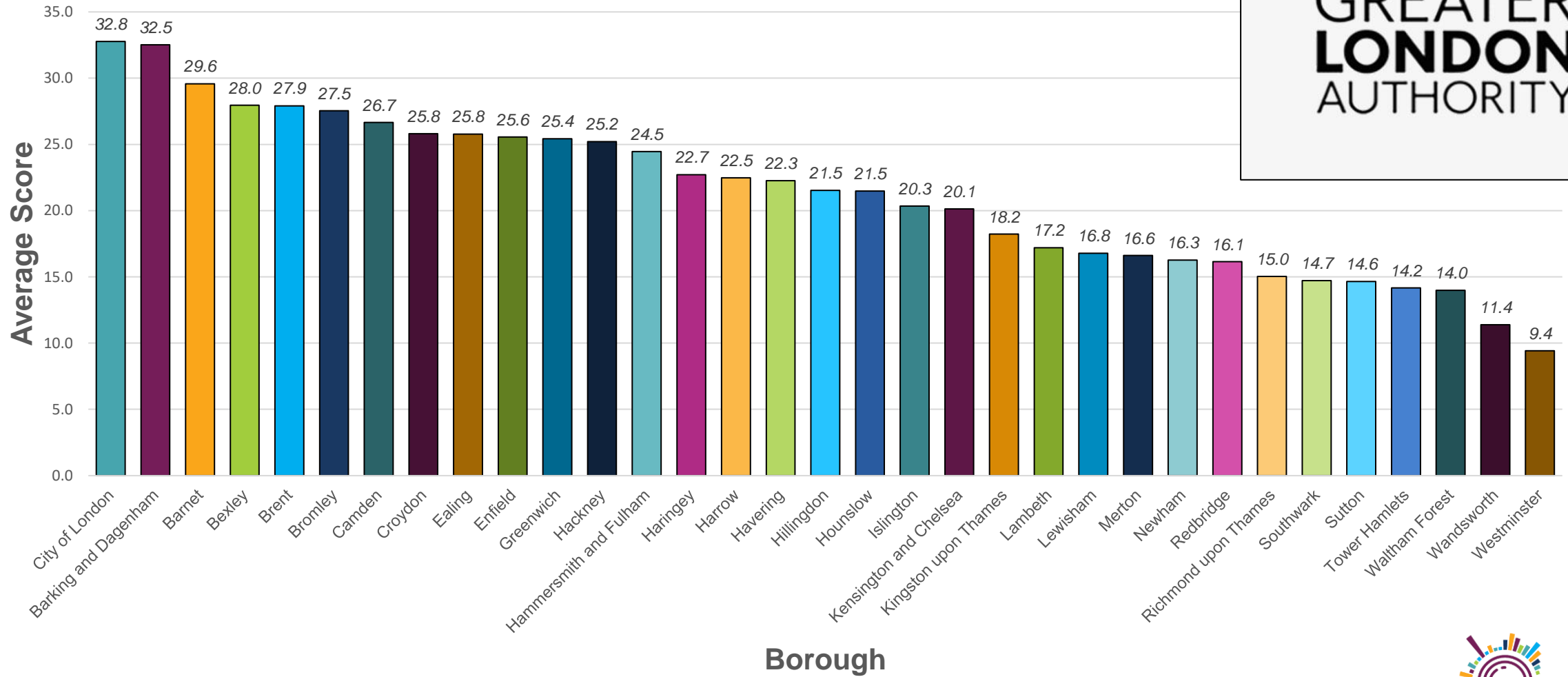
# If the average score data is confusing, compare these figures against the rank of average score for each domain



# Basic Wrangling – exploring deprivation in London



Average Score across London (IoD 2019)





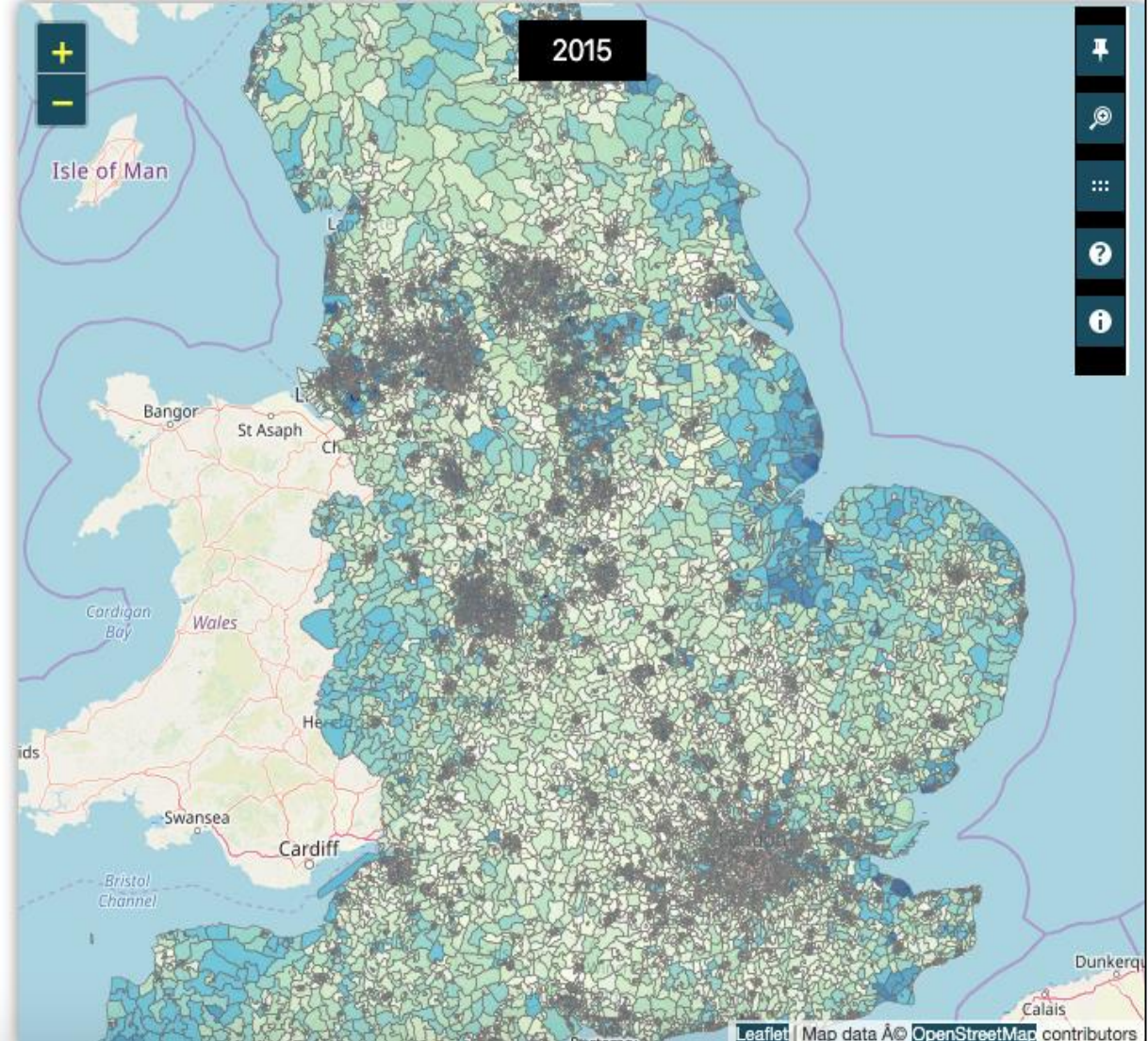
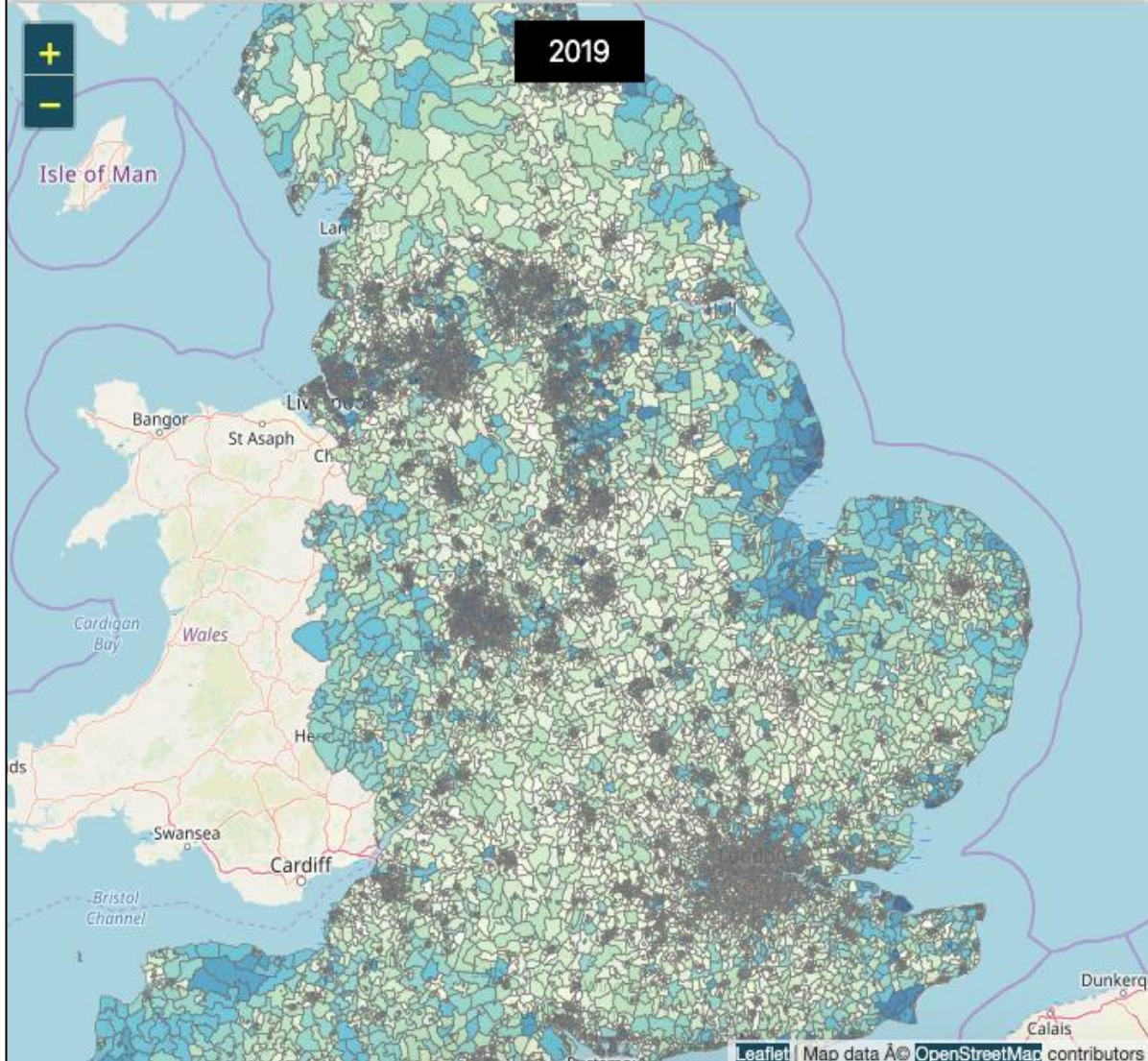
# Comparison over time

## Indices of Deprivation: 2019 and 2015

Switch domain to:  IMD

Viewing Index of Multiple Deprivation (IMD)

2019 map  On  
2015 map  On





# Ideas for a “deep dive”

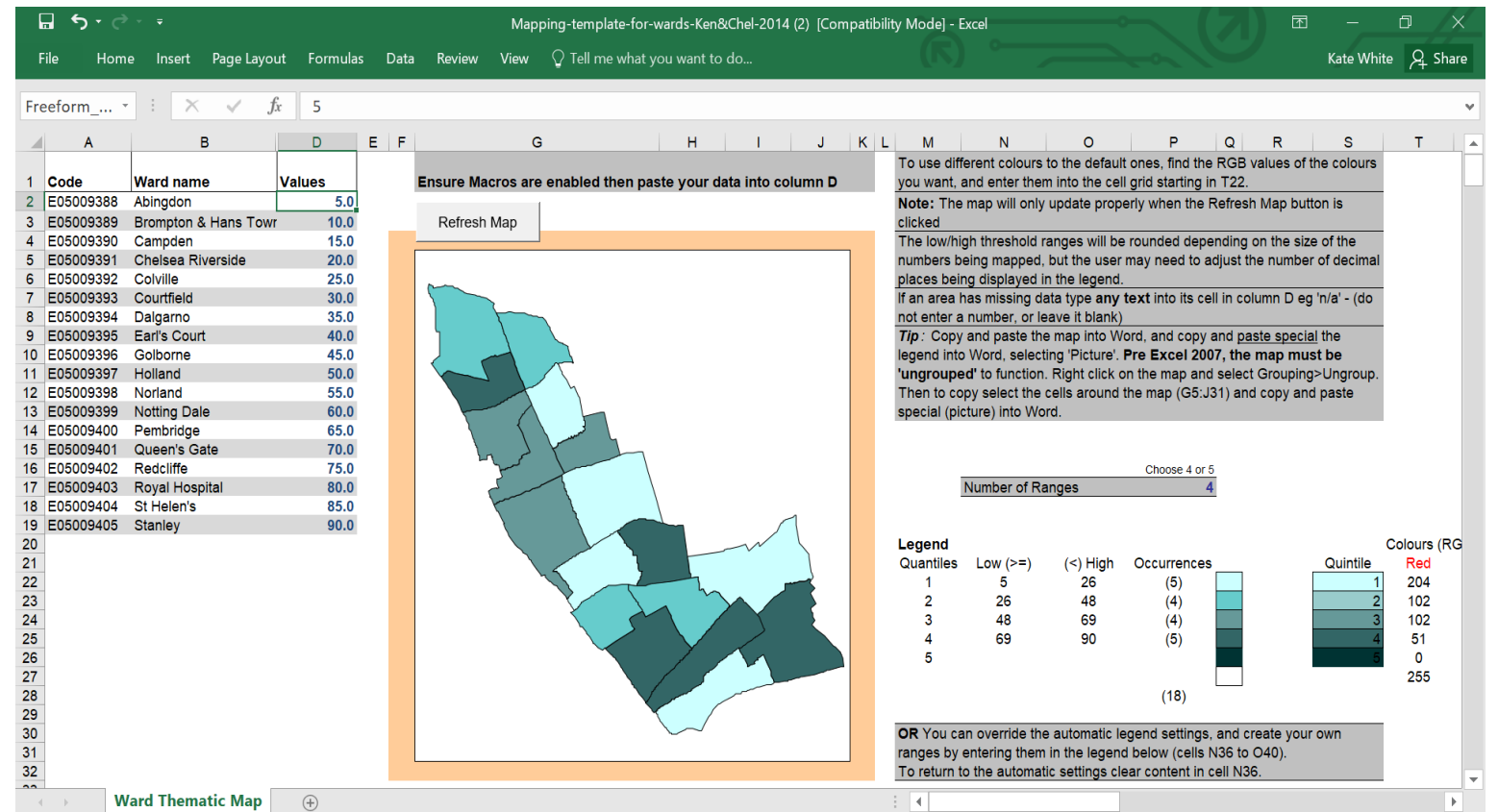
Thinking holistically with the IoD and IMD





# Working at ward or borough level

- The London Data Store provides Excel templates for each London Borough as well as for the whole of Greater London
- These are useful for simple data which are already organised by ward or borough
- <https://data.london.gov.uk/dataset/excel-mapping-template-for-london-boroughs-and-wards>



Mapping-template-for-wards-Ken&Chel-2014 (2) [Compatibility Mode] - Excel

File Home Insert Page Layout Formulas Data Review View Tell me what you want to do... Kate White Share

Freeform ... X ✓ fx 5

	A	B	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Code	Ward name	Values																
2	E05009388	Abingdon	5.0																
3	E05009389	Brompton & Hans Towr	10.0																
4	E05009390	Campden	15.0																
5	E05009391	Chelsea Riverside	20.0																
6	E05009392	Colville	25.0																
7	E05009393	Courtfield	30.0																
8	E05009394	Dalgarno	35.0																
9	E05009395	Earl's Court	40.0																
10	E05009396	Golborne	45.0																
11	E05009397	Holland	50.0																
12	E05009398	Norland	55.0																
13	E05009399	Notting Dale	60.0																
14	E05009400	Pembriidge	65.0																
15	E05009401	Queen's Gate	70.0																
16	E05009402	Redcliffe	75.0																
17	E05009403	Royal Hospital	80.0																
18	E05009404	St Helen's	85.0																
19	E05009405	Stanley	90.0																
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30																			
31																			
32																			
33																			

Ensure Macros are enabled then paste your data into column D

Refresh Map

To use different colours to the default ones, find the RGB values of the colours you want, and enter them into the cell grid starting in T22.

Note: The map will only update properly when the Refresh Map button is clicked

The low/high threshold ranges will be rounded depending on the size of the numbers being mapped, but the user may need to adjust the number of decimal places being displayed in the legend.

If an area has missing data type any text into its cell in column D eg 'n/a' - (do not enter a number, or leave it blank)

Tip: Copy and paste the map into Word, and copy and paste special the legend into Word, selecting 'Picture'. Pre Excel 2007, the map must be 'ungrouped' to function. Right click on the map and select Grouping>Ungroup. Then to copy select the cells around the map (G5:J31) and copy and paste special (picture) into Word.

Choose 4 or 5

Number of Ranges 4

Legend

Quantiles	Low (>=)	(<) High	Occurrences	Colours (RGB)
1	5	26	(5)	1 204
2	26	48	(4)	2 102
3	48	69	(4)	3 102
4	69	90	(5)	4 51
5				0 255

(18)

OR You can override the automatic legend settings, and create your own ranges by entering them in the legend below (cells N36 to O40). To return to the automatic settings clear content in cell N36.



# What are the steps to adding client data?

- ✓ Export from client database to Excel
- ✓ Incomplete data – not all addresses had generated a Ward
- ✓ Used look up sites to add Wards from post codes
  - ✓ MySociety Mapit
  - ✓ Doogal
- ✓ Use pivot tables to count numbers of clients in each Ward
- ✓ Add this data to a 2<sup>nd</sup> mapping template and override the colour code ranges
- ✓ Compare and contrast the maps



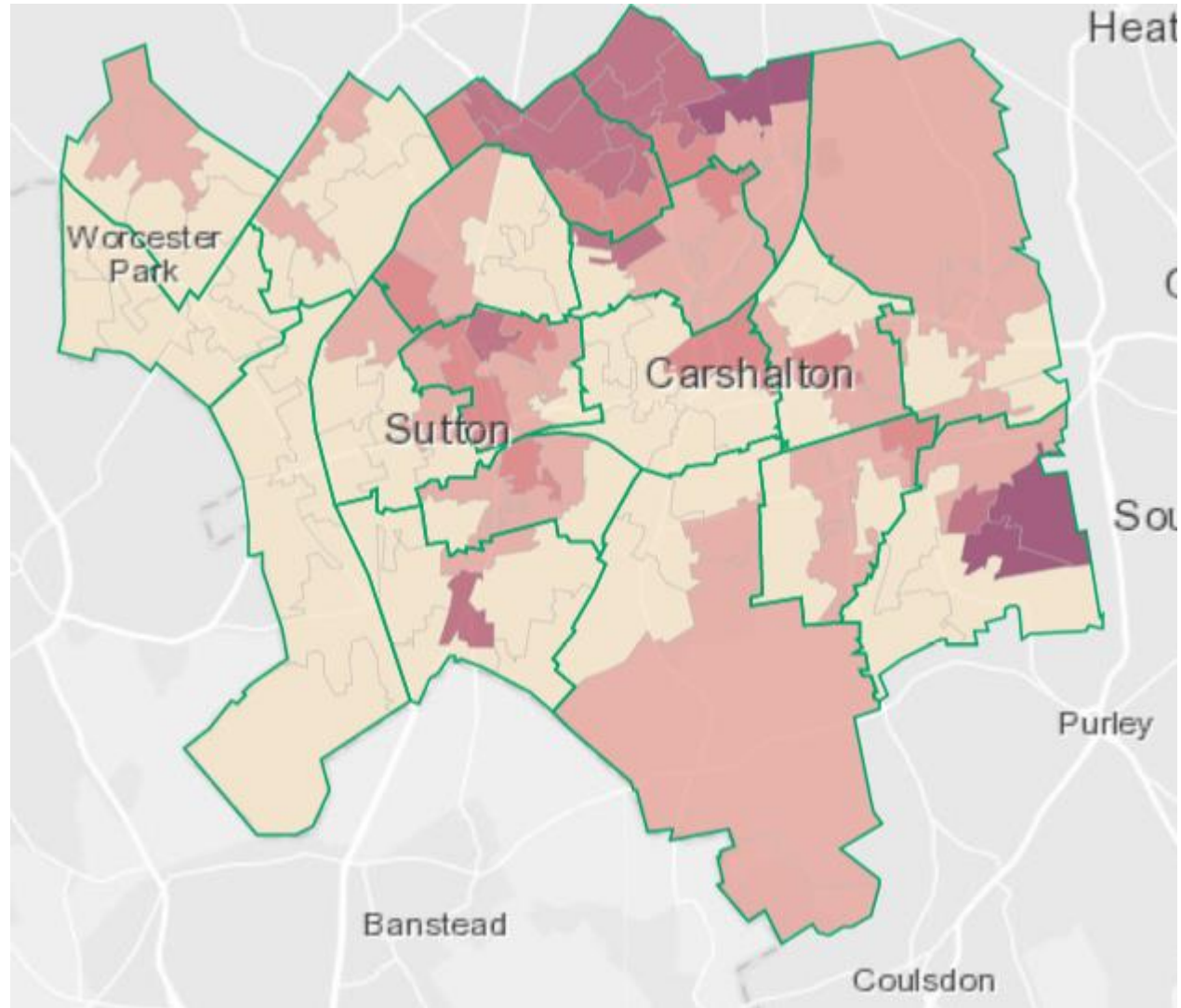
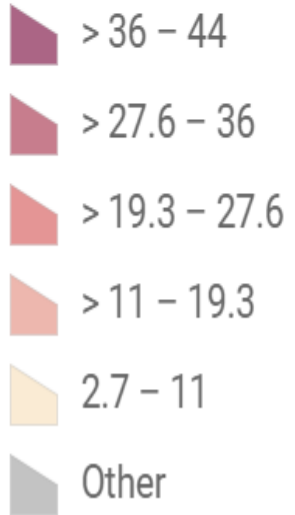
## Legend

Ward



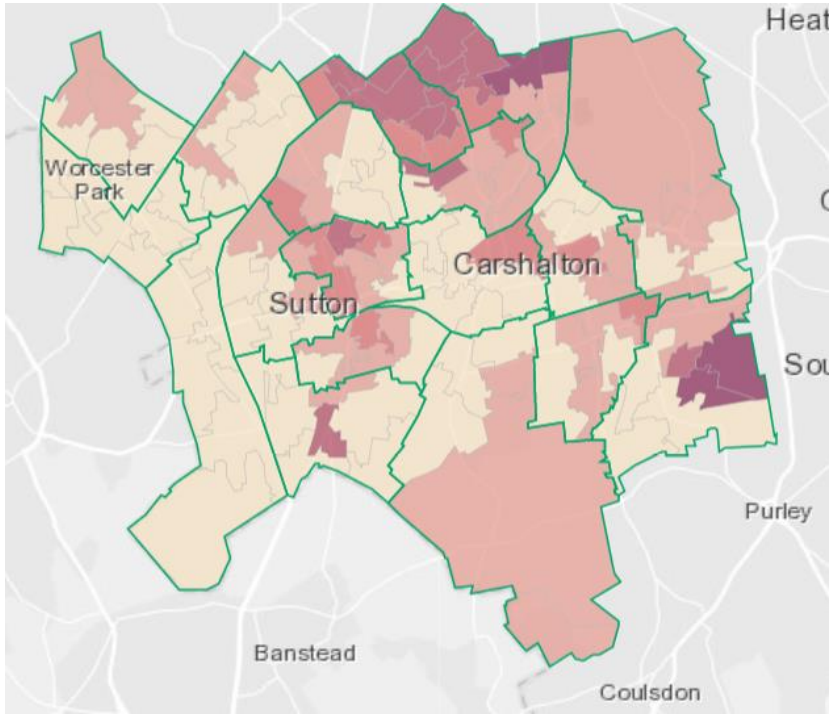
LSOA

Index of Multiple Deprivation (IMD) Score|2019



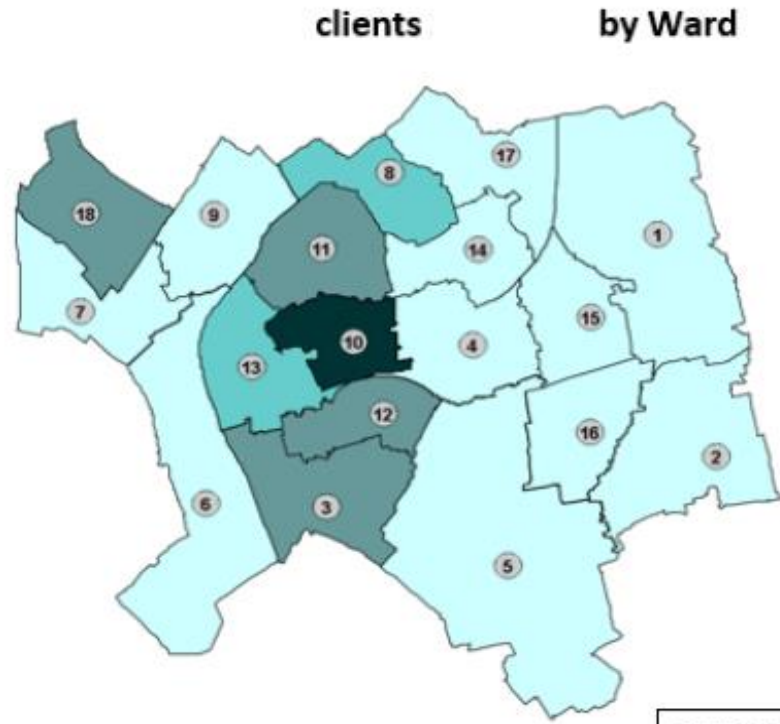
<https://data.sutton.gov.uk/deprivation/map/>





Indices of multiple deprivation

# What can you see?



Darker shades represent higher numbers of clients

Low (>=)	(<) High	Occurrences
1	5	(11)
6	10	(4)
11	15	(2)
16	20	(1)
21	25	



**WARD KEY**

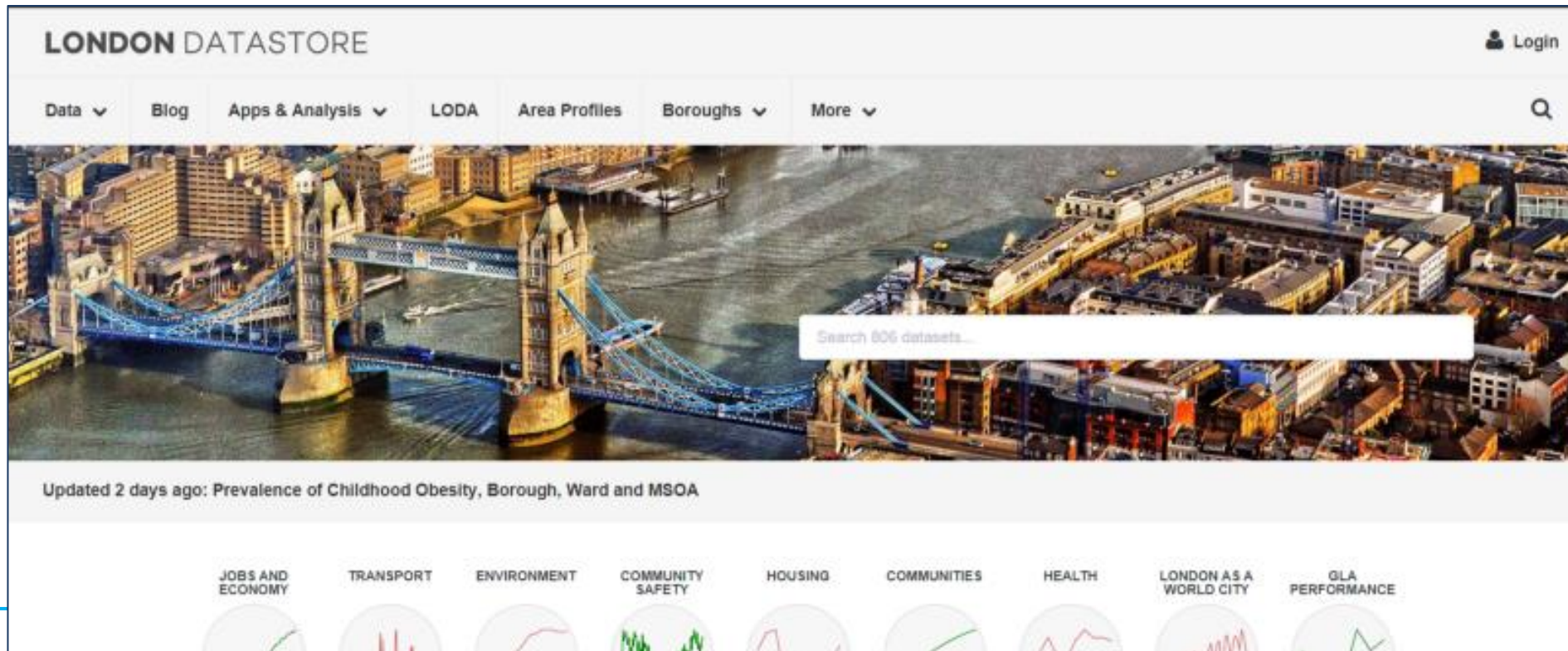
- 1 Beddington North
- 2 Beddington South
- 3 Belmont
- 4 Carshalton Central
- 5 Carshalton South and Clockhouse
- 6 Cheam
- 7 Nonsuch
- 8 St. Helier
- 9 Stonecot
- 10 Sutton Central
- 11 Sutton North
- 12 Sutton South
- 13 Sutton West
- 14 The Wrythe
- 15 Wallington North
- 16 Wallington South
- 17 Wandle Valley
- 18 Worcester Park





# London Datastore (GLA)

- ✓ Bespoke datasets customised to showcase data about Londoners
- ✓ Updated regularly with up to date figures (and archives of previous projects)
- ✓ Completely free to use
- ✓ Straightforward to access and user friendly
- ✓ Use it or lose it!!! ☹️



The screenshot shows the London Datastore website interface. At the top, the title "LONDON DATASTORE" is displayed on the left, and a "Login" button is on the right. Below the title is a navigation menu with items: "Data", "Blog", "Apps & Analysis", "LODA", "Area Profiles", "Boroughs", and "More". A search icon is located to the right of the navigation menu. The main content area features a large aerial photograph of the Tower Bridge in London. Overlaid on the bottom right of the photograph is a search bar with the text "Search 806 datasets...". Below the photograph, a text line reads "Updated 2 days ago: Prevalence of Childhood Obesity, Borough, Ward and MSOA". At the bottom of the page, there is a horizontal row of eight category icons, each with a corresponding label: "JOBS AND ECONOMY", "TRANSPORT", "ENVIRONMENT", "COMMUNITY SAFETY", "HOUSING", "COMMUNITIES", "HEALTH", "LONDON AS A WORLD CITY", and "GLA PERFORMANCE".



# A few data dive worthy datasets that can be found on the datastore...

[Browse by topic](#) or search a key phrase to find:

[Personal Wellbeing by Borough](#)

[London Borough Profiles and Atlas](#) *(for a detailed breakdown of key indicators across each borough i.e environment, housing etc)*

[Food Security in London](#)

[Cultural Infrastructure Map](#)

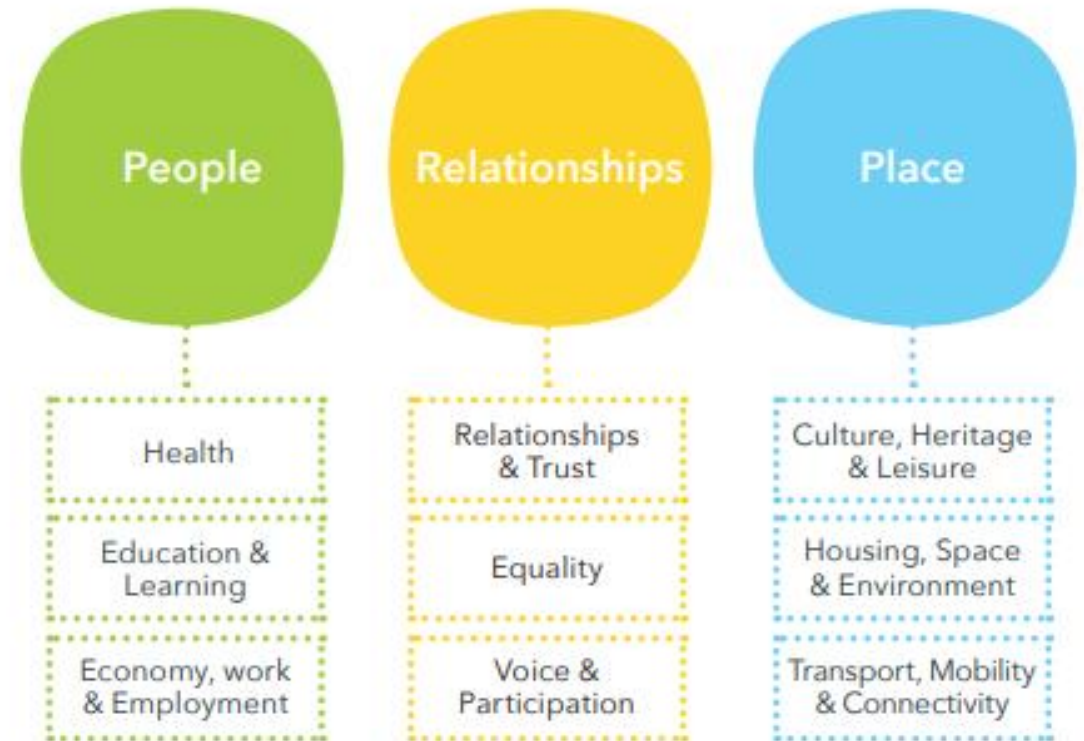
[Socio-Economic impact of COVID19](#)



# Co-Op Wellbeing Index

- ✓ Location -> <https://communitywellbeing.coop.co.uk/>
- ✓ An alternative dataset to the IoD/IMD that measures the more qualitative, and therefore often overlooked, aspects of community wellbeing.
- ✓ For more details, see [this Short Report.](#)

Our research identified nine main areas that matter for community wellbeing, which people consistently referred to across all of our community workshops. These areas are grouped into people, relationships and place:



# Revisiting Newham and Brentwood

Deprivation is not always a hallmark of “absent” community life.

Contrary to popular opinion, more deprived communities tend to be **more neighbourly** than their wealthier counterparts ([McKenzie 2017](#)... and countless others!)



Always remember that there's more to the statistics than meets the eye.





# And finally... consider using qualitative data!



# Final Thoughts

The importance of challenging the presumptions of the IoD/IMD





income crime london average wealth fast food fuel poverty household income inequality northern europe violent crime eu funding multiple deprivation gdp per sheffield obesity

what are other words for pigeonholing?

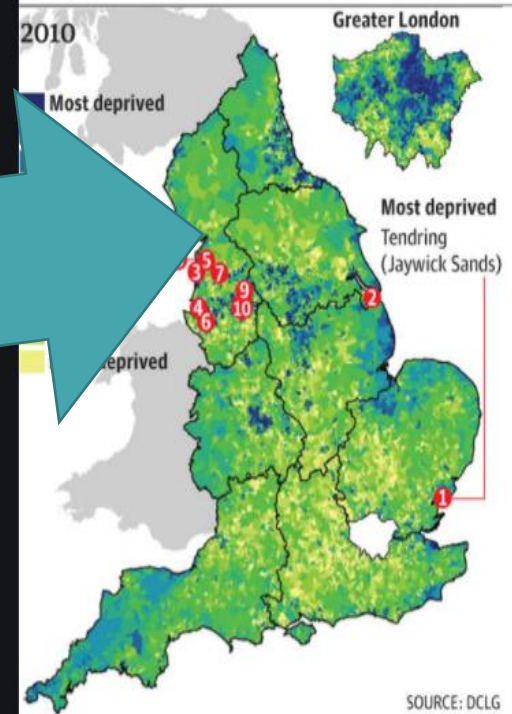
grouping, classify, classification, group, grading, sorting, pigeonhole, stereotype, stamp, categorize



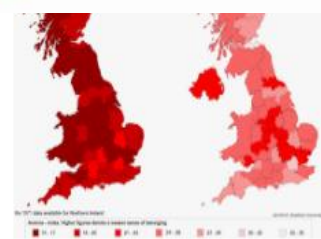
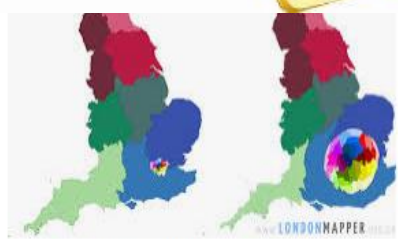
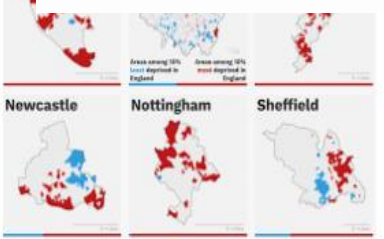
Thesaurus .plus

- 1. East of the Jaywick area of Clacton-on-Sea Tendring District
- 2. West of the Grant Thorold area of Grimsby North East Lincolnshire
- 3. West of the Revoe area Blackpool
- 4. West of the Anfield area Liverpool
- 5. East of Grange Park/West of Normoss area Blackpool
- 6. Speke area Liverpool
- 7. West of Burnley area Lancashire
- 8. South of Queenstown Blackpool
- 9. East of the Weir area Rochdale
- 10. Collyhurst area Manchester

### England's most deprived areas



- 1 East of the Jaywick area of Clacton-on-Sea Tendring District
- 2 West of the Grant Thorold area of Grimsby North East Lincolnshire
- 3 West of the Revoe area Blackpool
- 4 West of the Anfield area Liverpool
- 5 East of Grange Park/West of Normoss area Blackpool
- 6 Speke area Liverpool
- 7 West of Burnley area Lancashire
- 8 South of Queenstown Blackpool
- 9 East of the Weir area Rochdale
- 10 Collyhurst area Manchester



The Guardian

Indices of multiple deprivation: find the poorest places in England | News | thegua...

Images may be subject to copyright. Learn More

# Knowledge is power... aka the importance of citizen science



“It is the reappearance of what people notice at a local level, of these disqualified knowledges, that make critique possible” – Michel Foucault (1976)

