

An Open Data enterprise

Geolytix

Presentation on behalf of
Blair Freebairn

Prof Robert Barr OBE
Manchester Geomatics and The University of Liverpool

The SLA Public Sector Forum - 12th November 2013
Birmingham City Council



**Open Data Derived
Analytical Datasets**

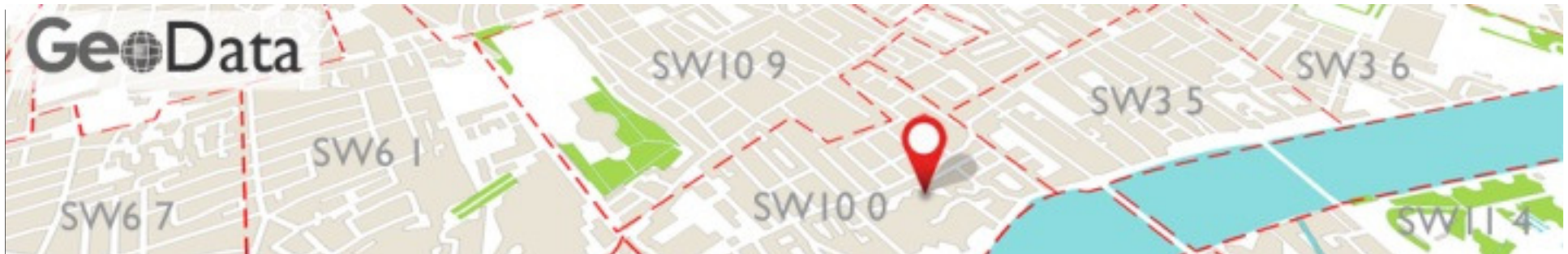


GeoLytx

- GeoLytx formed in 2011
 - Specialist data products, bespoke modelling and development services
 - Current team of five
 - Blair Freebairn
 - Head of UK analytics team at Pitney Bowes, building models for UK retailers for 15 years
 - Sarah Hitchcock
 - Head of Sainsbury's Location planning team, worked across analytic & location planning
 - Neil Farricker
 - Modeller for the Co-op, senior modeller for Pitney Bowes
 - Since 2011 focus has been on site research for retailers, particularly grocers. Looking to expand over next few years.

Our Open Data Business Model

- All datasets based on Open Data
 - Avoid complicated licensing
 - Keep costs down so pricing is competitive
 - Often the best data available
- Charge for value-add analysis rather than the data itself
- Price points aimed at a level where it would cost you more to do the processing
- Our Open Data Vision – we released Open Data ourselves
- Our aim is to keep pricing and licensing as simple and transparent as possible



A brief intermission....

Robert Barr

The Open Data Landscape

- Information Commissioner's Office
 - Data Protection
 - Freedom Of Information
- APPSI (OPSI)
 - The Advisory Panel on Public Sector Information
 - The Office of Public Sector Information
 - The National Archives – Ministry of justice

The Open Data Landscape

- Open Data White Paper
 - Transparency Board
 - Open Data User Group
 - Open Data Institute
- Representative organisations
 - e.g. Association for Geographic Information
- Added Value Open Data enterprises
 - Elgin
 - Geolytix
 - Registry Trust

The Open Data Landscape

- Open Data Volunteers
 - Volunteered Geographic Information
 - e.g. Open Street Map
- Open Big Data
 - Social Media Feeds e.g.
 - Geo-referenced Twitter posts

The Open Data economy

- Closed data
 - Exists but no one other than owners allowed to use it
 - Personal Data
- Walled Garden
 - e.g. PSMA
- 'Open' Data
 - Available from monopoly supplier at their selected price point or 'what the market will bear'
 - Available from monopoly supplier

The Open Data economy

- Open data competitive market
 - Raw data freely available
 - Value added available free or charged
- 'Open' Data
 - Share alike
 - No commercial use

The Open Data economy

- 'Open' Data
 - Attribution restrictions
- OPEN DATA
 - public domain
 - as is
 - Just use it!

An Open Data Timeline

- 1979 Rayner Review
To create an (internal) market in
Government Information
- 1980s Tradable Information Initiative
- 1990s Trading Funds
- 2000 Crown Copyright Review
- 2009 Ordnance Survey Open Data
- 2011 Open Data White Paper

Open Data White Paper

Unleashing the Potential

#opendata

@uktransparency

@cabinetofficeuk

And back to Geolytix....

Blair Freebairn

.csv .tab .txt
.shp .xls .json
.mdb .xml .htm
.kml .sav .dxf
.spss .doc .gdb
.pdf .rar .zip
.gz .bak .html
.sas .rtf

“ | ‘ ^ % * : ;

OSGB WGS84
Irish Grid

slivers, gaps, dangles, overshoots,
doubles, spikes, bowties, edge
matching, unclosed polygons,
self intersects, node orders,
overlaps, missing links, missing
nodes, attribute errors

Business Universe
Companies House

Retail Places Points
Retail Places Boundaries
Retail Places Street View
Retail Places Pitch

Major Sprawls
Small Sprawls
Locales

Standard Gazetteer
Transport Gazetteer
GeoLytx Places

House Prices
Listed Buildings

Hospitals
Heritage Sites
Police Stations
Place of Worship
Sport/Leisure Site
University & FE Colleges
Sport Stadia
Post Offices
Post Box
Schools

Cartogram - Output Area
Cartogram - Parliamentary
Cartogram - Postal District
Cartogram - County
Cartogram - Sea
Cartogram - Land
Cartogram - Motorway
Cartogram - Sprawls

Output Area
Wards
Output Area Point
Lower Super Output Area
Middle Super Output Area
Local Government Boundaries
Best-fit 'Traditional' Counties
Regions
Education/Health/Police

Codepoint Open
Postal Area Regions & Points
Postal District Regions & Points
Postal Sectors Regions & Points
Voronoi Postal Sector Regions
Out of Sector' postcodes
Non-Geographic Sectors

OAC 2001
OAC 2013
Census 2001 Base Pack
Census 2011 Base Pack
Census 2011 Full Pack

Coastline
Foreshore
Sea
Land
Beach

Woodland
Buildings

OS 100km Grid
OS 10km Grid
OS Variable Grid
Vector Map District
Street View
1:250K
Miniscale

Open Water
50m Contours
River Line
10m Contours
Summits

Motorway Junction Points
Motorway Service Areas
Car Parks
Roundabouts
Traffic Count Points
Traffic Count Network
Accident Points

Motorway
Primary
A Road
B Road
Minor Road
Local Street
Private Road
Pedestrianised Road
Routable Network

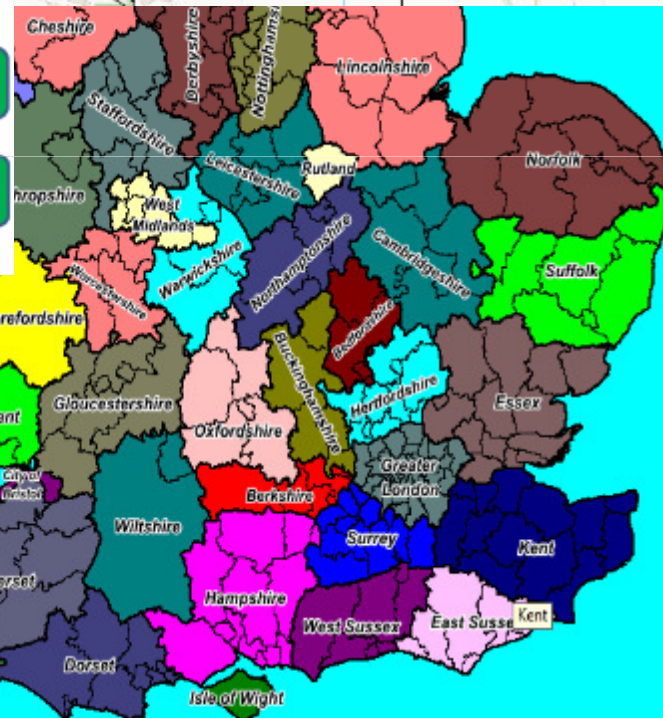
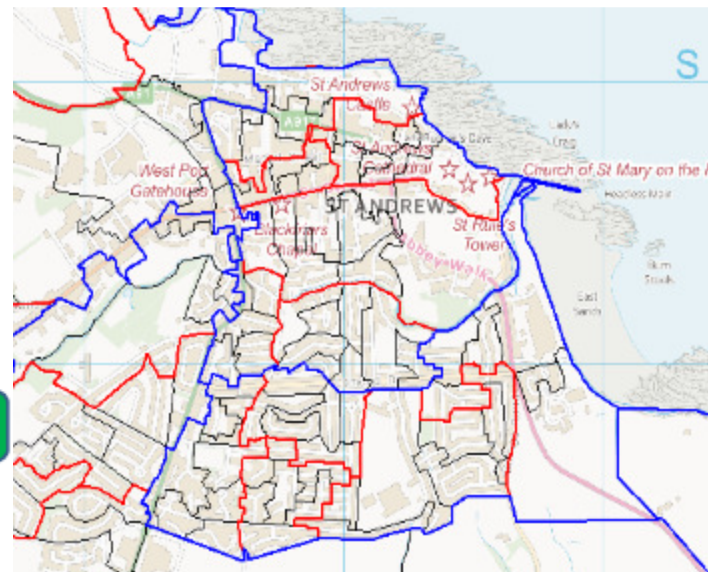
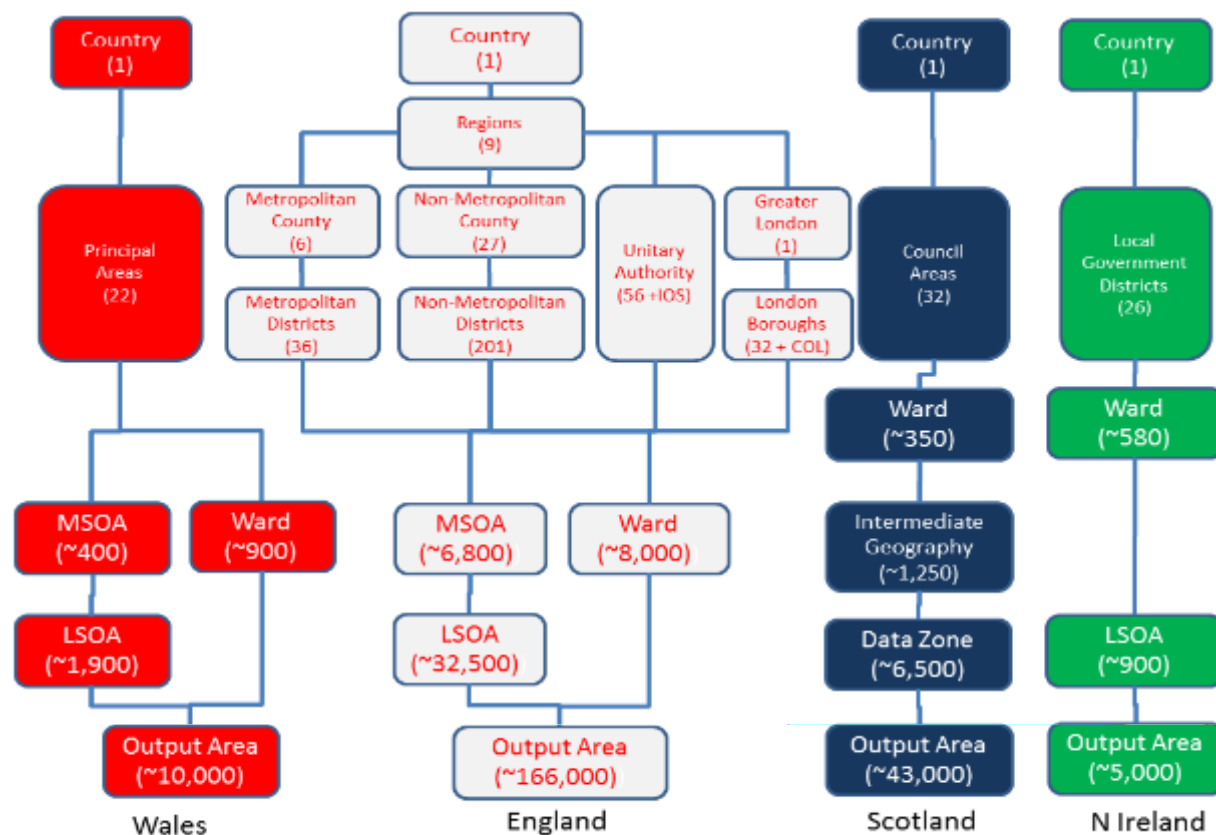
Rail Lines
Rail Stations
Non National Rail Stations
Underground Stations
Airports
Electricity Transmission Lines
Coach Hubs
Ferry Ports
Light Rail Stations
Bus Stops
Metro Access Points
Rail Stations Volumes
Underground Stations Volumes

Data Inventory

1. Retail Places
2. Sprawls and Locales
3. Public Transport
4. Admin Boundaries
5. Postal Boundaries
6. Physical Geography
7. Land Use
8. Property Data including Prices
9. Business Data
10. Demographics
11. Health Points of Interest (POI)
12. Education Points of Interest (POI)
13. Law and Order Points of Interest (POI)
14. General Points of Interest (POI)
15. Demand Estimates
16. UK Expenditure Cartogram
17. Road Network for Routing
18. Detailed Road Network & Road Points of Interest
19. Map back clothes
20. Road Volumes, Speeds and Accidents

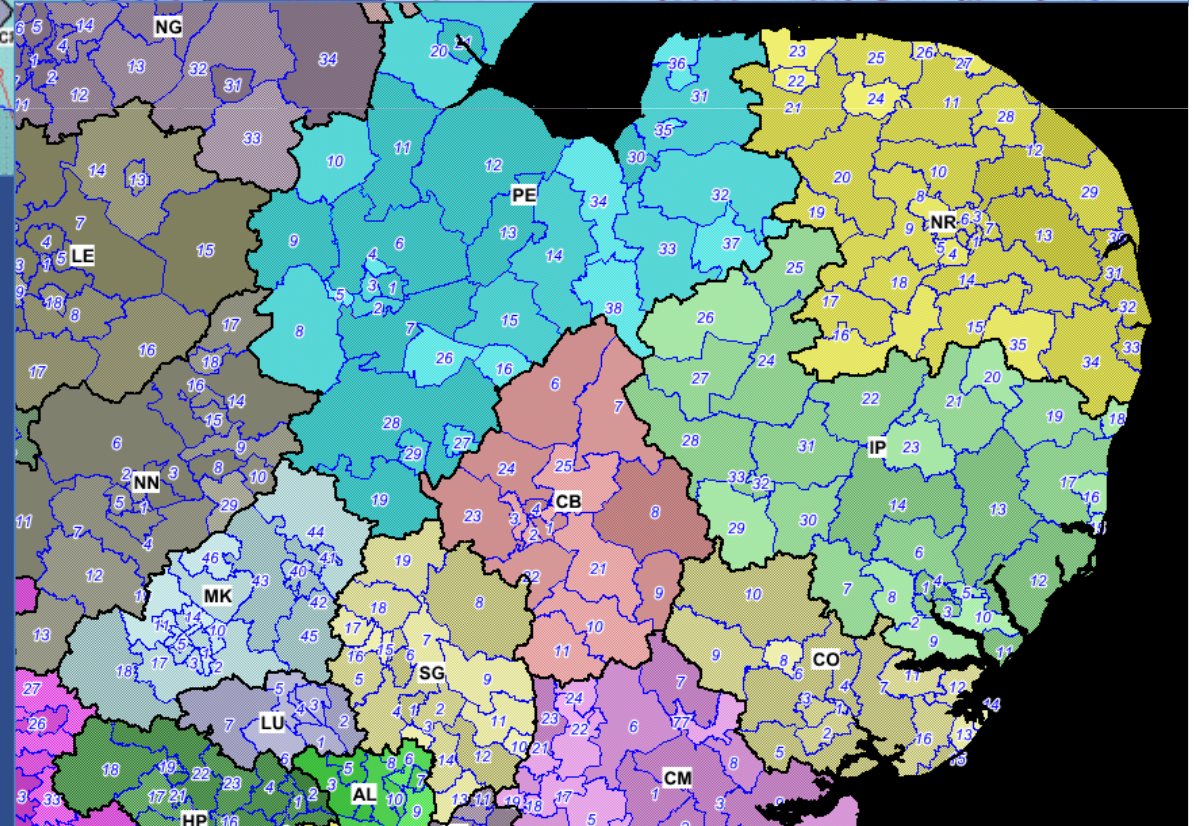
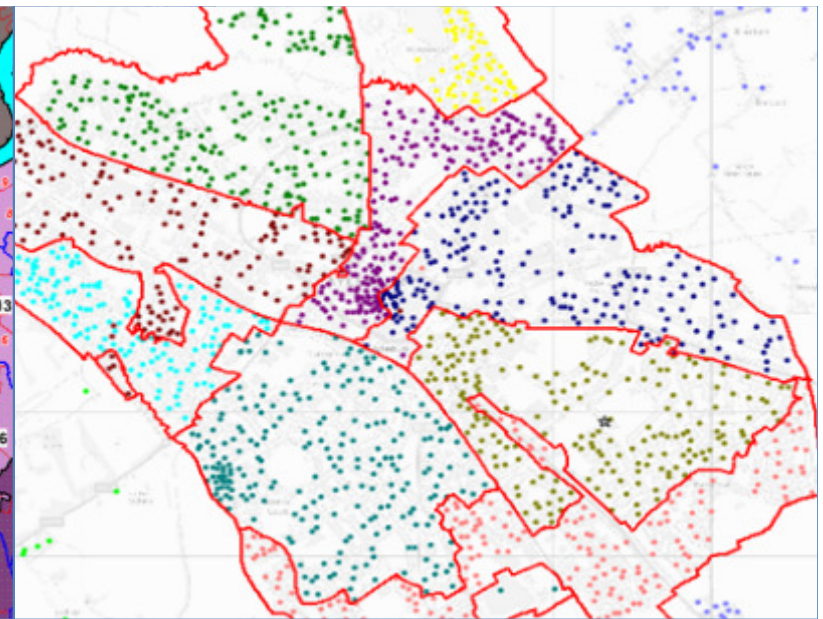
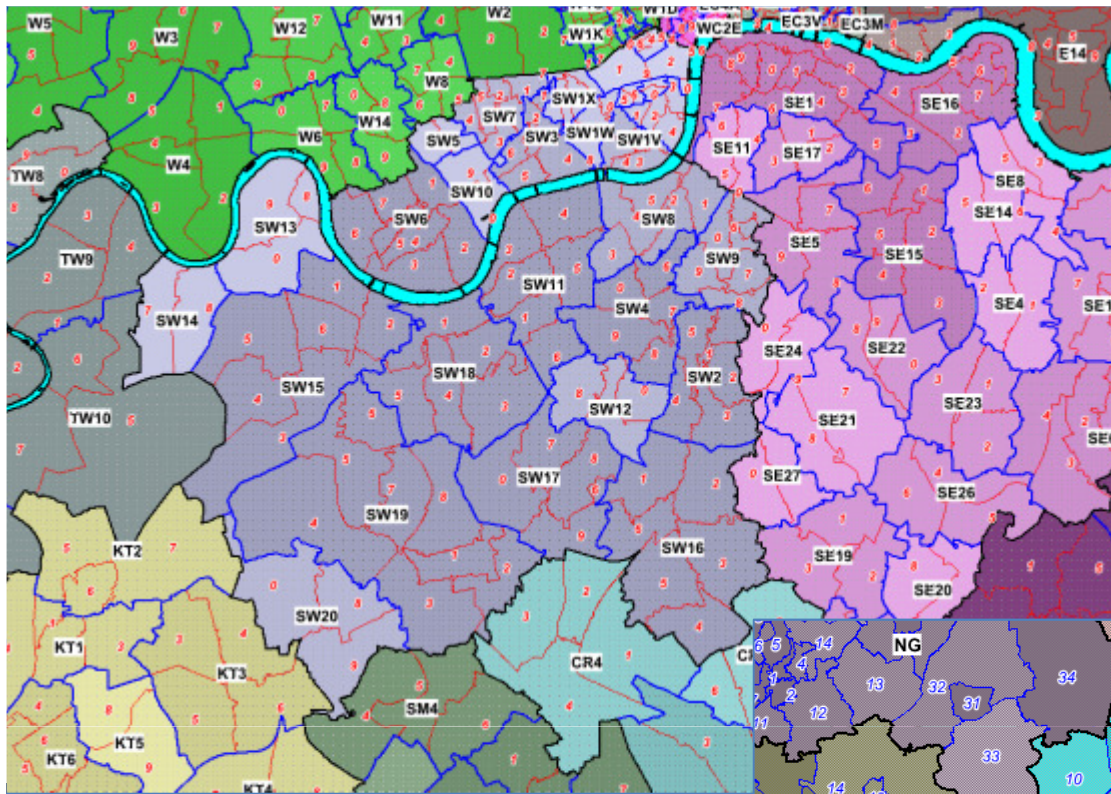
Benefits

- Full data in your hands to exploit as you see fit
- Standards enforced throughout
- Official URI's to allow linking to external sources
- Built using the latest 2013 source data
- Full documentation including data dictionaries
- Rolling updates and enhancements
- Minimal restrictions on use cases



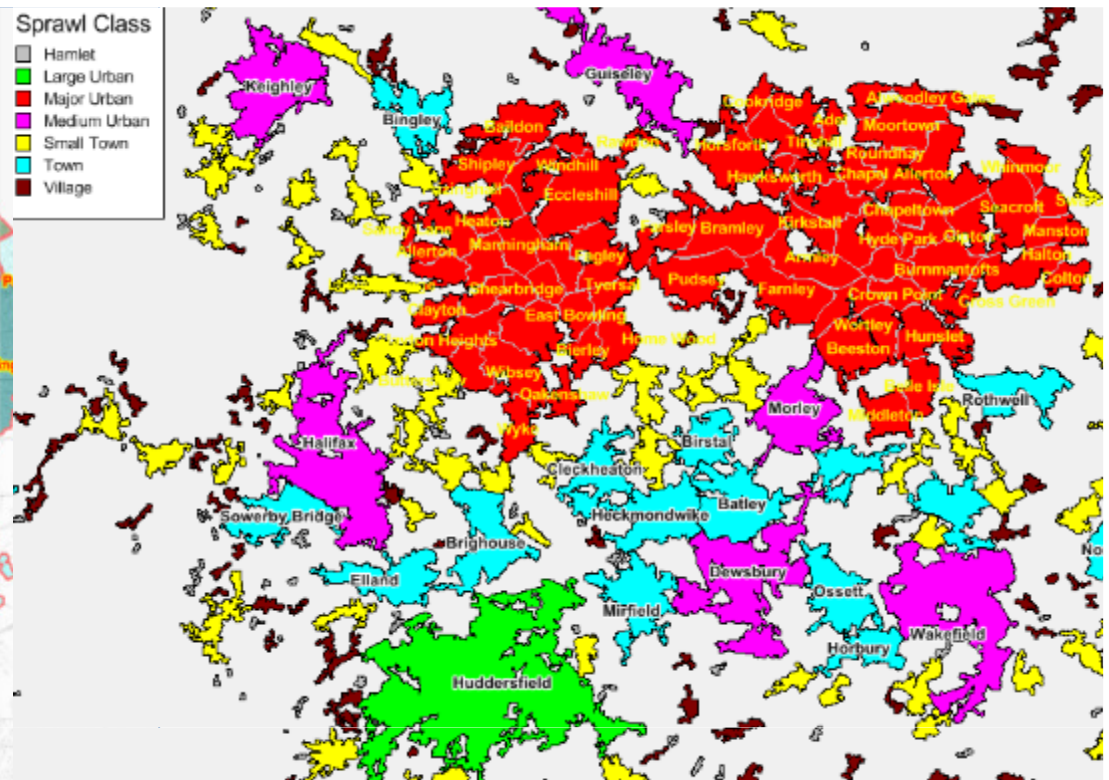
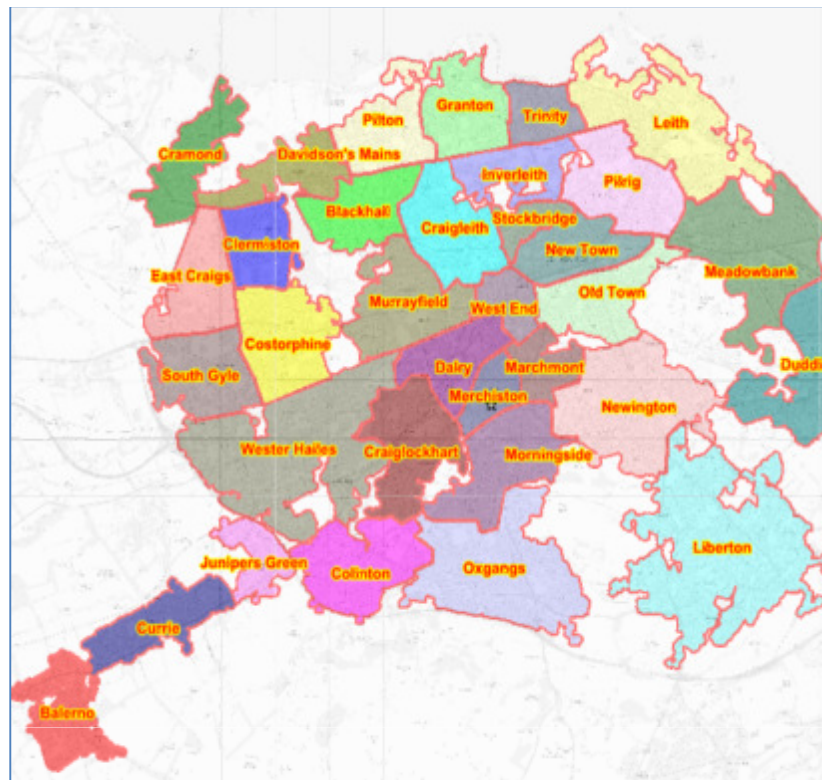
Admin Boundaries

All of the UK's administrative boundaries in one single consistent package. Includes all police, health, fire, EU zones, Regions, constituencies, wards and statistical geographies. The core framework which all national statistics are published within.



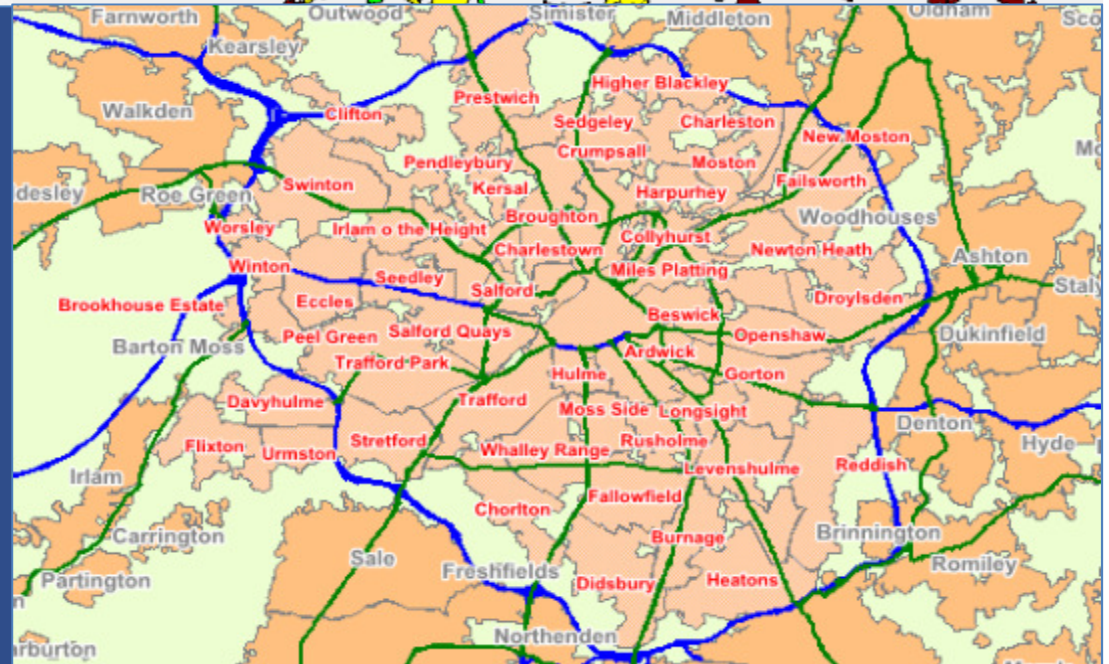
Postal Boundaries

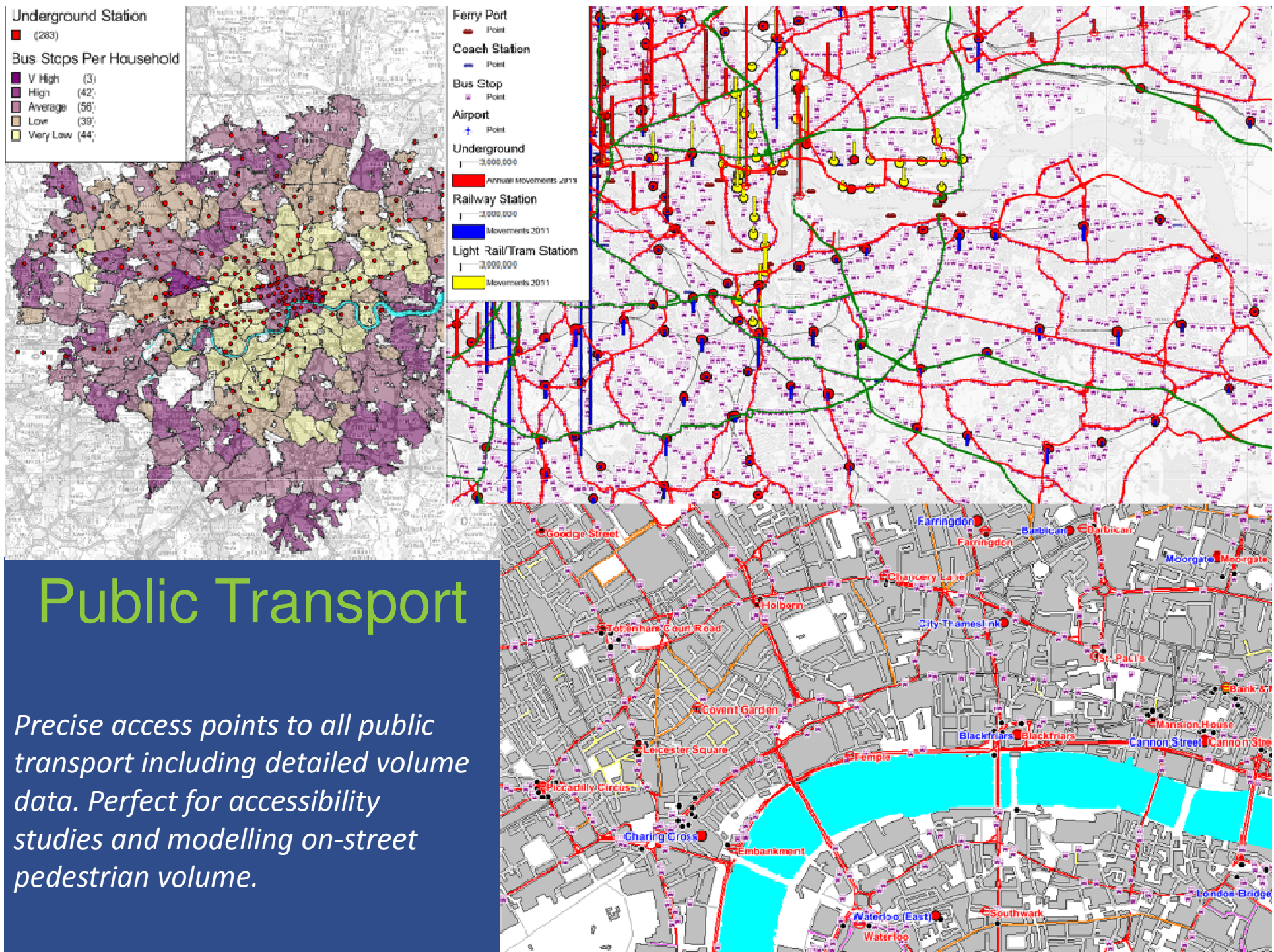
High resolution postal boundaries combining exceptional 'enclosure' accuracy with boundaries that follow real-world features.

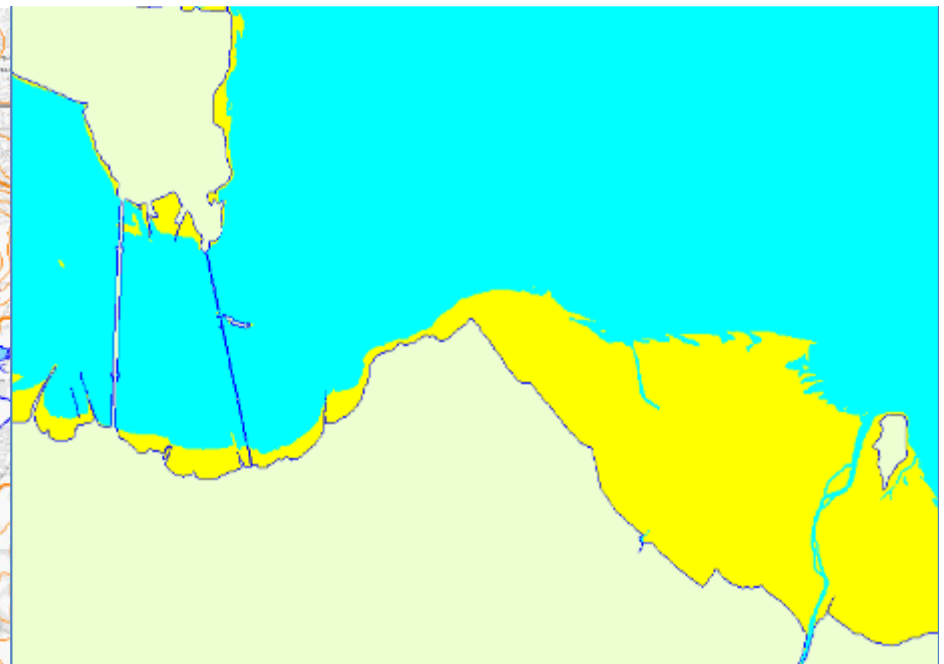
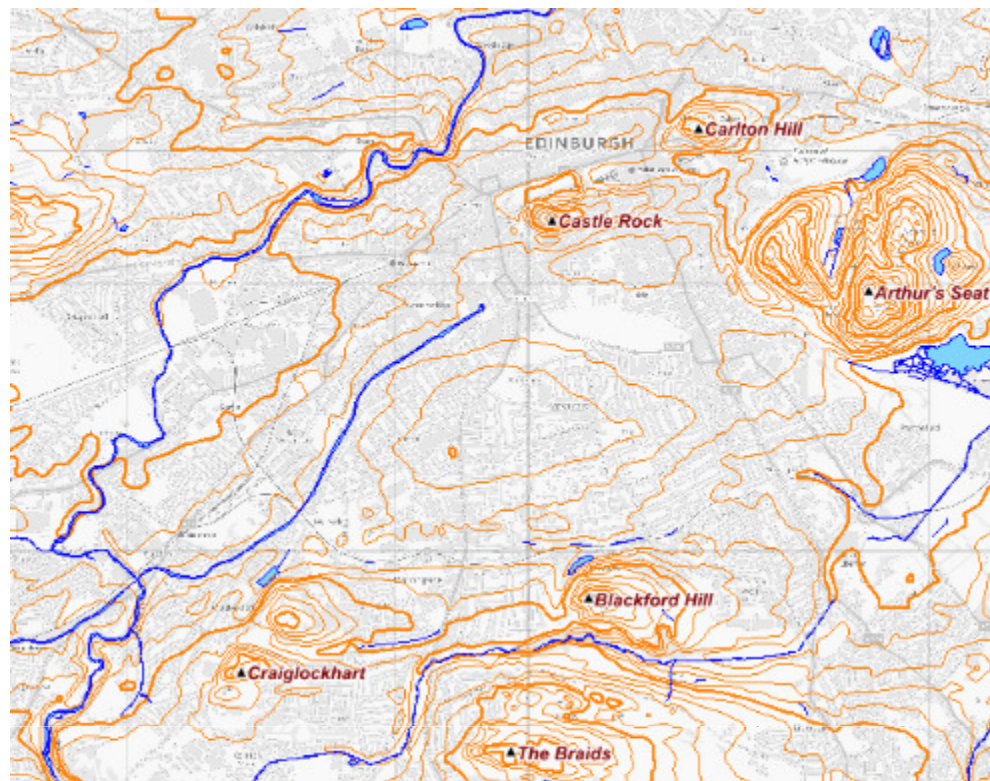


Sprawls and Suburbs

A precise and intuitive set of named 'places' across the UK richly attributed with data. Ideal base for UK wide analytics and benchmarking

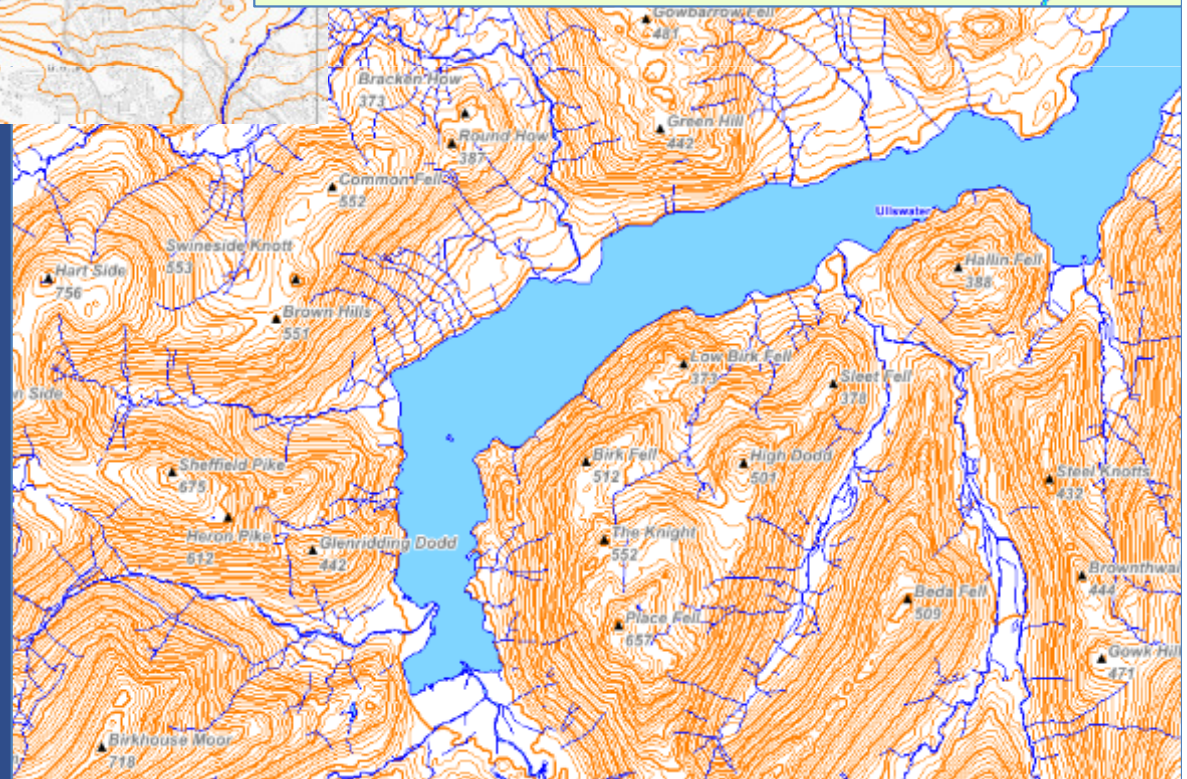






Physical Geography

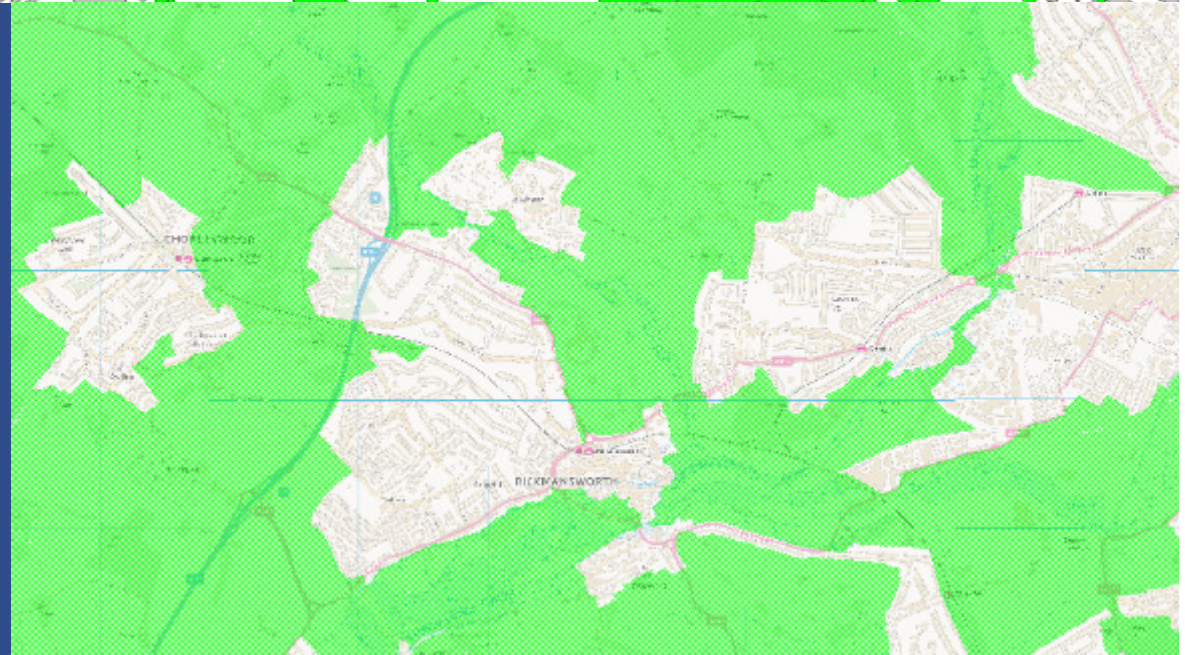
*High resolution coastlines,
hydrology, contours and summits.
Key input to classic outdoor maps.*

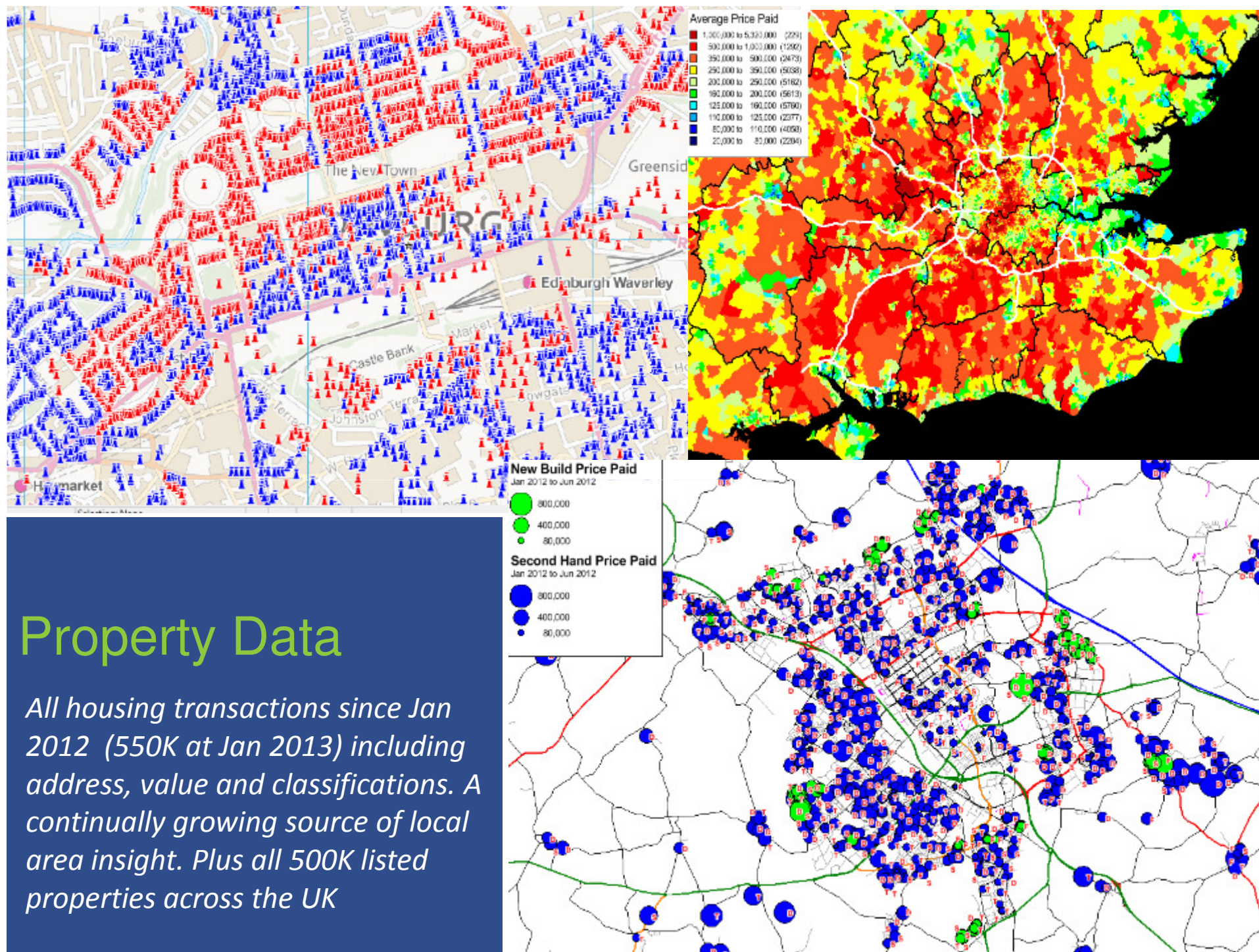




Land Use

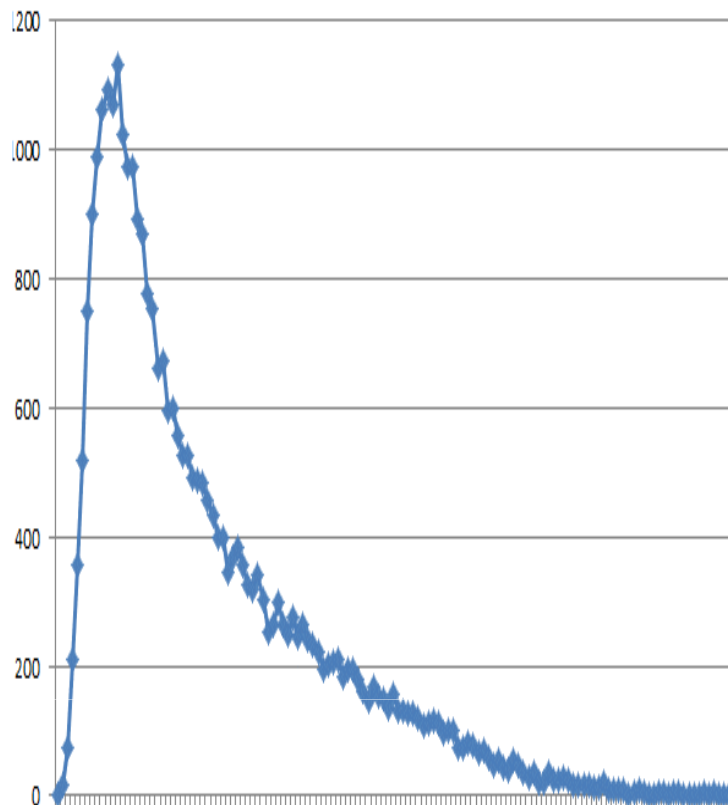
Generalised building outlines and woodlands. Includes national parks, and official Green Belt boundaries.





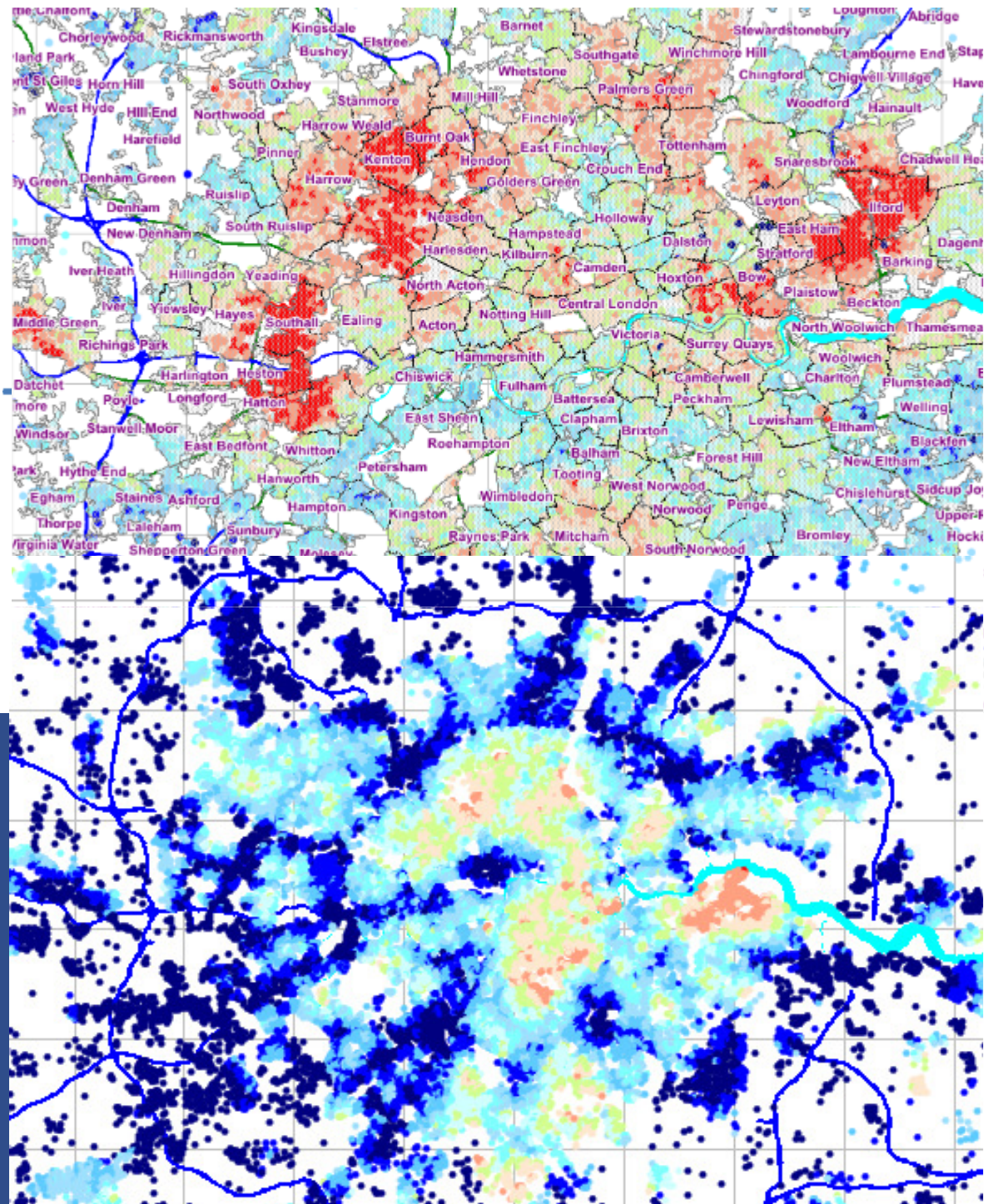
Property Data

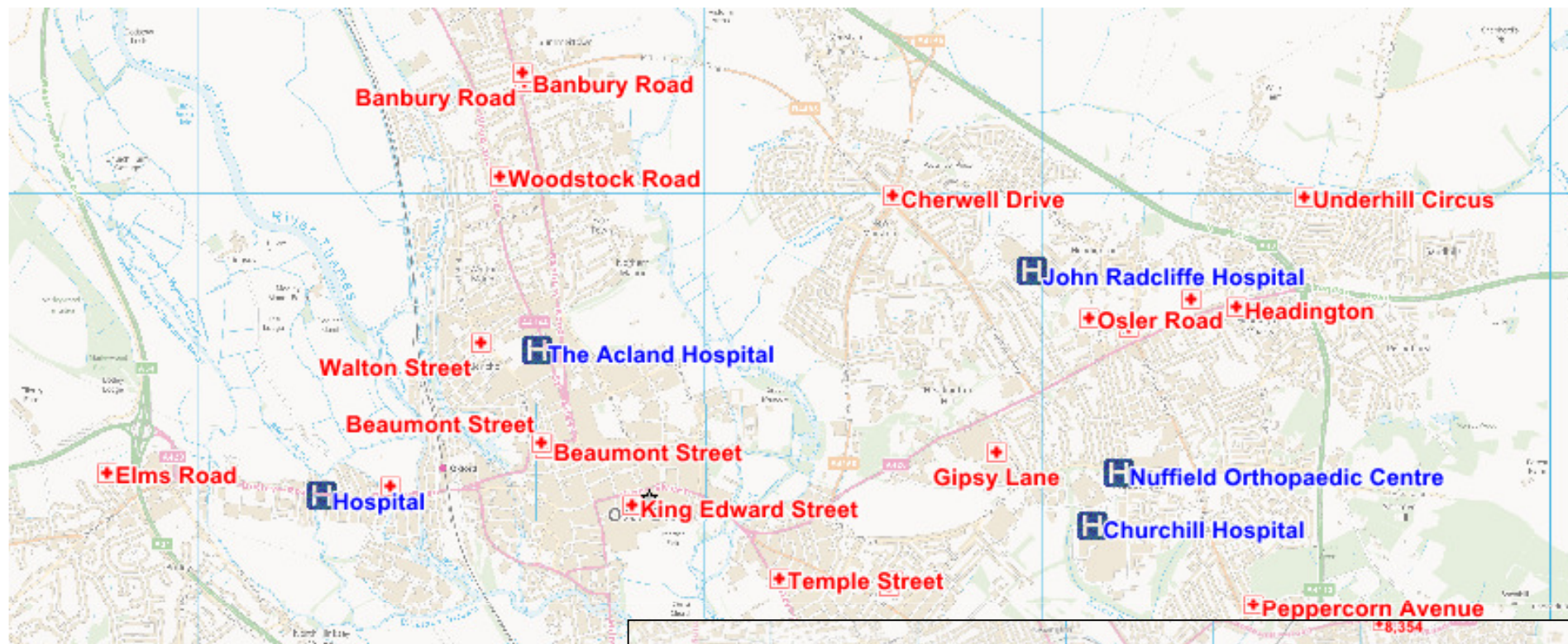
All housing transactions since Jan 2012 (550K at Jan 2013) including address, value and classifications. A continually growing source of local area insight. Plus all 500K listed properties across the UK



Demographics

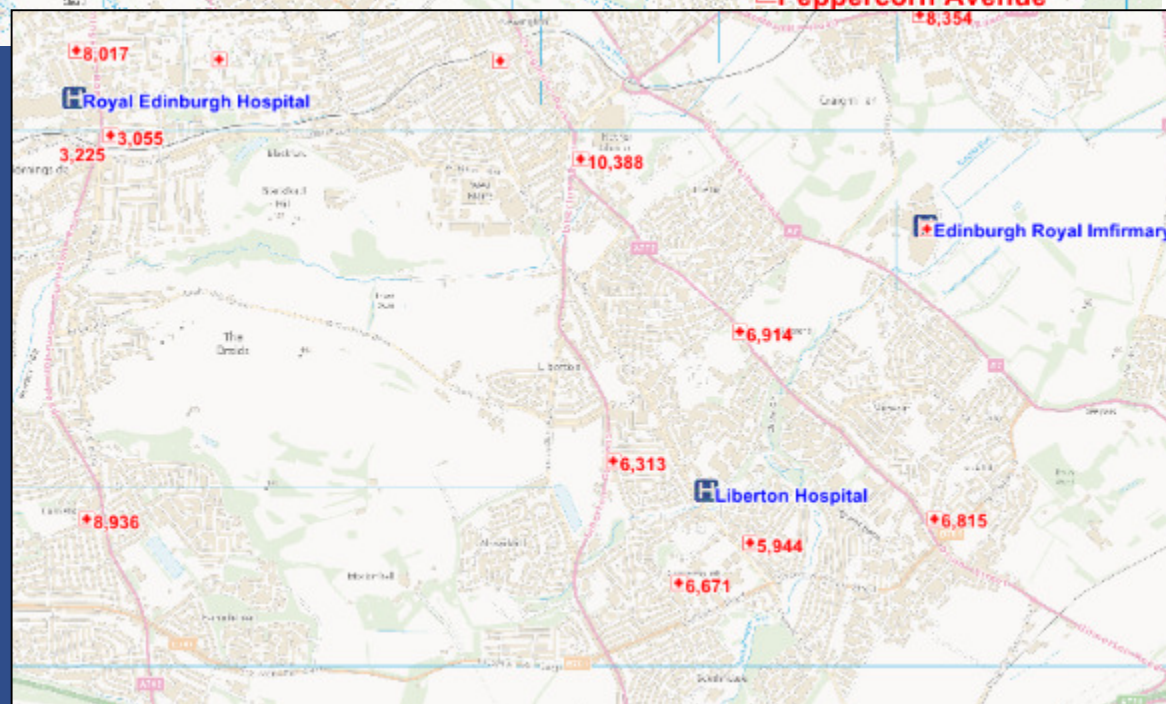
Core 2001 and 2011 Census data. Income and wealth estimates. Life-stage, ethnicity, health. Geo-demographic codes and household characteristics.

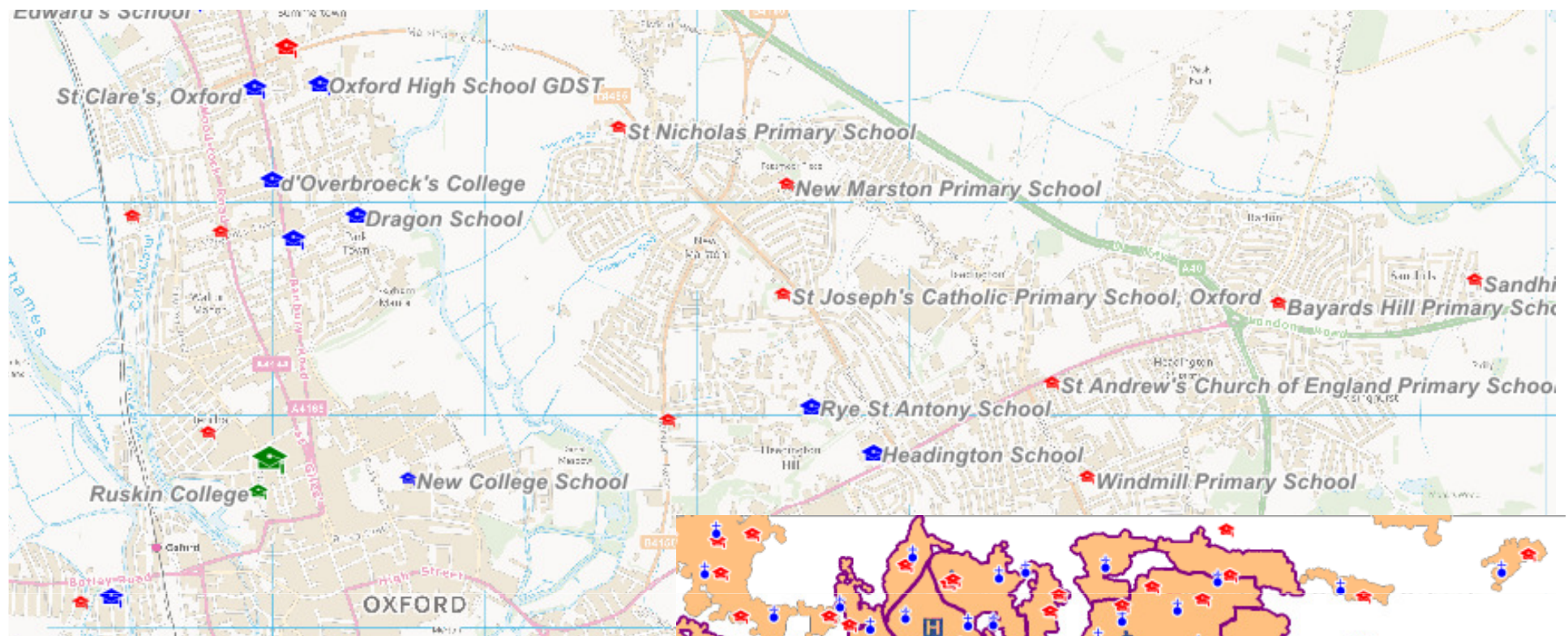




Health POI

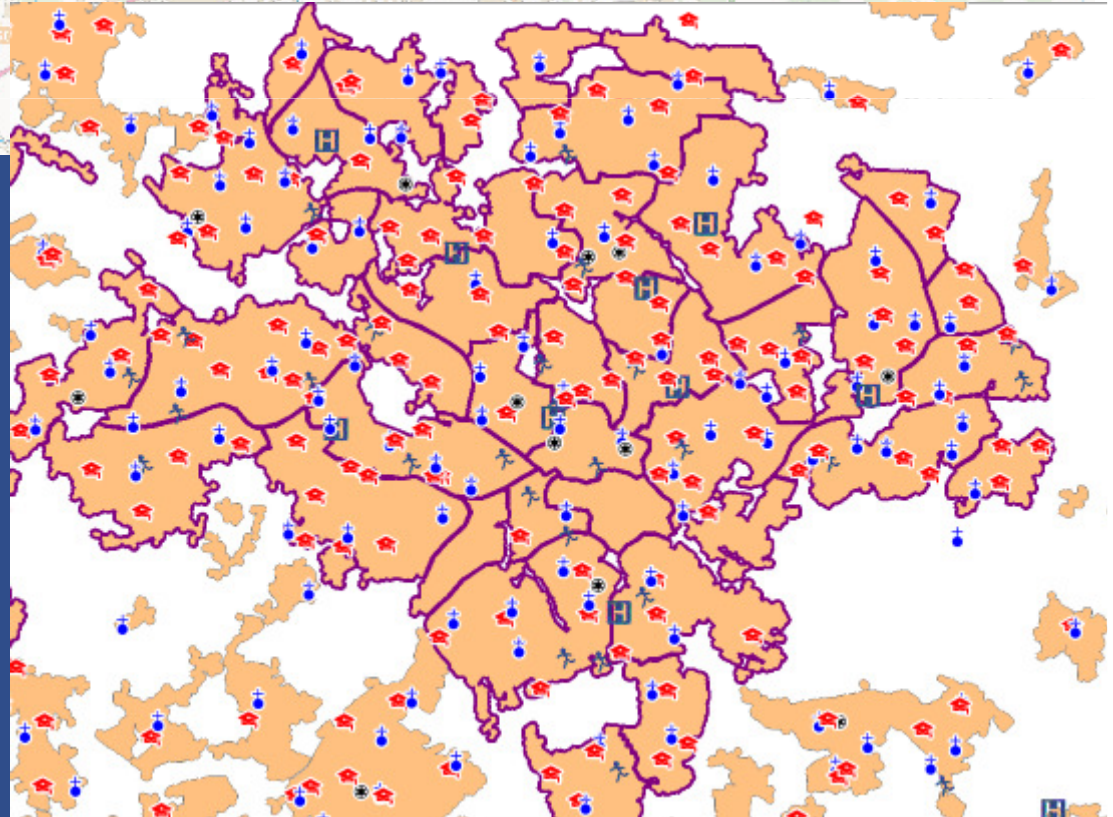
*GP Surgeries and Hospitals.
Includes some practise size
and linkable to detailed
prescribing data*





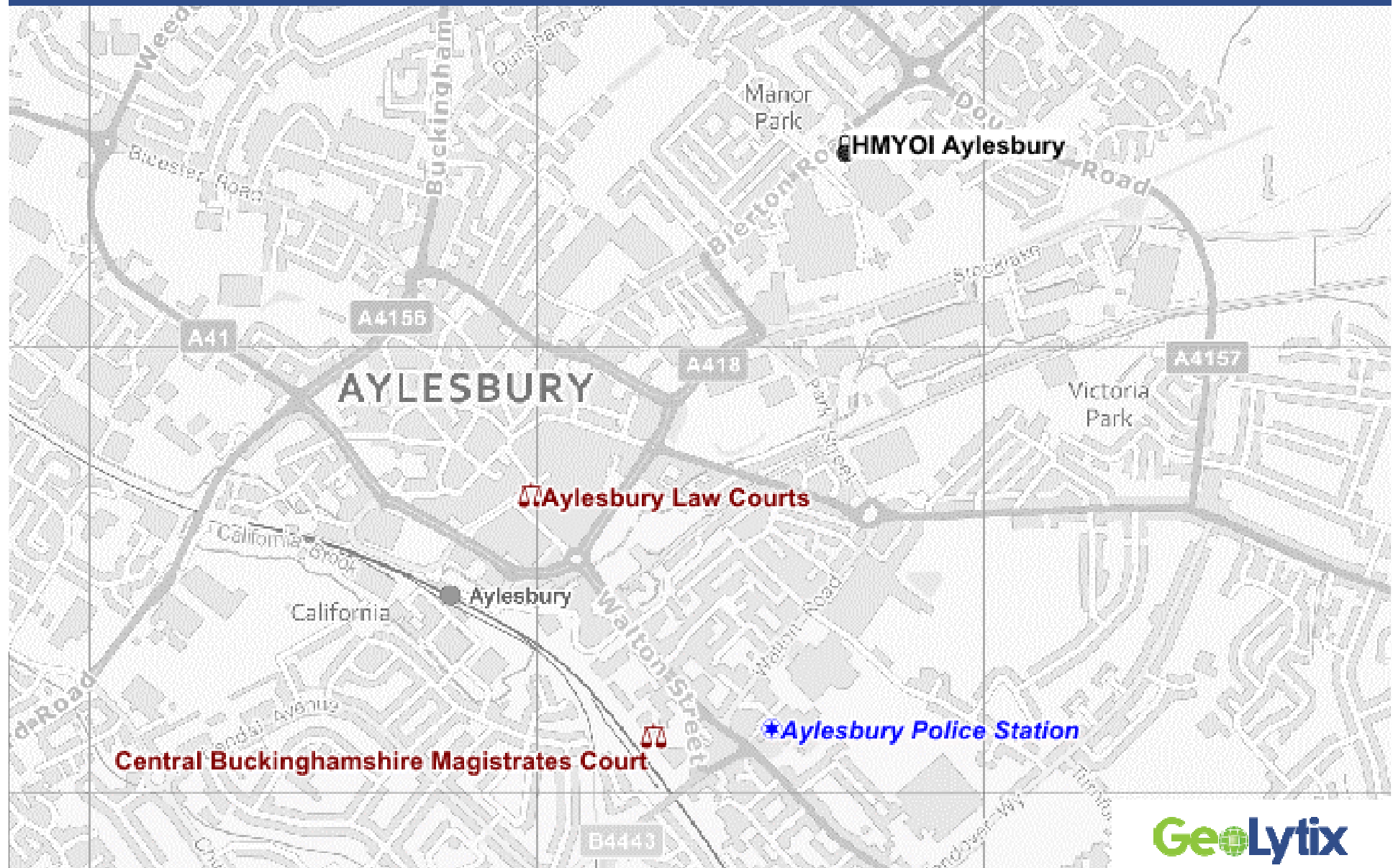
Education POI

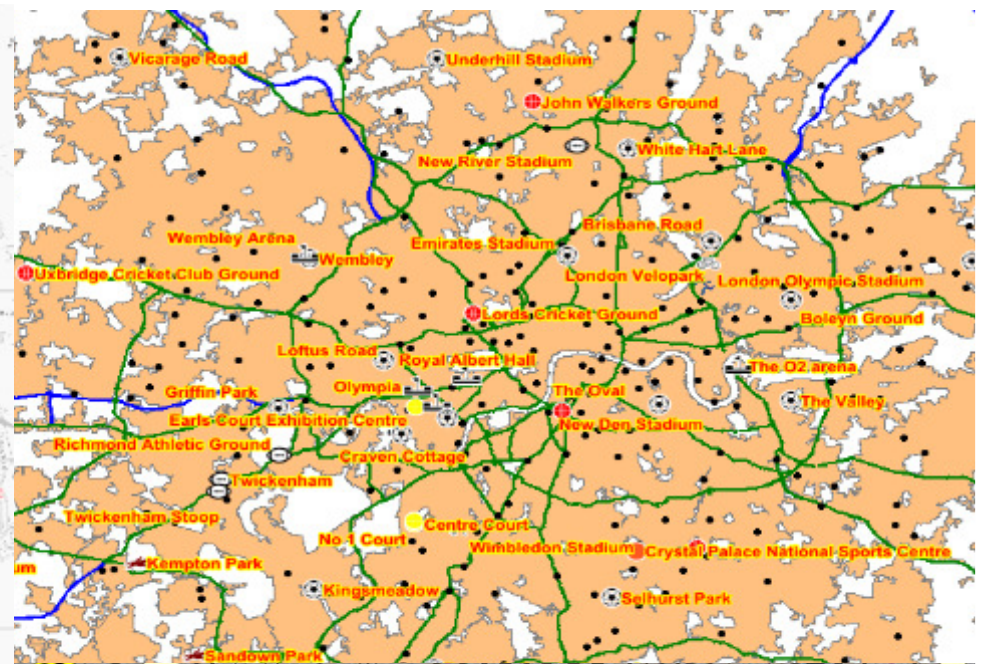
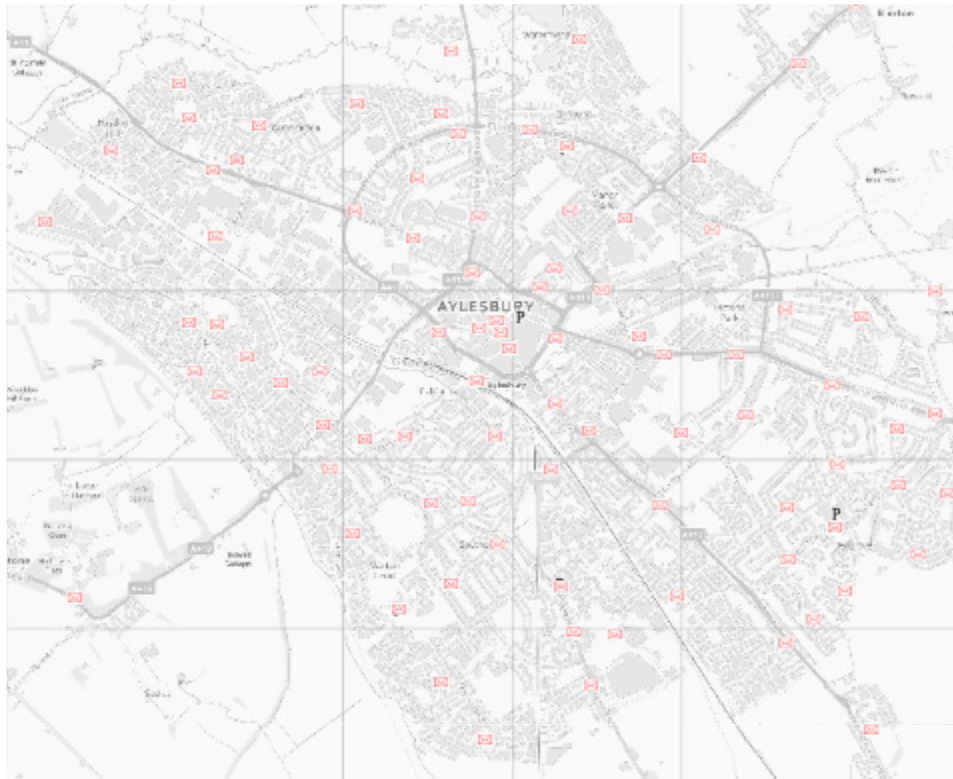
All primary and secondary schools both private and state. Includes school roll data, exam results and pupil demographics. All tertiary education with student counts. All with official codes for onward linking.



Law & Order POI

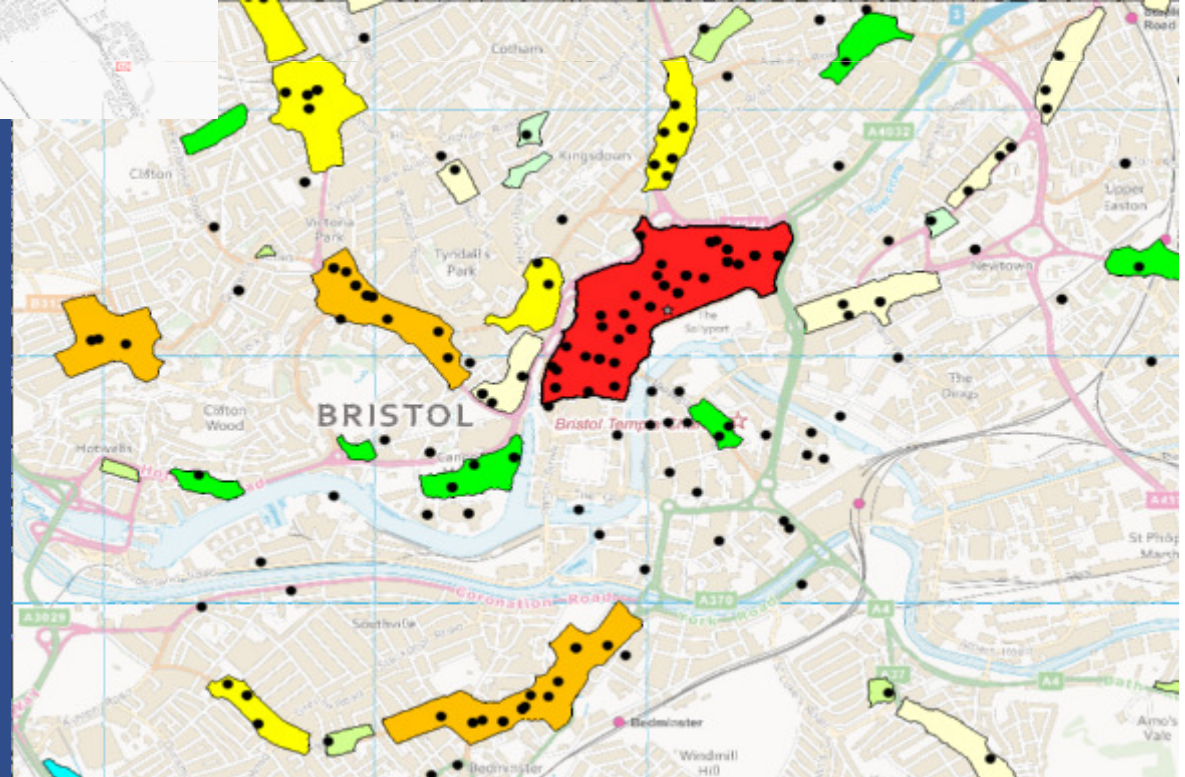
Police stations, courts and prisons. Point level crime data





General POI

*Sport Stadia, Places of Worship,
Garages, Letterboxes, heritage sites,
ATM, leisure facilities.*





Retail Places

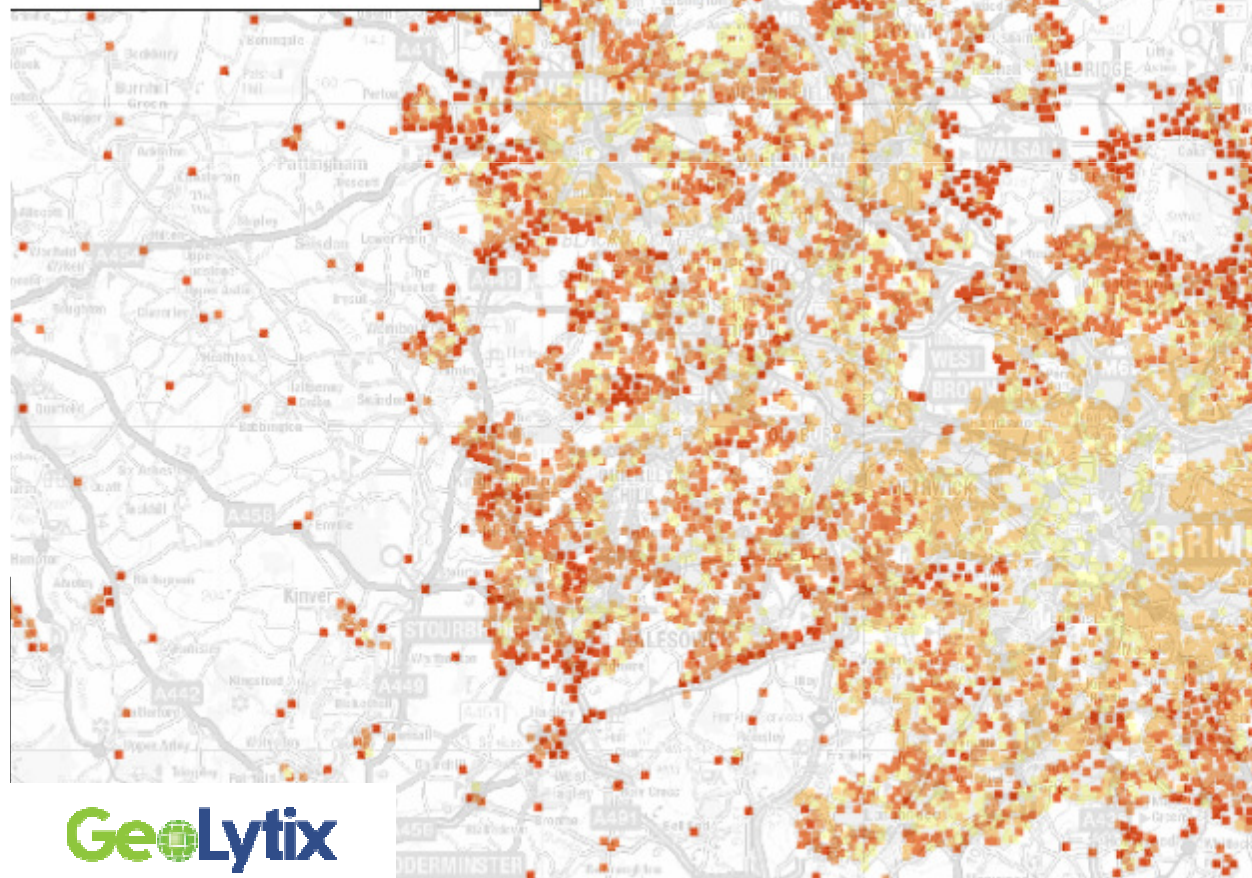
Fifteen thousand scored, profiled and named polygons detailing where people shop in the UK, and catchment area demographics. Pitch for larger centres also available

Demand Estimates

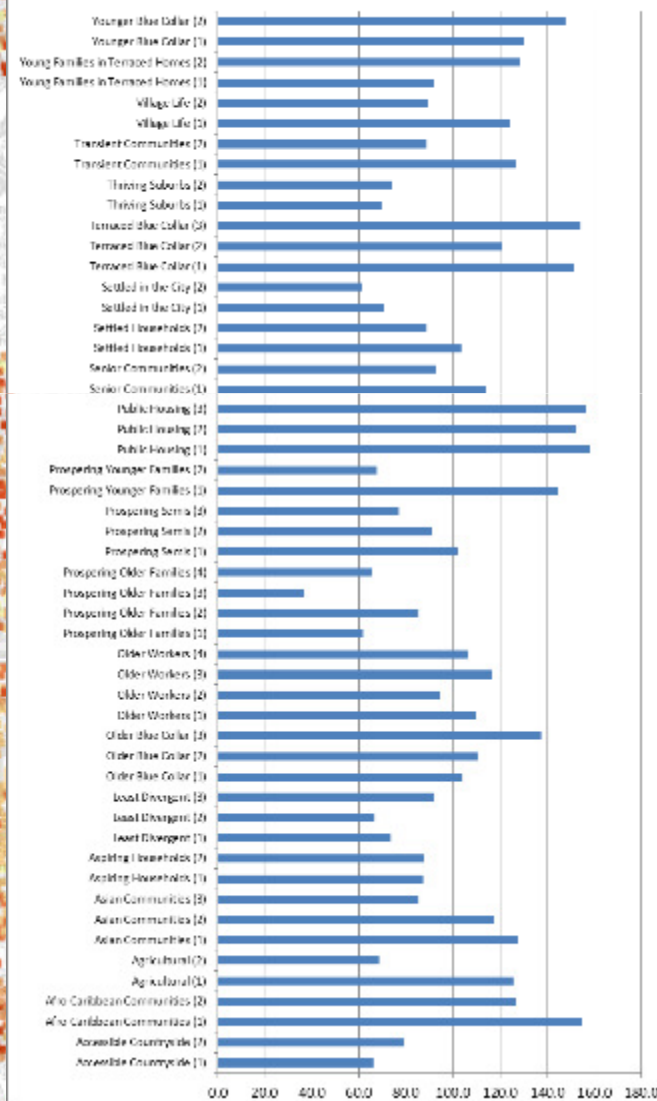
Top level spend on comparison and convenience goods in store, online and from work; plus six demand layers customised to current market needs.

Total 2012 Convenience Spend
From Home In Store (£ per week per household)

- Top Fifth
- Upper Fifth
- Mid Fifth
- Lower Fifth
- Bottom Fifth

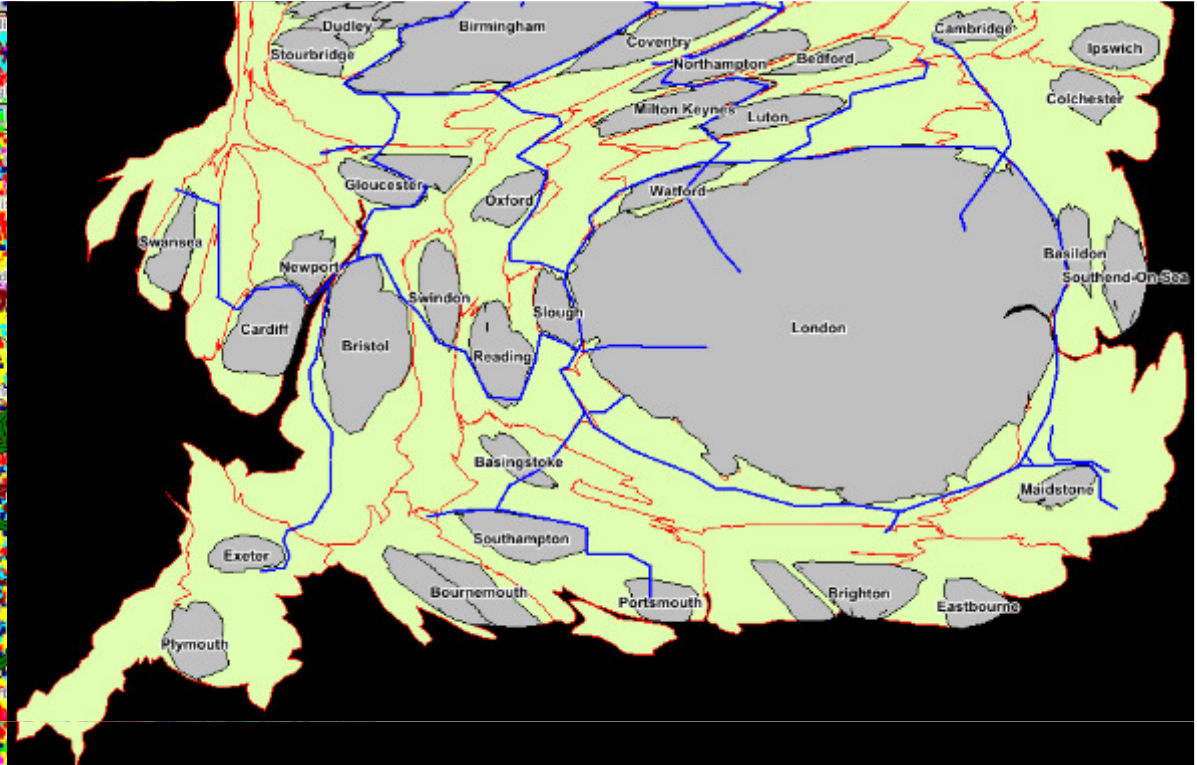
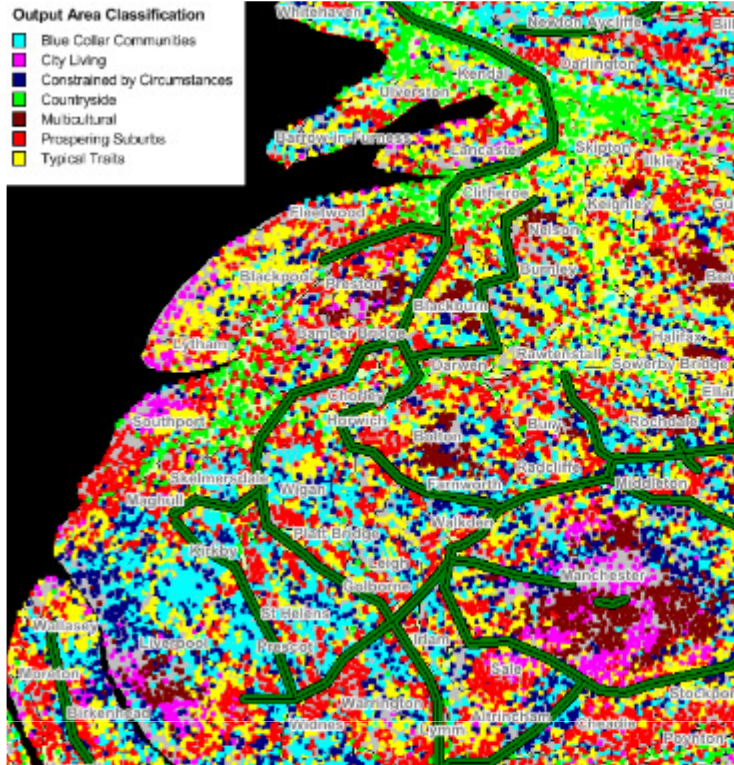


Mobile Top Up Spend by Detailed OAC Group



Output Area Classification

- Blue Collar Communities
- City Living
- Constrained by Circumstances
- Countryside
- Multicultural
- Prospering Suburbs
- Typical Towns

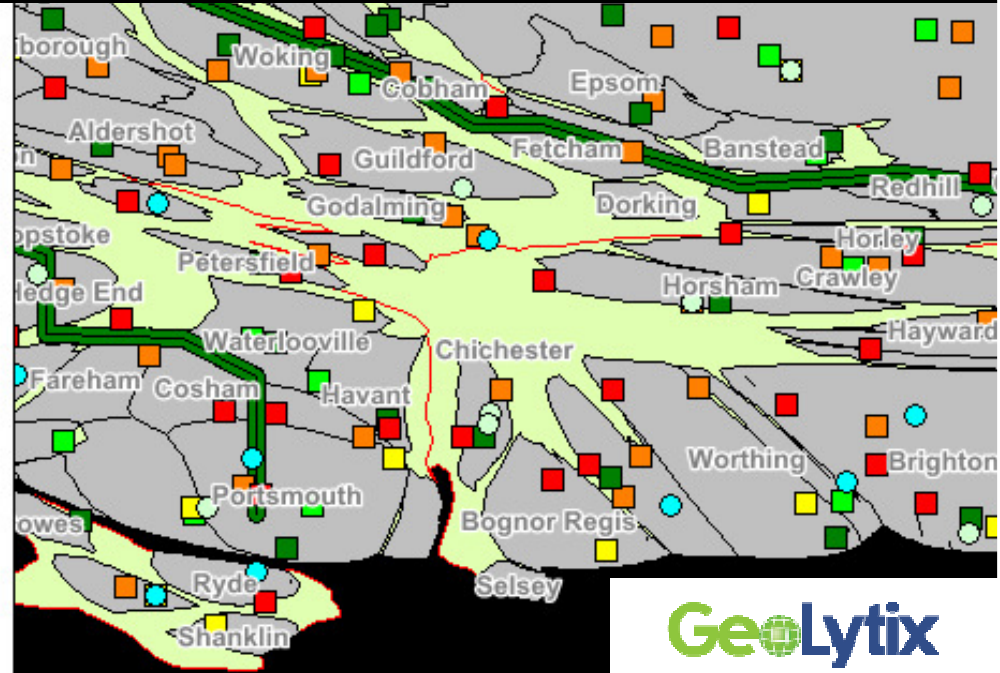


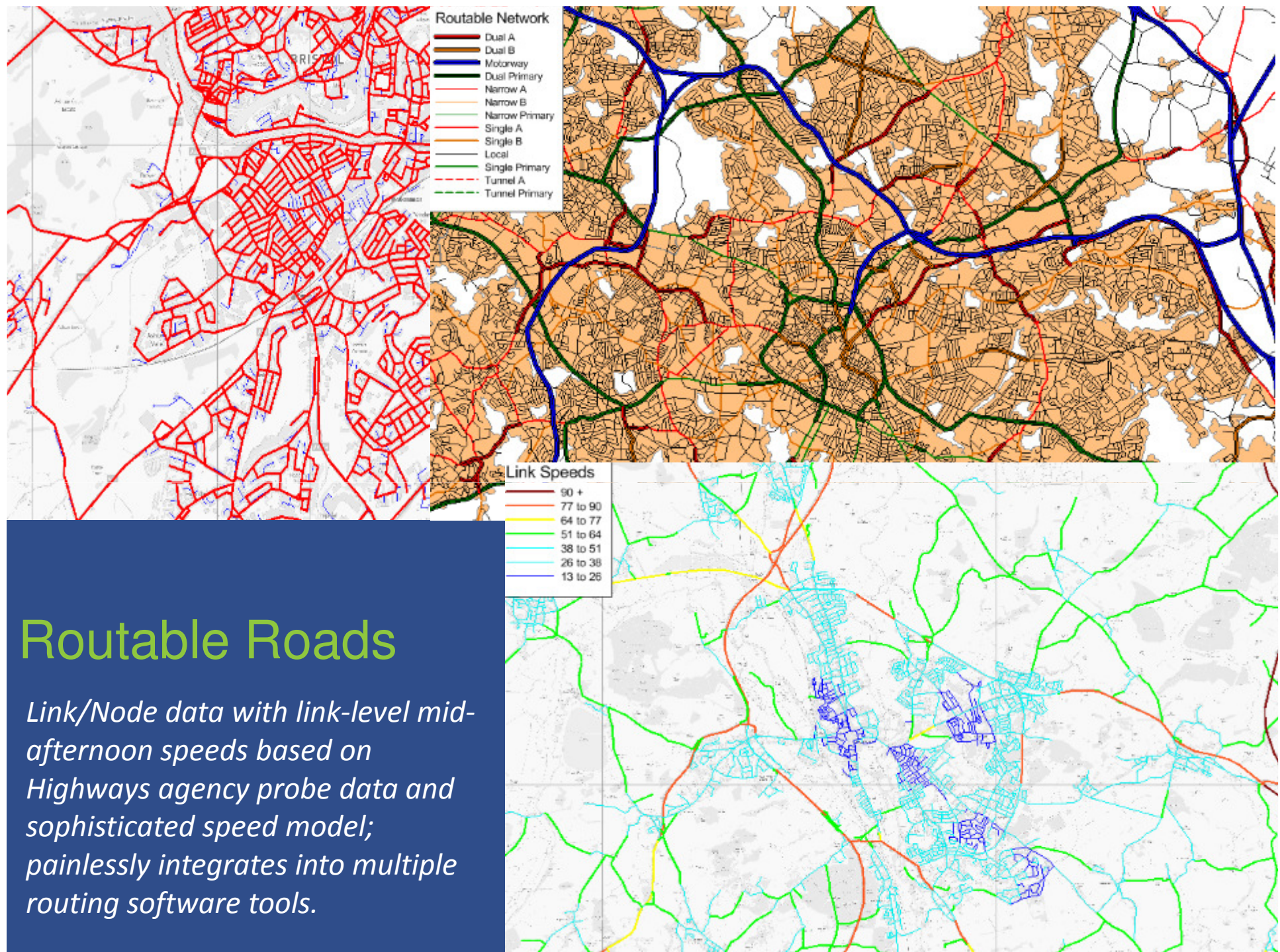
Cartograms

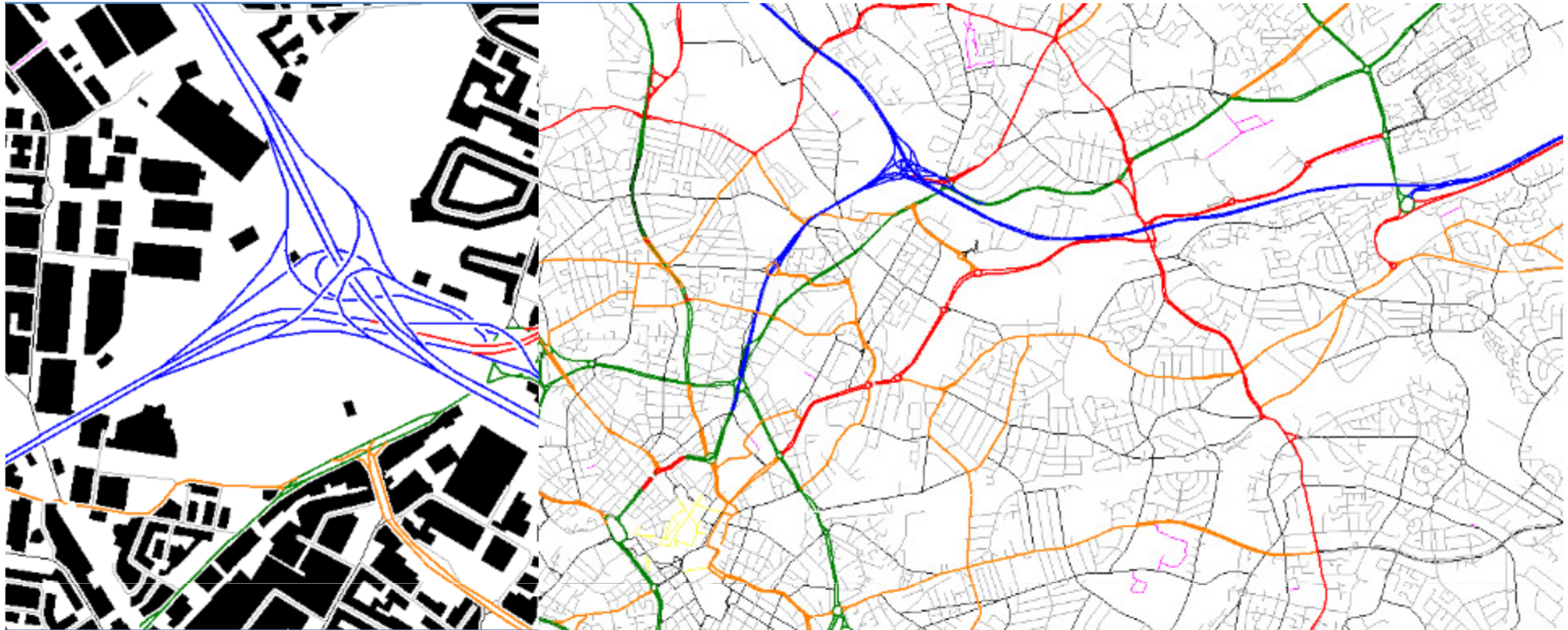
A full set of vector map layers in 'Customer Demand' space; great for illustrating demand and supply dynamics.

Retail Locations 12,000+ sq ft Grocery Stores

- Aldi
- Asda
- Asda N
- Asda SC
- Booths
- Co-op SM
- Costcutter
- Lidl
- M&S
- M&S SF
- Morrisons
- Ron Ramsdens
- Sainsburys
- Tesco
- Tesco Extra
- Tesco Metro
- Waitrose
- Waitrose F&H







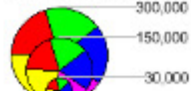
Roads & Road POI

All Road centre lines including carriageways. Car parks with capacity and charges, Motorway junctions and service areas. Named roundabouts and road name points.

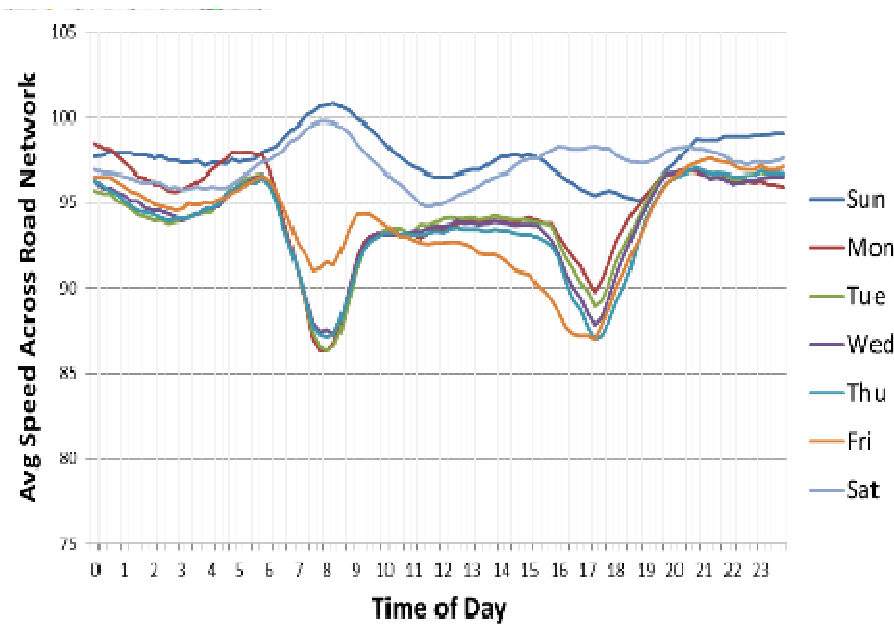
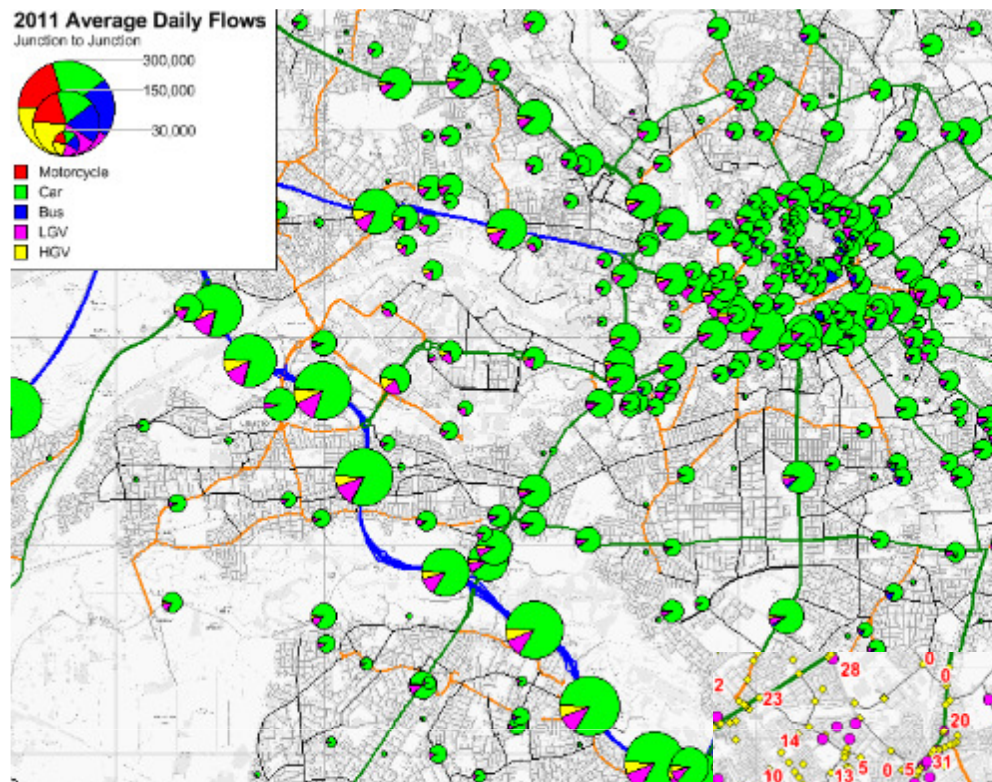


2011 Average Daily Flows

Junction to Junction

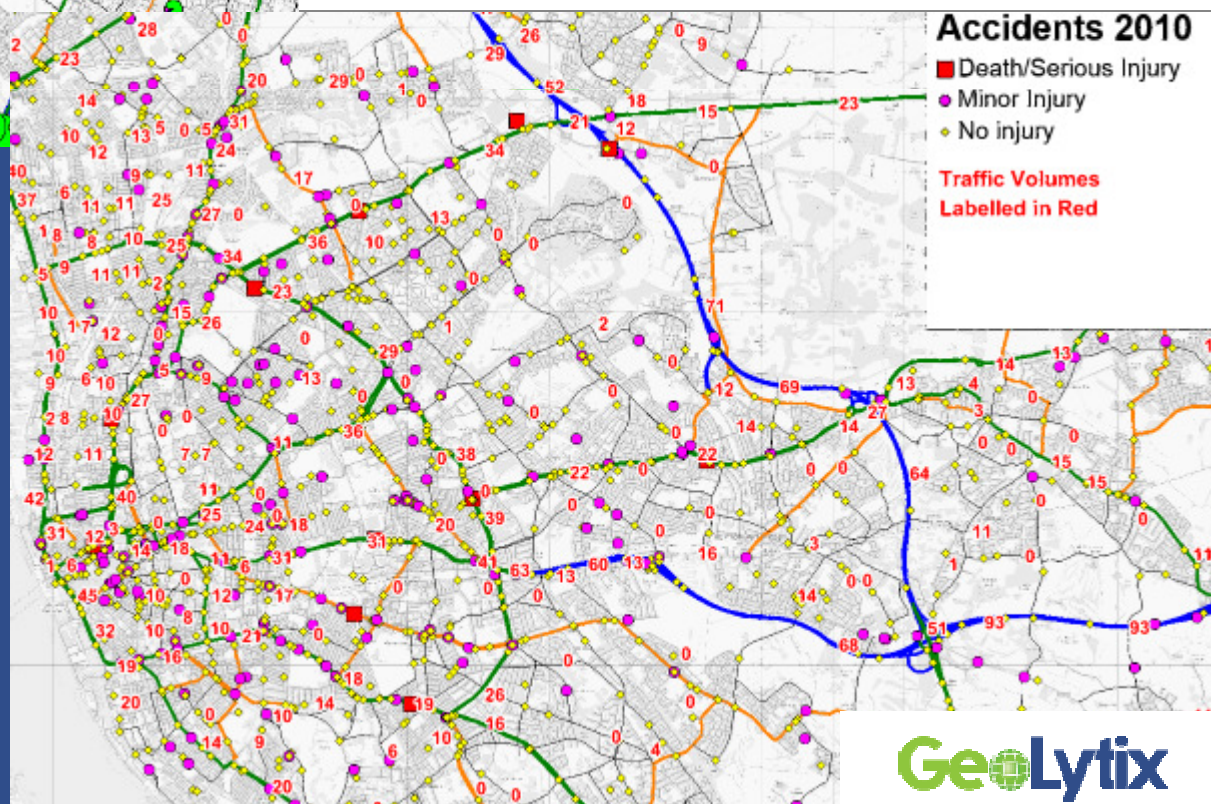


Motorcycle
Car
Bus
LGV
HGV



Road Traffic

Ten years of road volumes, up to date major road speeds by link by time of day, and 500,000 traffic accident records; all reconciled to the same single routable road network. Includes accident point data.



GeoLytx

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That's it

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