Geospatial Commission

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Case studies and applications for brownfield development
18 April 2024

Topics to cover

1. Introduction to the Geospatial Commission

2. Three case studies:
    - Public Sector Geospatial Agreement
    - National Underground Asset Register
    - Land Use Programme

About us

The Geospatial Commission is an expert committee responsible for setting the UK's geospatial strategy and coordinating public sector geospatial activity.

Our aim is to unlock the significant economic, social and environmental opportunities offered by location data and to boost the UK's global geospatial expertise.

We are part of the Department for Science, Innovation and Technology.

How we work

We have a mandate and budget to drive and deliver changes by working in partnership with others. This means we:

- Provide strategic oversight of the geospatial ecosystem in the UK, setting geospatial strategy, policy and standards
- Hold the budget for the public sector's largest investments in geospatial data (such as the Public Sector Geospatial Agreement - "PSGA")
- Make targeted investments in data projects that accelerate innovation and adoption of geospatial data applications

16 June 2023 — Press release

New Geospatial Strategy to boost U standing as location technology lea

From maps to apps, the Government's refreshe Geospatial Strategy will ensure the UK stays ah the curve in revolutionising location data and technologies up to 2030.

3 — Press release

e of location data can ovation in the property

patial Commission report pportunities to unlock ue across the property through location data, es and services.

23 May 2023 — Press release

Geospatial Commission recommends creation of new taskforce for land use

New report sets out how integrating data, science and innovation can help make better use of UK land.

28 April 2023 — Press release

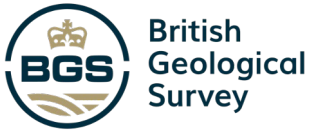
UK to pilot use of innovati technology for public serv

The Geospatial Commissio see public sector bodies ab access and test high resolu Earth Observation (EO) dat services.

Partner bodies

The Geospatial Commission has a formal relationship with six core ‘partner bodies’ (the Geo6).

Each of these partners play a central role in the delivery of the UK Geospatial Strategy 2030 - both through the geospatial data they hold and their extensive expertise.



Wider geospatial ecosytem

Partner bodies

- British Geological Survey
- HM Land Registry
- The Coal Authority
- Ordnance Survey
- UK Hydrographic Office
- Valuation Office Agency

Public sector

- Department for Environment Food & Rural Affairs
- Department for Levelling Up, Housing & Communities
- Department for Transport
- Met Office
- Metropolitan Police

Academia

- The Alan Turing Institute
- Newcastle University
- UCL
- University of Glasgow
- The University of Nottingham

Private sector

- agi – The Association for Geographic Information
- bluesky
- CYIENT
- planet.
- STRAVA
- Tesla

Location data opportunities

1. Infrastructure
2. Transport
3. Housing
4. Environment
5. Public health
6. Emergency response
7. Ocean economy
8. Retail
9. Finance

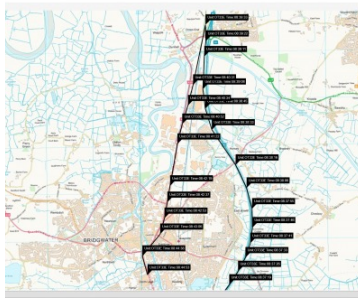
Case Study 1: Public Sector Geospatial Agreement

Public Sector Geospatial Agreement

- The Public Sector Geospatial Agreement (PSGA) is a 10 year contract between the government and Ordnance Survey (OS) for the provision of geospatial data across buildings, transport, structures, addressing and land.
- Over 5,500 public sector organisations across Britain use this world-leading location data for public good.
- Data supports delivery of critical infrastructure and local services to the public, right through to preparing for smart cities and building up environmental resilience.
- The PSGA will deliver approximately 70 new data sets and ensure the public sector has access to core foundational geospatial data that is needed to deliver effective and efficient public services.
- The Cadre initiative is a part of PSGA that provides the public sector with access to a group of geospatial experts from OS to deploy to a team to ‘kick start’ a project that requires geospatial expertise.

PSGA in action: Avon and Somerset Police

Andy Marsh, Chief Constable, Avon and Somerset Police



- The *Command & Control Mapping System*, the “operation centre” behind every first response, is reliant on good geospatial datasets. Incidents are overlaid on the PSGA datasets and can be combined with open data, third party datasets (e.g. environment agency, network rail, etc). Once the caller has confirmed the incident location, staff visualise the environment and assess what action to take: are resources available nearby? Do roads need closing and traffic diverted?
- In the event of a high-speed chase, Command & Control (C&C) staff are on high alert: monitoring the situation, getting ready to send more resources, thinking ahead and predicting outcomes. Staff follow real-time development through GPS equipped police vehicles on their mapping system using OS Basemaps, aerial photography, and the OS MasterMap Highways Network.
- Geospatial and/or data analytics teams come together with practitioners, designing hundreds of bespoke applications solving real operational challenges:
    - One of our latest GIS-based applications was developed with the Offender Management Unit (OMU) to risk-assess the proposed address of offenders given upon prison release, using PSGA location datasets.
    - Another is called ‘My Work’, a personal digital twin for every officer to stay abreast of their caseload, victim updates, data quality and more. I love the heat map of Officers’ patrol time!

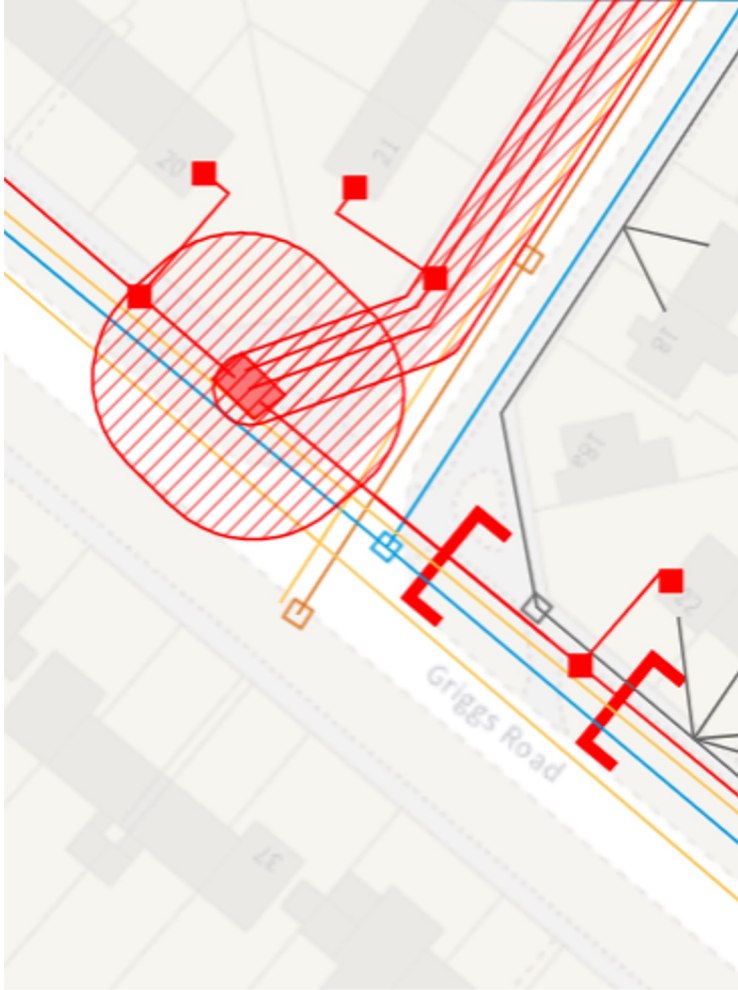
Case Study 2: National Underground Asset Register

Why do we need NUAR?

- Over 4 million kms of buried pipes and cables in the UK
- A hole is dug every seven seconds, with c. 60,000 accidental strikes per year
- The estimated economic cost of this is £2.4 billion a year
- Asset owners are legally required to make their data available for free, and do so continually
- Planners and excavators need the data to do their jobs safely and efficiently, but data is held by over 650 organisations
- Excavators most often request data from 6-10 organisations, with it provided in different formats, scales and to varying timeframes
- On average 6.1 days to request, receive and prepare the data for a single project

What is NUAR?

- NUAR is an interactive, digital map of underground pipes and cables
- It will revolutionise the way we install, maintain, operate and repair our buried infrastructure
- NUAR's economic benefits are estimated to be £490 million per year…consisting of efficiencies, reduced asset strikes, and reduced delays to the public and businesses
- NUAR also improves worker safety by reducing the number of accidental asset strikes



What will NUAR do?

Standardise

…data from 650+ asset owners

Secure

…data shared through the platform to safeguard and protect against misuse

Streamline

…data sharing between asset owners and those planning and carrying out excavations

Support

…improvement in data quality through missing or erroneous data being fed back

Safety

…improvements for workers through better access to data

Summary

NUAR is now available as an MVP across England and Wales, and will be available in Northern Ireland by Spring 2024, before being fully operation by the end of 2025.

A new discovery project has commenced to explore potential market opportunities and increase benefits - get in touch!

Updates to existing legislation are being sought to maximise value to workers and citizens.

Case Study 3: Land Use Programme

Geospatial Commission

Joined up land use change is vital to successfully delivering our national priorities

- The UK's ambitions to deliver economic growth, fairly distribute opportunity across regions and meet the demands of a growing population, while protecting the environment, adapting to climate change and achieving net zero emissions will **require significant land use change** in the coming decades.
- According to the Royal Society **additional land equivalent to the area of Northern Ireland would be needed by 2030** to meet current policy targets for net-zero and biodiversity alone.
- Complex decisions will need to be taken about how best to use and manage the UK's land to meet and balance these demands. Spatial data and analysis is crucial to improving our understanding of how land can be better used to balance multiple demands and deliver our policy priorities.

A vision for the future

The UK has a **coherent, long-term approach to land use decision making**, with the delivery of national policy priorities underpinned by a spatially-explicit evidence base.

Consistent use of spatial data and modelling will enable the UK to make informed, joined up decisions on the land use change pathway needed to achieve long-term national priorities of economic growth, meeting net zero and protecting the environment.

The creation of a Land Use Analysis Taskforce can help HMG deliver this vision.

Finding Common Ground

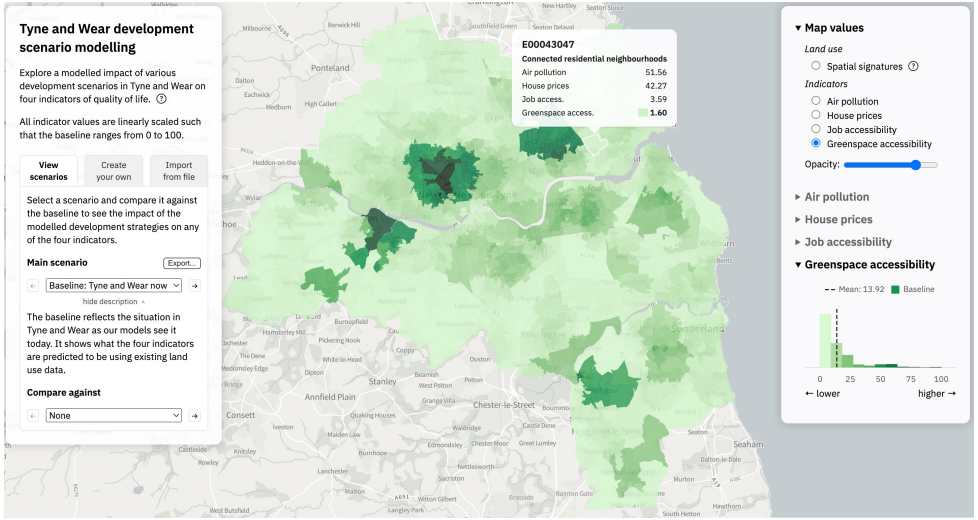
- In 2023, we published *Finding Common Ground* which explored land use challenges and demonstrated where innovative data analysis and evidence can support better land use decisions. It made four recommendations:
    1. Establish a Land Use Analysis Taskforce
    2. Champion the market
    3. Strengthen the links between land use policy design, academic research and industry practice
    4. Develop a standard taxonomy for key land use data
- Since publication, we have been progressing plans for the Taskforce, including developing a costed model by March 2024.

Demo: Applying Geospatial AI in Tyne and Wear

The Geospatial Commission has been working with The Alan Turing Institute for the last year to demonstrate the applications of geospatial AI and modelling for land use decision making.

The project, designed in partnership with Newcastle City Council, develops a modelling system able to quantify competing aspects of land use in a given urban environment as it currently exists (baseline), and build scenarios under modifications of such land use.

The project defines four indicators related to the quality of life capturing selected dimensions of the environment, society and economy: air pollution, house price, jobs accessibility, green space accessibility.



Points for discussion

- What are key challenges in brownfield development where geospatial data could play a role?
- Where do you see opportunities for better application of geospatial data for brownfield development?
- What should the GC be thinking about with regards to working more closely with your sector?

Thank you

You can follow us on:

LinkedIn

X (formerly Twitter)

To find more about our work:

GOV.UK

UK Geospatial Strategy 2030