

Ordnance Survey: Bridging Geospatial Disciplines for Evidence Based Policy

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1. SUMMARY

As the demand for spatially informed policy continues to grow, the disciplines of surveying, mapping, and geospatial science must continue to converge to deliver coherent, accessible, and actionable insights. This paper, aligned with the objectives of FIG Commission 3, explores how Ordnance Survey (OS) uses integrated spatial information management to help end users support evidence-based decision-making through simplified, stakeholder-friendly narratives.

Despite advances in data collection and analysis, a persistent gap remains between technical outputs and their practical application in policy contexts. This paper argues that bridging this gap requires not only interoperability across geospatial systems but also a shift in communication, translating complex spatial data into basic language and intuitive formats that resonate with non-technical audiences.

Using real-world examples, the paper will demonstrate how collaborative frameworks and user outcome driven approaches can enhance the usability of spatial information. It highlights the importance of aligning geospatial outputs with Government policy ambitions, ensuring that data is not only available but also relevant and understandable at the point of decision by end users.

By fostering stronger links between geospatial disciplines and embracing inclusive communication strategies, the surveying and mapping community can play a pivotal role in shaping transparent, evidence-based policies. This approach supports the broader goals of Commission 3: improving data governance, enhancing interoperability, and promoting the societal value of spatial information.

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1. Introduction

Ordnance Survey (OS) is the National Mapping Agency of Great Britain, with a long history of working with a wide range of organisations, both in the UK and internationally. OS is responsible for creating, maintaining and distributing detailed location information for Great Britain. This geographic information is weaved into the very fabric of everyday life, and is used by the public sector, private sector and citizens alike. As an organisation, OS operates across every segment of the geospatial value chain, from positioning to sourcing to refining to distributing and applying. This data is used by many customers across many traditional and emerging segments.

Policy makers today are increasingly requiring location-based evidence to understand local/national requirements, weigh options for policy implementation and track outcomes to identify if policy measures are succeeding. However technical complexity, fragmented responsibilities, lack of standards, data immaturity and ineffective communication often impede the uptake of geospatial insight to inform effective policy implementation.

This paper examines the challenges and explores practical ways that national mapping agencies and sector partners can bridge surveying, mapping, and geospatial analytics to produce outcomes that are clear, understood, trustworthy, and decision ready.

2. The key challenges facing National Mapping and Land Agencies (NMLAs) and potential solutions

There are many challenges faced by NMLAs today, and some of these are illustrated in the diagram below. In this section, the paper will explore some of these in more detail and explore how OS has addressed some of these challenges.



Figure 1- Key challenges facing National Mapping and Land Agencies (Andy Wilson OS)

2.1.1 Communication of relevance and complexity of language

For many decades, National Mapping and Land Agencies, and the surveying, mapping and geospatial industry in general have found it challenging to fully convey the critical relevance of its overall contribution to successful outcomes for Government, Commerce and Citizens.

Whilst there have been recent successes, there is still much work to do to accelerate the industry as being comprehensively recognised as an essential component in the creation and delivery of mainstream policy, and equally as an enabler of effective business enterprise.

A large part of this challenge is that the industry tends to rely on a multitude of technical terminology and acronyms which make it difficult for everyday consumers to understand how outputs are relevant to their policy, business or everyday outcomes.

2.1.2 Citizen perception

Another significant contribution to this challenge is the general perception of what National Mapping organisations produce, with many citizens assuming it is “just maps” and, in the most limited of assumptions, that these maps are paper based.

OS, the National Mapping Authority of Great Britain, addressed part of this challenge by assessing how many times a day an average citizen relied on digital geospatial data from the organisation. The report¹ concluded that, on average, a citizen used geospatial data 42 times a day, in the form of supply of household energy, bus and train travel, waste collection, and emergency services responding to incidents. If citizens can understand the value that this data provides in their everyday lives, then this may in turn be translated into vocational practices that their relevant business lives.

2.1.3 Enabling Government Contract Frameworks

Every country has a different governance framework for the provision of their national mapping data. This can make it challenging to assess how effective the framework is in delivering against its objectives. In the UK Ordnance Survey has a long-term contract with the UK Government to provide a national mapping service for Great Britain. The Public Sector Geospatial Agreement (PSGA)² was signed in 2020 and provides widespread access to most of OS’s data and digital mapping products. The PSGA enables the over 6000 public sector organisations in Great Britain to access and share data free at the point of use to enable a wide range of policy creation and delivery of front-line public services of which examples can be seen in figure 2 below.

This agreement also provides a clear line of sight between desired Government policy outcomes and enables OS to adjust data specification to ensure the data is relevant to supporting those outcomes and helps to embed geospatial data into the robust evidence base for data-driven policy outcomes for the future.

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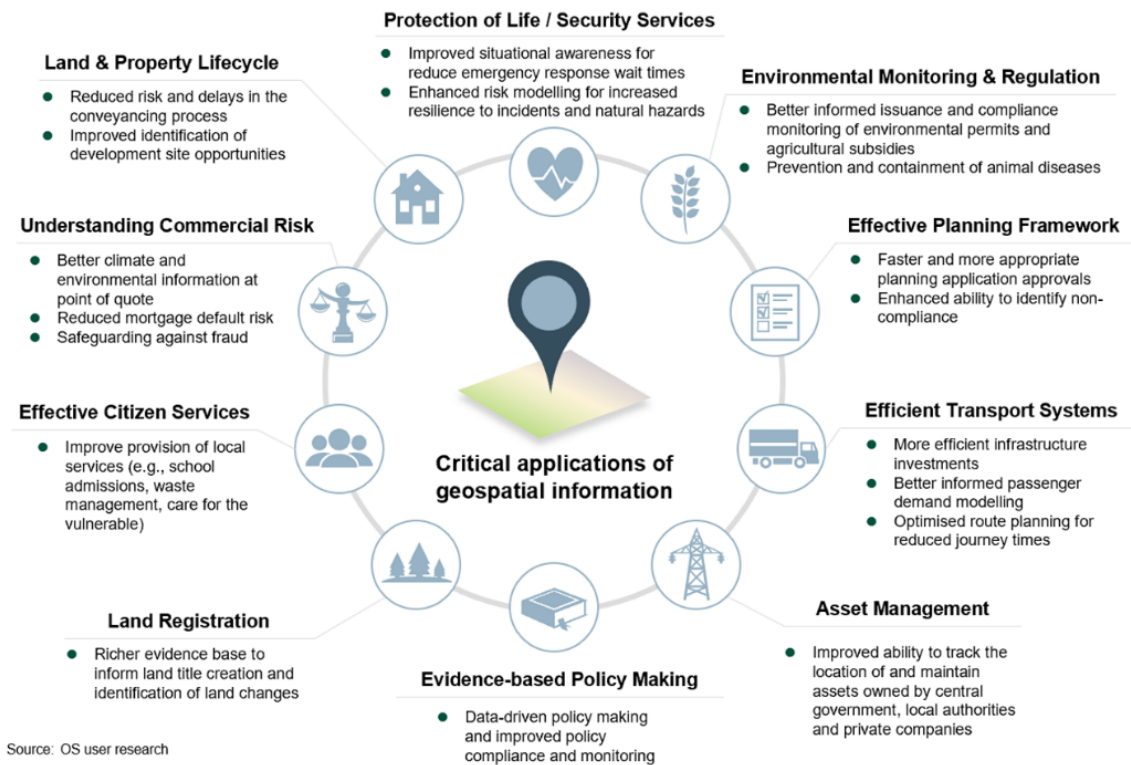


Figure 2- examples of geospatial data enablement (Ordnance Survey)

2.1.4 Standardisation of reference frameworks

Public sector organisations rely on accurate, consistent location references to link data across housing, social care, planning, emergency services, and taxation. In July 2020, the UK's Open Standards Board via the Government Digital Service (GDS) mandated the use of Unique Property Reference Numbers (UPRN) and Unique Street Reference Numbers (USRN) in new public sector systems containing property and street information³.

By requiring persistent identifiers, the mandate reduces ambiguity, improves data quality, and enables cross-agency interoperability.

The UPRN identifies every addressable location and some non-addressable assets (e.g., substations, bus shelters) across Great Britain. The USRN uniquely identifies streets, roads, and public rights of way.

Mandated geospatial reference frameworks—anchored by UPRN/USRN—provide the digital spine for place-based data. They improve interoperability, reduce costs, and strengthen the

trustworthiness of public services. By aligning governance, workflows, and communication with the 2020 mandate and open licensing, organisations have been able to scale benefits across government and industry while maintaining ethical safeguards.

2.1.5 A clear line of sight from survey/data acquisition to customer outcomes

Achieving meaningful customer outcomes requires much more than collecting accurate data—it demands a clear, continuous line of sight from data acquisition through creation, analysis, and application. Fragmentation at any stage risks eroding trust, reducing efficiency, and delivering outputs that fail to inform decisions.

A structured approach ensures that data collection aligns with intended use cases, that data creation processes preserve integrity and interoperability, and that analytical workflows translate complexity into actionable insights. This alignment enables organisations to move beyond technical outputs toward decision-ready outputs that resonate with stakeholders and drive measurable impact.

By maintaining this line of sight, geospatial programs can deliver trusted, timely, and relevant insights, ensuring that investments translate into tangible benefits for citizens, businesses, and policymakers.

3. Summary and Conclusion

The paper addressed the growing need for spatially informed policy and the challenges faced by national mapping agencies in making geospatial data relevant and accessible to decision-makers. It argues that technical complexity, fragmented responsibilities, and reliance on jargon hinder the integration of geospatial insights into mainstream policy.

This paper highlights solutions such as plain-language communication, effective licensing frameworks like the PSGA, and mandated reference systems such as UPRNs and USRNs to ensure interoperability and trust. It emphasizes the importance of creating a clear line of sight from data acquisition through analysis to customer outcomes, ensuring that investments translate into tangible benefits for citizens, businesses, and policymakers.

To maximise the societal value of geospatial data, the industry must break out of its technical bubble and adopt communication strategies that resonate with non-technical audiences. Mandated reference frameworks and open licensing agreements are critical enablers for interoperability and widespread adoption. By aligning governance, workflows, and communication with policy objectives, and by maintaining a continuous link from data

collection to actionable insights, geospatial programs can deliver trusted, timely, and relevant outcomes. These measures will position geospatial data as an essential component of evidence-based policy and mainstream business decision-making.

REFERENCES

¹ The 42 times a day statistic is part of consumer research conducted in 2020 between Ordnance Survey and market research agency Opinion Matters.

² Ordnance Survey; The Public Sector Geospatial Agreement (PSGA) retrieved from <https://www.ordnancesurvey.co.uk/customers/public-sector/public-sector-geospatial-agreement>

³ UK Government Digital Service; Open Standards for identifying property and street information retrieved from <https://www.gov.uk/government/publications/open-standards-for-government/identifying-property-and-street-information>

BIOGRAPHICAL NOTES

Andy Wilson, MCMI, FRGS. Andy is Future Government Services and International Contracts lead at OS. He has over 38 years of experience in the Geographic Information Industry, starting as a surveyor with OS and progressing to Head of Public Sector where he developed the first Public Sector Mapping Agreement for Great Britain (which brought together over 4000 organisations under a single contract to all use the same spatial data under a common spatial reference system.) As Business Development Director for Ordnance Survey International (2014-2022), he advised government agencies globally on spatial agreements, and how these deliver economic, environmental and citizen benefits. Andy is a Fellow of The Royal Geographical Society and a member of the Chartered Management Institute.

Catrin Ridyard FRGS. Catrin Ridyard is the International Customer Development Manager at OS, where she manages the delivery of OS international projects within the FCDO programmes, as well as the relationship between OS and FCDO. She holds a BSc in Geography, and an MSc in Environmental Modelling, and has 7 years of experience in the geospatial field, initially working as a GIS consultant before transitioning to relationship and project management. Catrin's diverse career spans both public and private sectors, and includes work in transport, environment, and health in the UK and Internationally. She is a Fellow of The Royal Geographical Society, currently applying to become a Chartered Geographer, and has achieved a Level 7 CMI qualification in Management Consultancy as well as a PRINCE2 qualification in project management.

James Norris CGeog FRGS. James is Head of International Affairs at Ordnance Survey where he works to promote the vital role that geography and geospatial data has in transforming economies, sustaining the environment and using location insights for positive impacts. He is a Fellow of the

Royal Geographic Society and is a Chartered Geographer. He joined Ordnance Survey in 2008 and has a variety of roles including corporate governance, domestic policy analysis, international policy and international relations. James currently leads OS's International Affairs activities. This includes developing, maintaining and enhancing bilateral relationships between OS and other National Mapping Agencies, representation and leadership in intergovernmental forums such as the UN and the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). He also currently holds a leadership position within the UN-GGIM Regional Committee for Europe. Throughout his career, James has been an advocate for early career professionals and DEI initiatives across all aspects of his work.

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