Geospatial Commission: Call For Evidence Response Questionnaire

Please submit your completed questionnaire to:

geospatialcommission@cabinetoffice.gov.uk.

Clearly title your email *'Call for evidence response'*.

Please select which of the following best describes you as a respondent:

Respondent	Please mark with a X
Academic	
Business representative / trade body	
Central government	
Charity or social enterprise	
Individual	
Legal representative	
Local government	
Large business (over 250 staff)	**X**
Medium business (50 to 250)	
Small business (10 to 49)	
Micro business (up to 9)	
Other - please state	

Call for evidence - three key themes

We have identified three high-level themes that could help our approach to setting a strategy which are as follows:

1. **Supporting innovation in the geospatial sector**, exploring how to secure cutting edge skills, the right access to data, and opportunities from emerging technologies for the geospatial sector itself

2. **Enhancing the UK's geospatial assets,** looking at how best to align interests, avoid duplication, and instill best practice across the whole public sector

3. **Driving investment and productivity in geospatial applications**, asking in which wider sectors the most value lies from better exploitation and use of geospatial data, in the UK and internationally

Our questions

Q1. Is our view of the geospatial data types accurate? If not, what should be included or excluded from this?

Fundamentally, geospatial data is the description of where an action takes place – whether it be the location of a person, a business, a transaction or an object. For businesses, having a set of common global standards is increasingly important. For consumers, having a simple way to convey, use and understand those standards is also critical – especially in an increasingly 'on demand' world.

We agree that your broad description of geospatial, positional data and identifiers is correct. Clearly the services element (part 4 of your definition) will be the area that the private sector can most contribute to by adding value to the base geospatial data produced by the six partner bodies (and others).

However, whilst it may be inherent in Part 4 of your definition, the Commission needs to ensure proper consideration of data about geographical areas, and not just geospatial 'point' information. This then feeds into ensuring that, for example, there is proper focus on a robust, on-going UK Census, creating baseline information for all organisations, both public and private and individuals about the fundamental demographic characteristics of areas. In line with this, the discussion of standards should apply to both point and identifier information and geographies in a wider sense.

Q2. In addition to current government policy, what are the areas of geospatial skills where the commission could best focus, to help ensure the necessary capability within the UK for the future?

Experian believes that in the context of the ever growing focus on consumer data over the last 10 years, there is a need to re-tell and reinforce the story we already know around the importance, use and governance of geospatial data. Over the last 30 years, many organisations have been founded on the basis that analysis and management of geographic data is central to their activities. There is also a huge range of academic research and material on this topic.

At a time when concerns regarding consumer data privacy and associated regulation are rightly being discussed, we believe there is an opportunity for the Commission to re-invigorate the messaging around the importance of geospatial data as a tool to address key issues and problems.

The Commission has a key role to play in explaining to a wider audience that geospatial is not new and unknown data but rather is something that has been

used for decades.

Q3. What are the geospatial skills needs and gaps in your organisations, how can these be most effectively addressed, and how can careers in the sector be best promoted?

With the complexity of applications and underlying geospatial data comes a need for skilled staff. These skills are at a premium as some of the skills that had existed have been lost as organisations take different strategic priorities and more could be done to train staff to use GIS packages. Additionally, more should be done to make geospatial data available in commonly used formats that can be integrated into more software and thus used by more developers and staff. As we have seen with the democratisation of data more widely, it is the usability and accessibility of data and tools that increases the benefits for businesses and consumers. We would encourage all the agencies involved to consider interropability and accessibility when producing data – removing barriers to use should be a major focus area.

The Commission should ensure that there is a recognition that geospatial data, in all its forms, can inform digital communications and can play a key role in creating relevant digital advertising for consumers and for public service messaging.

Q4. Are there any publicly or privately-held geospatial datasets that are currently challenging to access or use or of insufficient quality, but which you or your organisation would find valuable if these issues could be resolved? Please explain why this would be of value, and how access/quality could be improved?

The changes being made to MasterMap access are a potential step forward but is important that the proposed changes are applied consistently to all organisations in the sector and that existing users, whether large or small, are not penalised or restricted. These changes to be accompanied by changes to OS derived data rules which impact the data of other agencies such as the HMLR (with INSPIRE Polygons a good example). Public datasets built in conjunction with or hosted by private bodies should also be examined (with examples including OS Points of Interest) to ensure that access is open to all and pricing is set at an appropriate level. A good example of where this has changed is the residential and commercial EPC data now being Open.

Fundamentally, as much publicly owned data as possible should be made open to all and we support the approach taken by the Open Data Institute and the case made by the now defunct [Open Data User Group](#) in their papers on the National Information Infrastructure.

We would also like to mention the risks to quality posed by the privatisation of national information infrastructure such as Royal Mail PAF. It is crucial that these assets are maintained effectively, with sufficiently independent oversight (such as the PAF Advisory Board and OFCOM) and ideally that datasets of such national importance are owned by the public for the benefit of the public and made open of restrictive commercial licensing. We would temper this by commending the Royal Mail (and their advisory / regulatory partners) on their efforts so far to make PAF more widely and easily available to the public sector, charities and SMEs.

The same will be true of data managed by the OS, HMLR and other agencies.

Perhaps the best way forward would be for the Geospatial Commission to take on a role similar to that of ODUG – making the case for data to be released openly for the benefit of the nation. For this, they will need stakeholders representing various interests and the support (financially and so on) of Government to succeed.

There are some specific examples of public datasets which are challenging to use but which can deliver value, particularly in the property sector. The quality of VOA data and the ability to match it to other sources is a challenge. A range of other property data for example from HMLR and Local Authorities can also be useful but are inconsistent and hard to match and use. The application of a consistent property identifier such as UPRN or a standard addressing format would make the combination of data a much more straightforward process. These datasets combined can create far more value than using each individually.

As a member of the Market Research Society's Census and Geodemographic Group, Experian would also point the Commission to the response of that group in relation to any access and quality issues with regard to Census data.

Q5: Do you anticipate that any changes will be needed to the both address data and the wider address ecosystem, to support emerging technologies? Please provide evidence of value to support any proposed changes.

The UK postal address and postcode system has been developed over a great number of years and the introduction of the postcode has been a huge benefit to the efficiency of the postal service. It (and the underlying data) have also become useful in a range of applications far beyond the routing and delivery of a letter.

The postcode is now shorthand for so much in the day to day lives of people that it needs to be easily integrated into existing and emerging technologies – whether it be ridesharing apps, drone deliveries or registering for a bank account – the postcode is a good way to get 'close' to the relevant location.

With the rise of digital services, the way we communicate location is also changing – whether it's a 3 word address (such as runs.lives.luxury) or the location of our device in Latitude and Longitude, the services we use will need to be able to handle and link multiple location standards.

Therefore, the existing address data should be made interoperable where possible with other standards and in a way that is accessible. For example, whilst CodePoint Open gives a free grid location for a postcode, it is not in an international standard (the British National Grid is not the same as Lat/Long). Also, if you require the grid reference for a property, you need to purchase an additional dataset on top of PAF (such as OS AddressBase). The costs and complexities of this are challenging to businesses and software service providers alike.

We are also anecdotally aware of some cases where different agencies in Government have used different address standards leading to confusion and potential detriment for consumers. One such case involved a local electoral office using the Gazetteer version of an address instead of the version returned to them by the voter on their registration form (as per the regulations around voter registration) which happened to match the PAF version. The consumer later claimed that this error resulted in the refusal of a credit application. Whilst we have not been able to validate this claim as our address matching functioned correctly, we have been able to see that the Gazetteer and PAF version of the address could be different enough to confuse some basic address matching solutions created by 3rd parties. It needs to be clear which address standard should be used for which purpose and agencies should be educated as to the risks of not following agreed regulations and best practise. To resolve this completely, a single address standard available to both public and commercial entities at a low (or zero) price would be favourable.

Finally, licensing needs to take into account the changing nature of data use. Royal Mail have already made good steps with their Per Click licensing model for PAF and we would like to see the Ordnance Survey and other agencies match this model where they have commercially sold data. This will reduce administration and make data easier and less expensive to access. Data holders should also consider whether a post pay model is more appropriate (rather than buying bundles of clicks up front). Licensing must also be consistent irrespective of an organisations size as both SMEs and larger organisations can create and deliver new applications for the market.

As a member of the PAF Advisory Board, we would also draw your attention to the recommendations made by them.

Q6: How should the commission be looking to develop the UK's capability in Earth observation data, both technologically and to support an effective market?

We have no comment on this question.

Q7. Which new technologies should the commission focus on to provide new opportunities to process and exploit geospatial data for economic growth?

There are a number of new technologies already established in the area of AI and Machine Learning and these technologies are proving effective in the analysis of individual-level and micro data. Therefore the role the Commission could play in this area is to examine how to leverage these technologies to incorporate geospatial data where relevant to a specific problem. This could be as much about adding breadth to the types of data analysed and leveraged by existing technologies, rather than looking for new technologies.

Q8. How can geospatial data and applications be used to support enhanced roll-out of future technologies?

We have no comment on this question.

Q9: What are the options for how public sector organisations could continue to invest in maintaining and enhancing our geospatial data assets?

With the assumption that publicly owned data should be open (and free) by default, the focus should be on funding organisations to continue to provide (and enhance) high quality base level data through the tax income from that onward use of data within services, apps, software and so on.

Whilst the base level data should be free, organisations could examine charging for additional services such as APIs, hosting, app elements or advisory services. Staged open release, which is one of the proposals for MasterMap, is another method that supports start-up and SME innovation but could limit innovation in the "M" of the SME if commercial pricing is not carefully balanced.

With rapid evolution in Smart Cities, connected & autonomous vehicles (and so on); new realms of data could be opened up for public bodies to make commercial gain from over and above the base layer (i.e. the National Information Infrastructure). For example, local authorities could charge vehicles for access to smart city sensors to provide optimised routing, parking or other value add services. The vehicle owner (private), lease company or manufacturer could pay an annual or pay as you go subscription for this enhanced data.

We would discourage further privatisation of our National Information Infrastructure. The sale of PAF to the private sector was clearly called out by the PASC and others as a mistake and plans to privatise HMLR were rightly shelved.

Ordnance Survey have been exploring a number of new revenue streams such as international expansion – we would like to see other areas of British expertise exported in the same way to help other nations create their own digital and data infrastructure. Partnerships with private sector experts would further boost this kind of model. This kind of knowledge and services export will help offset any revenue loss from making data Open.

We would also encourage agencies to find more ways to interact with users to ascertain the ultimate value of data to the economy and society. As recognised in the Commission's own paper, organisations such as CityMapper thrive on data released by the likes of TFL. If more case studies can be built to show the value of

an open geospatial dataset, stronger business cases can be made to maintain and invest in the underlying data.

We urge caution with any changes to charging or licensing regimes. The ecosystem around existing datasets is complex and could be slow to change. Regular interaction with user groups and industry bodies will be needed before any fundamental change to pricing or licensing. Any changes should be applied consistently across the sector, regardless of organisational size.

Too much geospatial data is still collected in an ad hoc manner by regional public bodies or by individual local authorities. This leads to the creation of useful data sets, but they are data sets that can't be applied nationally, or even regionally in many cases and which often aren't updated because of their ad hoc nature. Whilst there may be similar data collected by other local entities, there can be little consistency in data quality or definition. Greater and more formal interaction across public bodies to determine which ad hoc data sets have proved useful would at least focus attention on wider initiatives to collect this data more universally, to defined standards and relevant updating.

Q10: What areas of the underpinning geospatial infrastructure such as positioning technologies, including GPS and indoor positioning systems, and geodetic networks and frameworks to support them, should we be prioritising the development of, in order to support the emerging requirements for geospatial data?

We have no comment on this question.

Q11: What role should the private sector have in both the development and maintenance of the underpinning infrastructure and enhancing the UK's geospatial data assets?

The private sector can play a significant part in helping to collect, manage, store and enhance geospatial data.

However, this must be done in a way which does not prevent open release or give unfair advantage to certain businesses or sectors.

Q12. Do you face challenges when working with geospatial data from across the public sector? If so, what are they and how could value be better released? Are there any technical remedies or standards that could be adopted to improve the interoperability of geospatial data? Please provide supporting evidence of what these remedies could help to accomplish.

The most significant challenge around accessing geospatial data is licensing. With a mixture of Open and commercial licenses with multiple suppliers and various requirements to fulfil around derived data and other licensing pre-requisites (such as needing a PAF or OS license to use address data) it is often difficult to combine a variety of data and create viable products for end users. The complexity of licensing adds to cost without even factoring in data royalties. The royalties themselves are complex, don't always work well when combined and don't always allow for data use in the way that end users want (such as a click cost being permanent rather than renewable as in the OS AddressBase license). As an example of the licensing issue, there are over 100 housing associations who would benefit from AddressBase Premium per click licensing but cannot afford the renewable click licensing available from the OS today (nor can they afford to pay more than a penny or two for a single record). Aligning OS addressing licensing directly to the PAF license would simplify the market and mean more users of OS data.

Finding data, metadata, support and documentation is also challenging. Whilst the OS have dedicated teams and materials to help developers and re-sellers, the pattern is patchy with other public entities who may be selling data or making it available openly. Clear support structures and SLAs are needed if value added resellers are to provide quality products to enterprise.

Standards in licensing, pricing and format would help. Ensuring that key identifiers such as UPRN, UDPRN, TOID, grid reference and so on are available in all datasets and are open & free to re-use would certainly help bring data together. The use of common formats such as CSV would also benefit users who are less able to purchase the expensive GIS platforms needed to access mapping data.

Clearly, considering the benefits of SaaS and DaaS platforms should also be a priority but bulk downloads of databases should always be an option for users.

Finally, we would again repeat our concerns that too much geospatial data is still collected in an ad hoc manner by regional public bodies or individual local authorities which whilst creating useful data sets, cannot be applied nationally or regionally and are not consistent

Q13. How can the Geospatial Commission act as a more effective customer for geospatial data on behalf of the public sector?

We would encourage the Commission to support the public sector in using and re-using data and helping their service providers better integrate the data into common software tools such as CRM packages or their websites. Standards will play a key role and we would also encourage public bodies to invest in releasing their data to those standards (such as the ones created by the LGA for spending data). By creating and using data standards, quality improves and usage increases throughout the ecosystem.

The PSMA and OSMA were huge steps forward and we would encourage the continuation and widening of these schemes. We would also encourage the commission to examine similar arrangements for certain sectors such as Charities, Utilities, Housing Associations and others (as an example, this could help smaller market entrants in utilities compete more effectively if they had the same mapping and address data as the Big 6). This would also encourage standards and improved data quality across industries where data sharing is critical to the consumer outcome (such as MiData & switching in utilities, or Open Banking in financial services).

The Commission can also be supported more widely in achieving this goal by engagement with other groups which are interested in the use of geospatial data by the public sector such as MRS CCG.

Q14. Are there any additional geospatial datasets, from the other partner bodies or other sources, that the public sector would derive significant benefit from having access to, that might have novel and valuable use cases? What would that access look like?

We have no specific suggestions at this time but would encourage the commission to learn from the Open Data User Group and bring back their data request mechanism to better engage data users to ensure more data is released in a strategic way with clear benefits cases. Since that group ceased, there is little evidence of a coherent process for releasing new open data and whilst the likes of Companies House and the Environment Agency have made excellent progress, too often there is a reliance on FOI processes for getting data released in a piecemeal and often local way with little though to onward re-use.

Q15: How can we best develop a single UK strategy, ensuring alignment between the individual strategies across the UK while still allwoing for regional variations?

We have no comment on this question.

Q16: How can we best ensure effective local authority coordination and sharing of best practise, using location data to better deliver public services?

Working with the LGA and similar bodies, the use of standards needs to be promoted with enhanced funding for those who do use them and perhaps publicly available data quality measures to show how good data leads to better services.

We will again cite spending data as an example of where standards are readily available on the LGA website but are often not followed – this makes the use of spending data by organisations looking to help public sector difficult as a lot of effort in cleansing and matching the data from different public bodies needs to take place before it can be of use. Many commercial software tools (such as ETL tools) are available to help take data from internal systems, cleanse and format it and then publish it to open data hubs – the Commission could work with vendors to create licensing models that support the Public Sector in a similar vein to the PSMA.

Q17: As a result of this analysis, we are prioritising the exploration of possible initiatives in the high-value categories identified:

- **property and land**

- **infrastructure and construction**

- **mobility**

- **natural resources**

- **sales and marketing**

What are the existing or potential geospatial applications which could be scaled-up or developed in order to capture economic value? (We would particularly welcome responses from industry and other bodies engaged in these sectors.)

Experian already have several geospatial applications in these categories which deliver economic value, and can deliver more with the right data developments.

The most widely known is the Goad solution which has been at the forefront of property information since the plans were first created in the 1890s. Development has been hampered by challenges accessing and matching complementary datasets, including VOA data. Linking VOA, HMLR and EPC data to the existing solutions in the property, land and construction space will deliver extra value. That data linkage relies on better consistency in the data files. These solutions also use Mastermap for visualisation so any changes to the royalty structure and access rules would be an important consideration.

Experian also work extensively with our clients supporting their Sales and Marketing effort. This work is based on geospatial data (people, places, and locations) linked to Location Analytics tools. These can all be enhanced through the provision of better linked Open Data sources. In the marketing sense there are broader applications across multiple channels and the proliferation of digital out-of-home and mobile marketing in particular rely on the location context for which spatial data is vital.

Experian are a leading data and solutions organisation in helping clients use data to improve their sales and marketing effort. We would welcome the opportunity to discuss these solution types with the Commission if it would help in your evidence gathering process.

Q18: Are there any other areas that we should look at as a priority?

We have no specific comments here.

Q19: What are the main potential private and public sector innovations that will rely on the use of geospatial data to rollout, and are there corresponding regulatory challenges?

We have no specific comments here.

Q20: How best can we make the UK's presence in the international geospatial world more visible?

We have no specific comments here.

Q21: Where should the UK be looking for points of comparison overseas? Who are the other international exemplars? What best practice is being modelled overseas that we can learn from?

We would call out countries where all address and mapping data has been released openly.

A good example of open address registers is Denmark where significant innovation has been powered by increased use of reliable and free address data.

Thank you for your time in completing your response to our call for evidence.

Any questions, please get in touch with the Geospatial Commission via geospatialcommission@cabinetoffice.gov.uk