Policy for Geographic Information from Ordnance Survey

Response to consultation from Dr Robert Barr OBE

I am responding to the consultation in a personal capacity and the views presented are mine alone and should not be attributed to any organisation I am associated with. However these views are informed by some 40 years of experience of handling geographic information in computerised environments. I am Chairman of Manchester Geomatics, a university spin out company which specialises in the handling and quality assurance of spatially referenced data. It is particularly associated with address data, was closely involved in resolving issues with the 2001 Census and is now involved in the preparation of address registers for the 2011 Census. I am also a Borough Councillor and Executive Board member responsible for Planning, Regeneration, Housing and Property Services on Warrington Borough Council. I retired from a 30 year career culminating as Director of the Regional Research Laboratory and Senior Lecturer in Geographical Information Systems at the University of Manchester where I am an Honorary Fellow and continue to supervise PhD students. I remain academically active. I was a member of the Social Exclusion Unit's Policy Action Team 18 "Better Information" and chaired the Geographic Referencing working group of the team. I am a past chair of the Association for Geographical Information, have recently been re-elected to the AGI Council and chair its addressing special interest group.

I have a fundamental problem with the nature of this consultation, though I will try to respond to the questions put as appropriately as possible. The consultation is introduced by John Denham, Secretary of State for Communities and Local Government, as informing the Prime Minister's vision as laid out in Putting the Frontline First: Smarter Government. He also mentions the intention for the UK to have an open data policy, the Location Strategy and the Total Place pilots. All of these are either dependent on, or deliver geographic data. He goes on to praise Ordnance Survey as a world leader.

I share his view that Ordnance Survey is an outstanding organisation with a proud history. However, under its last three Directors General, Ordnance Survey has been given the objective of recovering its operational costs by licensing its data and trading. More recently, as a Trading Fund, Ordnance Survey is required by the Treasury not only to cover costs but also to provide a return on capital employed. These objectives have placed Ordnance Survey at odds with many users, and potential users, of geographic information. Because of these objectives, and the associated mind set at Ordnance Survey, the Prime Minister's announcement that Ordnance Survey will now have to provide free data has come as a surprise. This reversal of policy creates the conundrums that this consultation seeks to resolve for the agency.

However, it would seem much more logical to separate the two issues of creating a coherent policy for geographic information and deciding on the future of Ordnance Survey. By conflating the two, as this consultation does, the cart of what to do with Ordnance Survey is put before the horse of what the government's geographic information policy should be. The answer to the latter question may, or, more likely, may not, be found in Ordnance Survey.

Question 1

What are your views or comments on the policy drivers for this consultation?

The Prime Minister's announcement of two related initiatives, "Putting the frontline first" and "Making Public Data Public", which follow chronologically, if not logically "Place Matters – The Location strategy for the United Kingdom", are presented as the main drivers for the current consultation. I agree that the policy context should be set by the two initiatives and that the Location Strategy may need to be revisited in order to align it with those initiatives. Some aspects of that realignment have been discussed in Barr and Roper 2009 which is one of the background papers for the consultation.

However, it is inevitable following extensive press speculation, Treasury statements and the involvement of the Shareholder Executive, that a separate agenda of the full or part privatisation of Ordnance Survey, as a whole or in parts, which pre-dates the three initiatives, is also seen as a prime driver for the current consultation.

In my view the question of "what do we do with Ordnance Survey" is secondary. The primary question should be "what geographic data does government need to meet the needs of citizens and ensure sound governance?" A supplement to that question should be "how can data of suitable quality be procured as cost effectively as possible and can that data also be used to stimulate the economy and benefit citizens outside government?"

What is missing from the consultation is any clearly articulated government policy on the geographic data that it needs to govern effectively. This is not because of a failure to address the policy issues. Over the last quarter of a century a succession of initiatives have been instigated to try to resolve the policy question; these include: the Chorley Report, the National Geospatial Data Framework, The Social Exclusion Unit's Policy Action Teams (in particular PAT 18, "Better Information"), the Trading Funds Review, the Acacia Project, the NSAI (National Spatial Address Infrastructure) and, most recently, the Location Strategy.

Each of these initiatives in turn has failed to deliver what is being proposed in "Putting the frontline first" and "Making public data public". While each of the initiatives listed might have only limited overlap with the current proposals, each set out to achieve at least some of the objectives set out now.

Until we understand the cause of that chronic failure to produce a coherent geographic information policy over a quarter of a century, and find a more effective mechanism for generating one, there is very little point in meddling with the architecture or ownership of a much revered and loved, but relatively small government agency. What is worse, inappropriate change could critically undermine the ability of that agency to contribute appropriately to the delivery of the data and services that government policy will decree are necessary.

Question 2

What are your views on how the market for geographic information has evolved recently and is likely to develop over the next 5-10 years

The market for geographic information in the last ten years has been strongly influenced and, many would say, distorted, by the presence of Ordnance Survey in the marketplace, in particular once cost recovery became complete.

The market for geographic information is highly imperfect because many products, in particular *core reference geographies*, are natural monopolies or their supply is concentrated in very few hands. There are very few geographic products that achieve a market based equilibrium price because of a lack of competition and an inclination by suppliers to match pricing rather than to compete on price.

Also, only a small proportion of geographic information is bought or sold in a conventional market. Much data is licensed in bulk. Bundles of products are licensed and a wide range of license agreements and costs are opaque.

This situation has bogged the industry down in legal challenges and has continually caused friction between OS, some of its aspiring competitors, and some of its customers and licensees.

However, too much emphasis may be being placed on these high profile difficulties. In practice the industry has adjusted to this imperfect environment; it may not be happy with it, but those with businesses to run must adjust to the world as it is, rather than the world as they would like it to be.

There have been three major disruptive influences on the market in the last 5 years each of which will strongly influence development in the next 5 – 10 years.

1. The arrival of vast quantities of Google free to view data, which provides a backdrop for user supplied data. This changes the public perception of whether geographic information should be paid for, what constitutes value added and the status of derived data.
2. The arrival of large quantities of increasingly-fit-for-purpose volunteered data, in particular Open Street Map, which provides data that can easily be re-used and is free at the point of use.
3. Real competition in the large scale topographic market, in particular from UK Map.

This means that the next government needs to rethink the nature and the regulation of the geographic information market in the near future. It is important to ensure that this is not done through Ordnance Survey coloured glasses. The future form and nature of Ordnance Survey must respond to the nature of the evolving market, rather than the market having to adjust to the distortions created by OS's current trading model.

Question 3

What are your views on the appropriate pricing model for Ordnance Survey products and services?

I reiterate; we need a clear pricing model across the industry. Having a separate pricing model for Ordnance Survey is always going to be problematic and we must wean Ordnance Survey and ourselves off special treatment.

Ordnance Survey staff regularly issue contradictory messages such as: “we have no monopolies, we have competition in everything we do”, yet a product such as BoundaryLine is the only authoritative digital representation of official boundaries. “We don’t cross subsidise”, yet when dealing with the Census Distributors Association complaint to OPSI the need to cross subsidise was the main plank of Ordnance Survey’s defence and the reason judgment was given in their favour.

While I am not entirely happy with the DataCo ProductCo split, it offers the beginning of a way forward. A clear separation of Ordnance Survey’s technical operations, which operate and account entirely on a fee for service model, from an Ordnance Survey publishing house, which specifies products, owns IP in non-core reference data, publishes and markets printed geographic products and data products, would be desirable.

However, such a split is predicated on establishing a logically separate national geospatial registry with a regulatory registrar. Such a registry would handle all core reference geographies, would ensure they were funded by sponsoring government departments and agencies, preferably out of hypothecated taxes or fees specifically collected to cover the cost of maintaining the registers. Raw data from the registry would be freely available to all users, including Ordnance Survey, on a consistent basis.

The registry may also be the home for refined, or value added, data that government departments wish to place in the public domain, free at the point of use.

If Ordnance Survey operated in a transparent economy; where all free material is outside its control and is fully funded; where all technical services are paid for in a transparent fee for service economy and all speculative ownership of data and marketing of products is done by the publishing arm; many of its current difficulties and difficulties in the market could be resolved.

Inevitably, such a model cannot be introduced overnight. However, if Ordnance Survey was working to a “road map” that split it logically into three entities, with the Public Task completely embedded in the geospatial registry, many of the difficulties and inconsistencies, that Ordnance Survey and the remainder of the industry face, could be overcome.

Question 4

What are your views and comments on public sector information regulation and policy concepts of Public Task as they apply to Ordnance Survey?

My earlier comments make it clear that I do not believe that a cost-recovering or privatised Ordnance Survey should be setting or regulating its own Public Task.

This is a government responsibility and the government should be advised on the Public Task by an independent geospatial registrar whose responsibility it would be to ensure that all data that supports the Public Task is procured and maintained as cost-effectively as possible, is lodged in the geospatial registry and is made available without charge.

One aspect of the current Public Task which cannot be handled in this way is the national coverage of up-to-date topographic mapping and aerial imagery needed for security and emergency purposes. Experience in this country and abroad demonstrates that private sector funded mapping and aerial survey follows demand and that parts of a country with low demand are likely not to be mapped or mapped rarely.

If the government is advised by its security and emergency services that complete coverage to a given standard is necessary, it must set its own standards and procure uneconomic mapping from competing suppliers already in the market to produce topographic mapping.

This will make the subsidy element transparent and fair and will offer the Tax Payer best value.

The role of Directors General of Ordnance Survey in government has been unacceptable since the agency moved towards near complete cost recovery. The conflicts of interest in that role are unsupportable and this confusion has significantly harmed Ordnance Survey over recent years when it has not been clear whether the agency is a market priced supplier, an adviser, a regulator or performs non-executive roles in its client departments. It has been called to carry out all those functions, which are, or at least should be, mutually incompatible.

Question 5

What are your views and comments on the products under consideration for free re-use and the rationale for their inclusion?

Most of the arguments I would put are covered in Barr and Roper 2009 which is cited in the consultation document.

I do not believe that any Ordnance Survey 'product' should be made free of charge. Only raw data that underpins the core reference geographies should be freely available.

I would exclude all topographic and imagery products from that because neither can be definitive, both have multiple suppliers and are best supplied in a competitive mapping and survey environment.

Ordnance Survey may be in a position to tender to supply and maintain the raw data that makes up most of the core reference geographies, and it should be in a position to do so competitively because that data is already embedded in their value added products. However, it could only supply that data, following a competitive bidding process, on a fee-for-service basis and Ordnance Survey would retain no intellectual property rights in the data supplied.

This would inevitably cause Ordnance Survey some difficulty because it would create a level playing field for the conversion of raw core reference material into value-added products, so some existing income streams would decline as a result. Those income streams are not in the national interest because they rely at present on Ordnance Survey, in effect, holding core reference material hostage

to secure an income stream. However it is not in the national interest to put Ordnance Survey in a position where they cannot survive in a more commercially competitive environment. A period of transition or transitional funding will be required to enable Ordnance Survey to make that change.

Question 6

How much do you think Government should commit to funding the free product set? How might this be achieved?

Government should not see the distribution of Ordnance Survey products as a long term solution and only short term transitional funding should be involved to enable it to fulfil its promise of free data by April 1st

The key to making data available free is to ensure that it is required within government for government to fulfil the Public Tasks it has set itself.

The set of core reference geographies will need to be allocated to individual government departments which should have the option of allocating funds from their core vote (usually on a non-discretionary basis), or should be allowed to hypothecate a particular fee or charge to fund the maintenance and distribution of the data. As raw data is going to be distributed the facility for distributing it will have a low fixed cost which will be related to the volume and the level of use.

The allocation of responsibilities for core reference geographies should be made by the Cabinet Office and the delivery should be regulated by the geospatial data registrar, who should ensure that best value is being achieved in the delivery of each core reference geography.

Question 7

What are your views on how free data from Ordnance Survey should be delivered?

I do not believe that, in the medium term, Ordnance Survey should be delivering data at all. However in the short term the data sets provided should be available in a standard transfer format for bulk download only. The data volumes involved in core reference geography datasets are generally no bigger than a BBC TV programme delivered over iPlayer, so virtually no one will be excluded.

Bulk breaking, reformatting, post-processing are all value-added activities which will be up to users, value-added resellers or redistributors to provide. Some providers may choose to host free data and make it available through an API. None of these activities should be restricted.

Eventually all free geographic data should be delivered through data.gov.uk.

The free licence should be as unrestrictive as possible but should demand acknowledgment, include the time and date of download; the time and date of the last update to the data provided and a link back to the canonical source to encourage the use of the most current data.

Question 8

What are your views on the impact that Ordnance Survey Free will have on the market?

Initially both Ordnance Survey and their partners, who have adapted to current re-selling conditions, will be adversely affected because there is little clarity as to what will be included or what compensation may be available for loss of income.

However that is because of the fundamental flaw in the concept of "Ordnance Survey – Free". Combining free data provision and commercial licensing in a single organisation will lead to inevitable tensions.

As quickly as possible, free geospatial data should become available only through a geospatial registry and data.gov.uk.

It is entirely possible that Ordnance Survey may bid successfully to host a geospatial registry as a service. If it does, it should not be branded Ordnance Survey, it must be funded on a fee for service basis and it must be regulated to ensure that access to the registry is open to all on an equal basis.

Resellers and value added resellers who have benefited from their ability to resell core reference data from Ordnance Survey will need to develop value-added approaches to the raw data to recover their income streams.

In the short term, the sudden release of free data will inevitably be disruptive.

Question 9

What are your suggestions for a National Address Register and suggestions for mechanisms to deliver it?

It may be argued that the delivery of a maintained National Address Register, free at the point of use is the single most important, and valuable, contribution to the national economy that a national geospatial registry can deliver.

The impasse over addressing, which has lasted for at least ten years, is nothing short of a national scandal and an example of extreme indecision and weakness in government.

The behaviour of all three partners in national addressing, local government represented by LGIH and Intelligent Addressing, Royal Mail and Ordnance Survey, has been outrageous and appears to have been motivated almost entirely by a desire to profit from a monopoly core reference geography.

CLG and the Land Registry are collectively responsible for a culpable lack of leadership that has allowed this situation to continue. HMLR failed to deliver a settlement from the Acacia project and CLG threw in the towel in delivering NSAI, both major national failures of geospatial leadership.

Royal Mail's attitude towards the ownership of PAF is unacceptable and the time has come to remove the ownership of PAF from Royal Mail, an action for which there is statutory precedent as

the Postal Services Act states that Royal Mail are owners of PAF “for the time being”. It is entirely unacceptable for Royal Mail to be in a position to undermine the Making Public Data Public initiative for what appear to be short sighted, self-seeking commercial motives.

The ONS ONSAR project offers a once in a generation opportunity to redeem this situation. However this may require legislation to strip LGIH, Royal Mail and Ordnance Survey of any asserted intellectual property rights in the core data. It would be for government to decide if any one-off compensation would be appropriate to the three organisations for that loss of an intellectual asset.

A core reference address register would be a much more straightforward data set than those delivered by IA, Royal Mail or Ordnance Survey. This would allow the three organisations to work together to supply the core product on a fee-for-service basis, while producing a range of value added product they could sell commercially.

This would ensure that the “collect once use many times” principle could be applied to addressing and we would no longer see the inconsistencies in the core of the three organisations’ products that exist today.

Question 10

What are your views on the Options outlined in this consultation?

As has been a consistent theme in my answers, I do not feel that the current consultation goes far enough and the short-to-medium-term future of Ordnance Survey should not be the main issue. The main issue should be how government can formulate a robust geo-information policy that allows it to define its own geographical Public Task and deliver the data required to support it.

Ordnance Survey Free appears to be a knee jerk reaction to public campaigns which does not solve the problem.

It now appears inevitable that from the time that Ordnance Survey was given the target by government to recover its full operational costs, and its transition to trading fund status, that the route out of public ownership and its role as a government agency was set.

This consultation appears to have been largely motivated by both an ambition to privatise Ordnance Survey and a half-hearted attempt to extract government and Ordnance Survey from the many internal contradictions that have been brought about by its current and recent status.

In those circumstances Options 1 and 2 are clearly unacceptable. Only Option 3 offers the first part of a route which would see Ordnance Survey divided into three logical and potentially autonomous units.

A national geospatial registry controlled by a government appointed registrar which would become the only source of free geospatial data from the government. It appears logical that both HMLR and VOA could be merged into that registry, but that would curtail their ambitions to trade in their data. That is not to say that all data from those two agencies need necessarily become free, they may be in a position to seek partners, which could include Ordnance Survey to trade in that part of their

data which is not deemed to be a core reference. It is not clear whether it would be appropriate for Ordnance Survey to host, or be, the registry because to date they have failed to disentangle their activities or achieve the transparency that an independent registry would require.

It may be more appropriate to logically split Ordnance Survey into something similar to DataCo and ProductCo.

As stated earlier DataCo should be a technical services house offering services entirely on a fee for service basis, it would hold no IPR, would not trade in data and would not specify products. However it would collect, process host and disseminate data and provide facilities such as printing and distribution. The problem for DataCo will be the wide range of other geographic, and IT, service companies it will have to compete with outside the existing integrated, Ordnance Survey structure.

ProductCo should be the publishing house. It would own the IPR in the non-core data that it had funded, it would specify, quality assure and publish data and paper products. It would effectively operate as a major GI publisher. Initially ProductCo may buy in most technical services from DataCo, however, in order to be competitive, it may need to look further afield making the DataCo operation vulnerable unless it is efficient enough to secure substantial contracts from the geospatial registry.

Only option 3 offers a route that could eventually lead to such a structure.

Question 11

For Local Authorities: What will be the balance of impact of these proposals on your costs?

While I am an elected member in a Local Authority and I am responsible for Planning and Regeneration, I am unable to judge the balance of impact.

It would be necessary for my authority to be properly recompensed for any work involved in contributing to the National Address Register. However, if the core reference data included the equivalent of a cadastral map base and a boundary data set, many of our needs would be met at lower cost than the current licensing arrangements.

The option to use aerial imagery, a competing product such as UK Map or bringing Open Street Map up to a level where it would be fit for use in planning could bring us significant advantages.

Question 12

Will these proposals have any impact on race, gender or disability equalities?

No