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APPSI's response to the CLG consultation on *Policy options for geographic information from Ordnance Survey*

EXECUTIVE SUMMARY

The main conclusions in regard to this Consultation of those APPSI members who were not conflicted by reasons of their employment¹ are as follows:

- i. We believe a much better approach would first have been to take an overview of the national information infrastructure and assess the real needs for Geographical Information (GI) as part of it, rather than concentrate simply on what is presently available from Ordnance Survey. That is only a sub-set of what is presently used and much of it derives in part from other providers. APPSI stands ready to engage in these more fundamental considerations.
- ii. The options offered are constrained but, of those offered, we believe Option 1 has no merit and Option 2 provides the cleanest model and potentially the greatest benefits. But we recognise that this is an irreversible step and – whilst it will be very difficult to make work – we on balance support Option 3 as a staging post towards it, with a review of the benefits and consequences of this first step within three years. We suggest that government accepts this two-stage process in their policy for OS.
- iii. Any change from the current model depends on enduring financial support from the taxpayer at a level sufficient to maintain the quality of the relevant GI. We are unable to compute how much this might be because of the paucity of figures on costs in the Consultation documents, question marks over some of the figures that are provided and the savings to other public bodies (e.g. Local Authorities) if Options 2 or 3 are selected.
- iv. We are clear that there is an overwhelming case for enhanced governance and regulation of Ordnance Survey plus formal specification of an agreed Public Task. Indeed, given the complex supply chain of GI, the governance structure may well have to be extended across government and we suggest a possible precedent.
- v. Of the data sets suggested under 'OS Free', we believe these to be useful but the lack of topographic data in vector form will reduce the applications which developers can create. Of

¹ We are grateful to the Meteorological Office for a submission since the Trading Fund representative on APPSI was obviously conflicted.

those cited, the boundaries of administrative, political and statistical areas are essential, as is some detailed postcode data (Code-point data suffer major inaccuracies in rural areas: Address Point would be a much better solution).

- vi. Less complex, restrictive and expensive licensing is crucial to the success of the government's initiative: in particular, OS should not have any Intellectual Property Rights in derived data.
- vii. We echo the argument of the Public Administration Select Committee that a definitive National Address Register is long overdue. We note that Defra has now taken leadership in this matter and will support this endeavour.

1. Background

1.1 In the last five years the exploitation of information in computer form has become central to the well-being of nations, businesses and societies: the *Economist's* supplement of 26 February 2010 shows just how rapidly the technologies and opportunities have evolved. Public policies germane to the availability of information held in the public sector have evolved somewhat more slowly. In the UK a number of major reviews of alternative approaches to the provision of Public Sector Information (PSI) have been carried out over the last two years. These reviews, along with experience from developments elsewhere in Europe and beyond and by recent UK government actions, provide the platform for radical improvements which can deliver substantial public benefit. APPSI has contributed constructively to many of these activities and has advised Ministers in line with its remit.²

1.2 Central to the debate has been the operating model of Ordnance Survey, a UK Trading Fund. The data it produces currently underpin many government, public and private sector activities. But the policies under which it has operated and some of its practices have become highly controversial and at odds with the government's philosophy of open access to information epitomised under the Prime Minister's *Making Public Data Public* initiative.

1.3 This note is APPSI's response to the government's consultation on the best model for Ordnance Survey's operations in future. It is structured in two parts. The second part answers the questions posed by the Consultation document. The first however provides an integrated critique of what is proposed and a rationale for our specific answers, avoiding the fragmentation generated by over-lapping questions.

2. The big issues

What is needed by government and other organisations?

2.1 A better and more strategic approach would have been to ask what is required by way of mapping and related geographical information for government and what additional societal benefits could be derived from making available the resulting products (or spin-offs) to the public. Ideally this would be a second level question after a review of the nation's information infrastructure within which Geographical Information nests (and

² Details of APPSI's role and membership are set out in annex 1. The membership is drawn from a very wide range of backgrounds – business, academia and government – having expertise in ICT, the law, marketing and business development, education, various public services and policy formation. In addition, members currently operate not only across the four countries of the UK but also in Europe, the USA and other developed countries. This statement represents the views of APPSI members but these have been informed by inputs from many other parties to whom we extended an open invitation to contribute.

within which OS data nests). We cannot safely assume that what Ordnance Survey currently produces meets contemporary needs – indeed parts of the specification of some OS products dates back over 50 years – or will remain the ‘data of choice’. From a strategic review of needs a rational set of specifications could have been assembled and the best way of meeting them designed and implemented.

2.2 The only government statements of which we are aware which define what is required is the set of Core Reference Geographies (CRGs) listed by government’s Location Council and the similar definitions embedded in the EU INSPIRE Directive which government has recently transposed into UK law. The former identifies the following CRGs:

- Geodetic Framework;
- Topographic Mapping (at different resolutions and including ground height information);
- Geographic Names;
- Addresses;
- Streets;
- Land and Property Ownership;
- Hydrology/Hydrography;
- Statistical Boundaries; (and)
- Administrative Boundaries

2.3 These definitions are extremely imprecise and would need to be refined to serve as specifications of need. It is however important to note that OS does not produce all these sets of information and even those it does produce are sometimes originated in other organisations (see the Local Government Association’s response to this Consultation). In short, the Consultation is about one part only of a complex and important issue – identifying what geographical information is needed to meet government’s needs and provide maximum societal benefit.

The policy contradiction

2.4 This Consultation exercise, and the policy drivers that underpin it, expose a fundamental contradiction at the heart of current government information policy. If we look at the definition of “public data” as defined in the *Smarter Government* paper, then there are two categories of providers. The first, and the great bulk of government organisations, are those that provide that information to citizens and businesses at marginal cost or for free. This includes for instance all the standard products of the Office for National Statistics and the rest of the Government Statistical Service – well in excess of 1000 major data sets. The Prime Minister has made it clear in his speech on *Smarter Government* that the presumption is that such public data should be made available freely.³ But a relatively small number of information providers fall into a second category: notably the Trading Funds of Ordnance Survey, the Meteorological Office and the Hydrographic Office, and also the Royal Mail.⁴ These are organisations that license and charge for their “public data”. Many of these organisations are pivotal in that their information provides a critical framework or infrastructure that underpins a wide range of onward information-based service delivery and value-added economic activities, as well as information core to some of government’s activities. There has been no consistent philosophy behind the allocation of a body to a particular category, other than ‘make

³ See the Prime Minister’s speech on Smarter Government at URL: <http://www.number10.gov.uk/Page21633>.

⁴ Some other government bodies like the Environment Agency also charge for some data but the total revenue in such cases is normally of the order of 1% of total income i.e. this is a very small part of their activities.

some money wherever we can'. The picture is further muddled in that some cases the second category organisations derive revenue from information based in part on data made available at no cost by first category organisations.

2.5 Though this particular consultation is about Ordnance Survey, it has ramifications for most or even all of the Trading Funds and those wider Public Sector Information Holders (PSIH) who charge for information. It will clearly create difficulties to have one set of fundamental rules for Ordnance Survey and not for the others, not least because information provided by two or more PSIHs are increasingly used in common and this necessarily results in having to cope with multiple and complex licensing and charging arrangements.⁵ Such frustrating and expensive arrangements will destroy the chances of enhancing public services through innovation. We believe that the mixed economy model (free and charged for) is increasingly difficult to support in many areas. Given this, it would be pragmatic to use the outcomes of this exercise focussed on Ordnance Survey to prepare the ground for what is likely to come next. APPSI would welcome continued dialogue and involvement in taking forward and extending our recommendations from the specific to the general case for all PSI Holders.

2.6 Thus far we have dealt with high level issues. So, though we believe the consultation misses a major strategic opportunity, we now address the Ordnance Survey issues it sets out.

Clarity of government's purpose in regard to Ordnance Survey

2.7 This is a necessary prerequisite for designing a new model for the organisation. It has not been clear for some time and remains so (see paragraph 5.8 of the consultation document). The approach being taken starts from what is presently made available by Ordnance Survey rather than what is actually needed.

2.8 Starkly put, there is a spectrum of views which may be taken about Ordnance Survey. At one extreme is that it is a (geographical) utility company, akin to other utilities. However information has very different properties to more tangible assets so the parallel is very inexact. At the other end of the spectrum OS data can be seen as a national strategic asset and as equivalent to the statistics produced by the Office of National Statistics which provide the population and economic framework. The ONS has recently been made independent by government under the strong governance of the UK Statistics Authority.

2.9 We believe the Consultation document aspires to find an approach which will deliver some of the advantages of open source information, some preservation of a national mapping function and some continuation of revenue generation from licensing. The conflation of these as a design aim will probably cost the taxpayer more in cash terms than the current model. Moreover we are very dubious that such a model is sustainable beyond the short term.

2.10 The conflation has consequences beyond finances. An Ordnance Survey which is a monopoly supplier⁶ - or even which simply competes with the private sector in some of

⁵ We have been told that all the Trading Funds are different and, by implication, need to have their own modes of operation. We think this 'we are different' argument is exaggerated.

⁶ There is some argument about whether OS is a monopoly supplier. A pure monopoly is defined as a single seller of a product. i.e. 100% of market share. In the UK a firm is often said to have monopoly power if it has more than 25% of market share. Currently OS is certainly in a dominant market position in its large scale (detailed) map data and may be effectively a monopoly - but not in the smaller scales areas. Such circumstances change with time e.g. on the demand

its sectors of operation - requires some form of regulation, enhanced governance and a level playing field defined through an explicit Public Task. Failure to address this will certainly lead to continuation of tensions between public and private sectors and probably to new appeals to the Office of Fair Trading. We welcome the discussion of Public Task on pages 42 to 44 of the Consultation document but note that it will be defined by government on the basis of what policy is adopted rather than an *a priori* definition of what government needs for its own purposes.

The new world

2.11 A major complicating factor is the rate of change of the technology.⁷ At present, we as individuals – on foot or in a car - can readily collect 5m resolution GPS data on the locations of roads, houses, fences, etc. The advent of ‘crowd sourcing’ operations like OpenStreetMap shows what can be done using freely available GPS facilities by volunteers, even in countries like North Korea. Within a small number of years we will certainly be able to collect information about 10 (linear) times more detailed. Global, commercial coverage of detailed satellite data in digital form is nearly a reality. ‘Data mashing’ and our capacity to detect ‘hidden truths’ through data mining and visualisation tools are improving rapidly and becoming widely used. Some citizens are ‘digital natives’ and regard this as the norm: many school children for example fall in this category. The consequence of technology push and demand pull is that there is a major opportunity for the innovation of new products and services to emerge. The best policy response to support the creation of new UK-based jobs and better services can not remain a patchwork quilt of rules created at different times and tailored to particular organisations.

2.12 In this regard the Consultation document ignores options other than the three posed. There is, for example, little examination of the merits of creation of new public sector structures suited to this new world as suggested by the Local Government response; nor is there any discussion of privatisation options. The Consultation has missed an important opportunity.

There is no free lunch

2.13 Many observers have urged that the UK government should follow the lead of the US federal government in making almost all of the information held by its component bodies effectively free at the point of use, rather than the present policy for the Trading Funds. Adoption of this approach by a number of European countries has greatly increased the use of the information. However the creation and (just as important) the maintenance of good quality geographical information is expensive so taking this approach generally means the taxpayer has to meet the bill or (given political frameworks) that quality and currency are progressively reduced.

2.14 It is important to understand the two potential applications of the term “free” to data: free can be taken to be analogous to either “free speech” or “free goods”. In the information marketplace, although the two categories of freedom are often intrinsically linked, the removal of charging (free goods) may be of secondary importance to the removal of restrictions and licensing (free speech). As applied to Ordnance Survey, changes to the licensing terms (in particular, those applying to derived data) are likely to be as significant to end-users as the changes to the pricing. We are surprised and disappointed that ‘derived data’ only appears in one sentence in the consultation

side, government was arguably a monopoly 30 years ago when other customers for large scale mapping were rare but this is no longer so true.

⁷ For many examples see ‘Data, data everywhere: a special report on managing information’ in, *The Economist*, 27 February 2010.

document (paragraph 6.8). This is a crucial factor for many organisations who add their data onto that of OS: indeed, we note a new commercial competitor has specifically designed their licensing to avoid this problem.

2.15 APPSI members are not wholly opposed to charging for certain categories of data beyond Core Reference Geographies but we suspect that competition, technology changes and other factors will shift towards this direction. Our conclusions (below) reflect this view and current financial realities.

Some key considerations

2.16 Whichever of the three options is adopted, APPSI members believe that success will necessitate:

- stronger governance and regulation of Ordnance Survey;
- a well-defined and widely accepted Public Task at 3 levels;
 - for government generally, in relation to all “public data”;
 - for government specifically in relation to its requirements for geographic information;
 - for the role of Ordnance Survey in contributing to this requirement;
- new, defensible and lawful OS cost accounting and pricing regimes; which can sustain the OS business even if licensing restrictions are relaxed;
- financial support from the taxpayer for the maintenance and provision of OS material which is made freely available.

The particular form of these will of course depend on the option chosen.

Our overall conclusions

2.17 Based upon the information contained in the Consultation we believe that – of those options offered – Option 1 is untenable. It pre-dates and is superseded by the Prime Minister’s announcement. This seems to us not to deliver anything which will significantly improve the long-standing difficulties associated with access to OS data and, in particular, does not properly address the objectives set out on page 47 of the Consultation document.

2.18 Option 2 is the most holistic, durable and clearest solution which OS can implement relatively rapidly. It is likely to create the greatest public and private benefit, with the lightest touch regulation and render the definition of an OS Public Task relatively easy. We recognise that it depends crucially upon the availability of enduring public finance – at a larger scale than for Option 3 - to support Ordnance Survey. It will also cause significant market disruptions (but if it is inevitable in the longer term, these disruptions will become greater the longer change is delayed). It is, as suggested, irreversible and has major consequences for the continuation of Ordnance Survey in anything like its present form.

2.19 We recognise of course that multiple policies are in place which impact on such decisions, notably financial policies. Implementing Option 3 successfully will be difficult, notably in the iteration towards tariff rebalancing which could very well ensure that costs

will not be known and stable for some time; some contingency plans will be required. Despite this, we reluctantly have come to the view that Option 3 provides the best pragmatic solution of those on offer - but as a transitional step to Option 2. We see some merits in this stepped approach because it provides experience of market transitions and unintended consequences. We therefore recommend that a review of the success and consequences of implementing Option 3 takes place no later than three years and that the results are published and appropriate action taken at that point.

2.20 We also believe that stronger and wider governance arrangements for Ordnance Survey must be put in place, in part because of its current market dominance in some areas and also because of the supply chain complexities involving OS and other creators of Geographical Information which become subsumed in OS products. Indeed, it can be argued that what is required is governance that goes beyond OS and relates to Core Reference Geographies. It is clear that the existing governmental bodies have been unsuccessful where collaboration is required (e.g. the National Address Register) and have individually operated on occasions in a fashion which has not maximised the public good. There may be a useful parallel in the UK Statistics Authority, a statutory body set up when its non-statutory predecessor proved to have inadequate 'teeth'.

2.21 Finally, we reiterate that central to the success of all the options is a need for additional, adequate and enduring public funding to support the maintenance of the relevant data sets. The value of a 'one time fix' will swiftly degrade. This net financial support may not however be as large as suggested because nearly half of OS's revenues arise from the public sector and are funded through HM Treasury.

3. Consultation questions and answers

Question 1: What are your views or comments on the policy drivers for this consultation?

3.1 We set out below what we understand to be the prime policy drivers:

Making Public Data Public and Smarter Government

3.2 Many of the policy drivers are appropriate, in particular the recognition that location (and the wider Geographic Information (GI)) are an essential part of many other uses of Public Sector Information and are enablers of Government Policy; this has also been recognised by the 'Putting the Frontline First: Smarter Government' and 'Making Public Data Public' (MPDP) initiatives. How OS will be funded, and competition / other legal issues, could have been given more prominence.

3.3 The MPDP announcement on 17th November 2009 committed Government to the release of (undefined) datasets which raised expectations, some of which the Consultation appears to argue against. In particular, the MPDP announcement recognised that more exploitation of OS's data is highly desirable (strengthened by the subsequent 'Smarter Government' announcement) and linked this to making more data available for free, including mid-scale mapping, electoral and local authority boundaries, and postcode areas.

Total Place

3.4 There is relatively little mention of 'Total Place', and the benefits of an open data policy for this initiative. 'Total Place' is only given a small reference in the Consultation

(paragraph 1.12) but the pilots between councils and other government and local agencies have demonstrated the importance of common information in agreeing the issues that need tackling, developing integrated solutions and achieving effective service delivery. This is not new. Two examples Whitehall should be aware of are the earlier Sustainable Community Strategies by Local Strategic Partnerships (led by councils with other public, private and voluntary bodies), and Joint Strategic Needs Assessments between councils and primary care trusts, which have shown the same thing. There are of course many locally initiated approaches as well but the lack of reference to these (and the constant re-organisation and lack of co-terminosity) suggests there is little understanding of the importance of the management of information about “needs” (alongside “performance” which has been the focus of much of Whitehall).

Other policy drivers

- 3.5 Focusing on what OS produces misses the crucial point that we actually need an inter-related set of Core Reference Geographies to meet many other policy needs. These certainly include information relating postcodes to coordinates (OS, GPS or whatever). Such a coherent national geographical framework – based on minimalist, core data collection and maintenance, on a state-mandated (but perhaps pluralistically executed) basis – is part of a national information infrastructure which underpins most of government’s policies.
- 3.6 More specifically, we recognise that government policies on value for money and cost reduction are also crucial drivers. These strongly impinge on how the Public Task of OS is funded. Logically, this is a tax-funded⁸ or registrations-based activity, off-set by any subsidies from commercial activities (which must be clearly separated from OS’s Public Task). This should operate on the principles of compliance and transparency (set out in our response to question 4). Some of the costs are discussed in the Consultation but there is very little on how they will be funded. The current approach (charging customers and maintaining a very tight control on how information is used) has resulted in considerable complexity in approach and in the negotiation of licences. It has had a significant additional cost and reduces both flexibility and exploitation of Geographic Information. Parenthetically we believe that the benefits from changing this (for both OS and for licensees, including use of derived data) should have been considered more effectively in the impact assessment, particularly for Option 2.
- 3.7 Governments in the last three decades have followed policies of widening the engagement of private sector contractors in the provision of public services. We consider that this Consultation has assumed that it is appropriate for OS to continue to collect all the data that it does at present. The opportunity to look at alternative approaches (e.g. more private sector involvement, based on a clear definition of requirements, particularly quality and scope) appears to have been missed. As indicated earlier, such an approach would have been facilitated by starting this process with an examination of what is needed then proceeding to examine how best to supply it.
- 3.8 The local government view is that government should (with independent advice and in consultation and building on the government’s Location Strategy) define the requirement for national mapping particularly those that define core reference geographies which could include a Public Task and a wider group of organisations that create core reference geography under statutory duty. The framework would define and regulate standards for content, quality/accuracy/ reliability, security, currency and history, attributes and labelling, and cross-referencing and integration. This should be procured,

⁸ We note that almost half of OS’ income comes from the public sector and hence funded very largely by taxation.

and a regulated market developed to exploit the data. Ideally, this would be part of a consistent approach to other data – e.g. people data such as collected and made available by the Office for National Statistics, and the data from a wide range of other agencies as part of Making Public Data Public – which could also bring together Freedom of Information, Data Protection, and Tradable Information.

3.9 Local government sees that OS would be well placed to continue to prepare much of this core reference geography but if so, would wish OS's activities to be divided between this role (called DataCo in the Consultation paper) and any role called ProductCo in the Consultation paper) in developing and marketing any additional value-added data (i.e. beyond the national spatial data infrastructure) along the lines indicated by the Cambridge and CUPPI studies in relation to unrefined and refined information.

3.10 The defining of the Public Task links crucially to the pricing structure used for the public sector. Ramsey pricing expects quite detailed understanding of the demand for GI, but it is clear that the degree of articulation of this for the public sector is not as advanced as that for the business sector. There needs to be a transparency about the real needs of local bodies and central government.

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?

3.11 This section of the Consultation is quite clear. It is predicated on a value chain of GI acquisition from survey through to delivery to customers which is composed first of survey, data, software (to sort out the data and produce the digital maps and other products), services provided by OS from the digital data, and thence delivery to consumers and VARs.

3.12 At every stage of the chain in the future, there will be new entrants ranging from non-profit agencies all the way through to the most aggressive commercial players. Whatever monopoly or dominant position OS currently has on the acquisition of data through survey and in information supply will be eroded due to dramatic developments in local and remote sensing in which costs are forever being driven down. That said, OS's brand image and legacy advantages (e.g. right of access to land) will ensure some persistence of dominance for the foreseeable future.

3.13 In short, the future market identified in the Consultation appears to be one that we would all agree with – many more entrants in the chain of generating digital map and related data, rapid further developments in satellite and GPS technologies, and a move from 2D data sets and visualisations into 3D.

3.14 But there are many other important likely market developments:

- The acquisition of basic data from crowd sourcing – i.e. the creation of map data directly using local sensing on the part of interested individuals. Astonishingly, OpenStreetMap (OSM) is not mentioned at all in the Consultation despite being one of the most dramatic developments in the last 5 years. Crowd sourcing in 2D and 3D is facilitated by Google Map Maker, Google Building Maker and Google Sketchup. To an extent such approaches might turn the chain from survey to delivery on its head as those who are the recipients of delivery merge with those who survey.
- The size of the present GIS market is estimated at £900m. APPSI members argue that, if second order demand is taken account of – meaning those who use OS products and GI data which has already been worked up and had value added – then

this figure is almost certainly an under-estimate. The international evidence of large growth in use of Geographic Information when it is made freely available is unassailable. What is much more difficult to predict is the scale of revenue growth amongst private sector players. This will depend on new entrants, what is made available and on which licensing terms, on the state of expenditure in the public and private sectors, etc.

- The Consultation distinguishes between the structure of the GI market and the structure of the OS market but it does not unpack the OS market into the same three sectors B2G, B2B, and B2C. In fact OS is positioned more in B2B and B2G which are the smaller segments of the market. In terms of the future market, then it is likely that B2C will grow ever more as smart hand held devices become ubiquitous.
- There will be an increasing need for digital data at different levels of accuracy, resolution or sophistication. The provision of 'Lite' versions of products will come onto the agenda if it is not there already.
- Mashups will become ubiquitous. At present they are still the prerogative of experts. This is likely to change in the next 5 years.
- Data currently form the largest cost in the chain of hardware-software-data. This will change as new suppliers and new methods of creation emerge and 'orgware' – people dealing with hardware, software, and data will become the most significant component. This is already happening.
- There will be increased demand for data produced at more frequent temporal intervals – and especially data current at any particular moment chosen. A good example of this is the detailed imagery data for Haiti produced by commercial satellite operators within a few hours of the earthquake. Measuring change through time (e.g. in land use) will require time-stamped spatial data. OS have not been good at this time trend capability to date.
- There will be increased demand for adding value to GI by merging different data sets – merging OSM content with Mastermap for example just as Yahoo Maps is now being linked formally with OSM, and just as Bing Maps is featuring in ESRI products.
- Some APPSI members argue that competition, the less *a priori* need for a national mapping agency and risks of not having a complete data set are becoming more manageable. Risks associated with use of inconsistent datasets (i.e. a multiplicity of competing "core reference geographies") are however increasing and are harder to manage. This suggests there are substantial benefits in using one standard Core Reference Geography.

Question 3: What are your views on the appropriate pricing model for Ordnance Survey products and services?

3.15 The economics of information were summarized a decade ago by Shapiro and Varian.⁹ Put simply, they show that the first unit of OS geographic (and much other) information is very expensive to create; thereafter costs associated with the raw information are low if not almost zero. High quality GI is presently particularly expensive and – whether in the public sector or not – the pricing policy is both a means to resource

⁹ Shapiro, C. and Varian H.R. 1999. *Information Rules: A Strategic Guide to the Network Economy*. Cambridge, MA: Harvard University Press.

such capabilities and to provide incentives to manage the UK GI efficiently. The authors present strategies to differentiate GI products and prices according to different user demands. Effective information businesses target products, tailoring content and quality, meeting specific user demands etc. but offering services/products at different prices despite being derived from the same database. Shapiro and Varian argue that discriminatory pricing should not be designed to be anti-competitive, but offers a means to meet high fixed costs through revenues from consumers prepared to pay a price premium.

3.16 We start from the principle that pricing structures should respond to policy drivers, and not the reverse. More specifically, it is important that government is clear what is to be expected of and required from Ordnance Survey: the pricing strategy should then respond to those drivers. If we want the benefits described in *Smarter Government* of “public data” then this should be a clear policy, and the pricing of products should be set to support this policy.

3.17 The Consultation considers three pricing models: Ramsey, cost plus and retail minus. Ramsey and retail minus differentiate prices by the use of GI; with cost plus, the main determinant of price is cost of GI supply. OS currently uses Ramsey pricing. However, continued use, as suggested in the Consultation, requires remedial work to ensure that, if OS continues to charge for products and services on the basis of user willingness to pay, it does so fairly.¹⁰

3.18 Until now, OS has used Ramsey pricing for its products in such a way as to recover the total organisational costs involved in producing, maintaining, selling, marketing and distributing all of its products (existing and new) plus a satisfactory margin (part of which is paid as dividend to HM Treasury). We note that OS currently operates as an integrated business with data collection and maintenance and product creation and distribution treated as cost centres within the organisational structure, with no transfer pricing arrangements between them.¹¹ The OS argues that its work goes into a single database which produces a multitude of products, some of which are in competitive markets and some not. How does one then separate costs fairly where a product is offered into a competed market? How does one prevent cross-subsidisation if one adds to the central database and creates a new product that directly competes in the market? Is OS forcing up prices by setting quality standards which are higher than needed by many in order to obtain a price premium from those users who require that quality? Clearly, cost attribution is a non-trivial problem under these circumstances but OS has managed to do so in the past (for example attributing production costs to various activities under the National Interest in Mapping Service Agreement (NIMSA) and in responding to Parliamentary Questions about the cost of products).

3.19 With regard to incentives, we note that the OS argues – and the Consultation reiterates – that the Office of Fair Trading (OfT) have not found any of their practices anti-competitive. Nonetheless, and unusually for a Market Study, the OFT singled-out OS for strong criticisms to the point of describing part of OS’s strategy (CUPI paragraph 6.4) as being on the “outer limit of Competition Law”.

3.20 Given all of the above, APPSI members are [largely] of the view that, if charging for some OS data is continued (which is antipathetic to the Making Data Public philosophy), then:

¹⁰ There are references in the Consultation document to the potential need to align costs with prices, for example, in paragraph 9.1 (point 5 – “a move to segmental accounting in order to enhance transparency”), 9.22, and 9.24 but these remarks appear to be made in context of balancing costs and prices between public and private sectors and not per product and service.

¹¹ See paragraph 6.1 in the Consultation document.

- Recovering individual product costs through Ramsey pricing or some other forms of price differentiation is appropriate alongside “cost” plus;
- However, that the OS policy of applying Ramsey pricing to an aggregation of all of its costs for products and services – whether monopoly or non-monopoly – must cease in order to avoid market distortions through unfair cross-subsidisation; and
- that instead OS product/service cost allocation must become transparent and challengeable.

3.21 The trade-off is that other benefits more than compensate for this loss of competition. The situation as regards addressing must be resolved. The commercial interests of different organisations, all directly or indirectly answerable to government, have prevented their being a single national address register. This has caused confusion, lost opportunity and unnecessary cost. The £10 million which the ONS expects to spend investigating and, where it deems necessary, rationalising the three existing datasets is just one consequence of this decade-long imbroglio.

3.22 The following contextual issues need to be addressed:

- As pointed out in response to Question 1 above, the Public Task needs to be defined clearly alongside or before developing a pricing policy;
- A pricing policy should be underpinned by transparent and rational cost attribution. APPSI supports moves to meet the recent EU observation when reviewing the Re-use of Public Sector Information Regulations about transparency with regard to costs.¹²

Question 4: What are your views and comments on public sector information regulation and policy, and the concepts of public task and good governance as they apply to Ordnance Survey?

3.23 There appears to be a consensus that some OS practices and procedures run contrary to the expression of best practice of PSI, as articulated by Government in several instances. (Examples include The *Information Fair Trader Scheme* principles and guidelines for PSI; even the Operational Efficiency Report statement of principles).¹³

3.24 APPSI members with direct experience of using OS information argue that that the tensions that flow from the current policy contradictions cannot be satisfactorily resolved by the existing regulatory agencies. Changes in both respects are probably needed.

¹² It is worth noting that, although Article 6 of the Re-Use of PSI Regulations states that charges shall not exceed the costs of collection, production, reproduction and dissemination, the review of the Directive published on 7th May 2009. http://ec.europa.eu/information_society/policy/psi/docs/pdfs/directive/com09_212/com09_212_en.pdf offered specific clarification (p8 section 5 (3) stating that bodies *should be transparent on the calculation basis they apply to charges for PSI and that it should not be based on the total turnover of the public sector body, but on the individual databases or items concerned* (our italics).

¹³ *Operational Efficiency Programme: Final Report*, April 2009, p. 41 at URL: http://www.hm-treasury.gov.uk/d/oepr_final_report_210409_pu728.pdf.

3.25 The Public Sector Information Regulations are in a broad sense reflective of wider Competition Law principles, and OS practices are commonly seen as running counter to both regulation and best practice in this area. Whether regulation needs to be statutory as is the case with the UK Statistics Authority where establishing trust in statistics was a fundamental objective, or simply a well operated and agreed governance framework (such as that provided in the telecoms markets by the BT Equality of Access Board) is a moot point. A simple statement of governance principles – such as the Whish principles for the BBC - may not be enough considering the heritage of the OS position in its marketplace. This latter example has not been particularly effective. But, however this matter is disposed, APPSI wishes to see the exercise of demonstrable and open governance. Referencing OS to all these principles, we would render policy consistent and compliant with the Public Sector Information Regulations and its wider context of Competition Law.

3.26 In particular it is essential that any regulatory process have three components:¹⁴

- it should be independent (self regulation does not work);
- it should have powers; and
- it should also have a process which obviates the necessity of companies (many of whom in this sector cannot afford to do so) going to the courts.

3.27 Examples of such models which provide models of regulation and governance are the Information Commissioner role and the OFTEL/BT governance arrangements. But OFT's failure to enforce its CUPRI recommendations illustrate that the success of any new regulatory arrangements are dependent upon having a clear and widely agreed and understood Public Task definition plus a clear separation between commercial and subsidised activities.

Question 5: What are your views and comments on the products under consideration for release for free re-use and the rationale for their inclusion?

3.28 We welcome the proposal to release some at least of OS data free of licensing and cost restrictions and are confident that this will encourage innovation.

3.29 We particularly welcome the proposed release of Boundary-Line, 1:50,000 scale Gazetteer and Code-Point data. Code-Point is actually quite flawed in rural areas where its 'average co-ordinate' is often far from actual habitations and even in urban areas it can be misleading as to the location of premises: Address Point would be a much better alternative. That said, these form a vital component of the Core Reference Geographies referred to earlier. *Failure to make at least these data sets available in this form would castrate the Making Public Data Public initiative.*

3.30 It should be noted that the main mapping products planned for release are raster and not vector data. Raster maps have no inherent intelligence (like a paper picture rather than an intelligent digital representation of the picture) and are not as easy to build upon as vector products. These are therefore lower value products 'backdrops' which are derivatives of the main OS digital databases with very low additional production costs.

¹⁴ The particular form of regulation will of course depend on the Option chosen – a point which is examined further elsewhere in this document.

- 3.31 However the Code-Point polygon, Meridian and Strategi are digital vector data and will open more opportunities although the last two sets of information have limited geographical granularity.
- 3.32 The major OS products are based around vector-based 'intelligent data' (such as Master Map). None of these datasets will be released under Options 1 or 3 although were they to become available at cost or marginal cost then the impact on innovation and enterprise – and on short-run costs to the Exchequer – would be far greater (i.e. Option 2).

Question 6: How much do you think government should commit to funding the free product set? How might this be achieved?

- 3.33 We strongly suspect that the inter-relationships between the OS products being proposed for free distribution and use and the larger scale OS products are much more complex than set out in skeletal form in page 52 of the Consultation document. Given this, we have no means of knowing whether the profitability figures cited in paragraph 6.22 are accurate or wildly wrong.
- 3.34 We believe it is important to operate on a set of principles. In our view, OS should be funded for the costs of maintaining and distributing the data sets identified in OS Free – with incentives to reduce these costs through operational efficiencies over time. To the greatest extent possible, cross-subsidy of larger scale products should be avoided. This again emphasises the importance of our repeated reference to cost allocation models.

Question 7: What are your views on how free data from Ordnance Survey should be delivered?

- 3.35 The provision of OS data under a Creative Commons licence appears a sensible and viable solution but the data must be made available in a variety of standard formats and on standard media or on-line.
- 3.36 There is a significant view that OS should in future be responsible only for data creation and delivery, not added value services built upon these data.

Question 8: What are your views on the impact Ordnance Survey Free will have on the market?

- 3.37 APPSI is of the view that an iterative widening of OS Free seems appropriate, establishing the nature of the impacts associated with separate tranches.
- 3.38 Some APPSI members were concerned that both the Impact Assessment and this section of the Consultation are overly optimistic in assessing the impacts. However we acknowledge that the impacts are uncertain: some are redistributive, some are social costs (primarily revenue transfers) and some benefits appear hard to quantify (improved public accountability).
- 3.39 The document assesses revenue losses to OS, but there appear to be conflicting information on the cost implications (see above). There are varying estimates of the loss of income (and therefore pressure on tax) to HM Treasury through making some or all of OS's data available at no charge.

- 3.40 It is not clear what portion would fall to local authorities. It must be borne in mind that nearly half of OS's income is derived from taxes via local and central government (and agencies) purchases, so that a loss of income to HM Treasury would be offset by lowering of taxed-based expenditure contributing to that income.
- 3.41 Such analysis would be valuable in constructing an overt tax-based funding of the Public Task, and use the INSPIRE approach for charging for value-added products beyond the Public Task, to provide a sustainable financial base if the key data are "free".
- 3.42 APPSI members are of the view that the release of small scale (1:25,000 and 1:50,000 scale) mapping datasets will have some impact on the sale of paper maps and may even place a question mark of the maintenance of *some* small scale mapping. But it will have very little significant impact upon the B2B marketplace. However, though it seems a small part of OS's business as the scale is ca £10m, this may be a more significant part of OS's surplus and thus has a greater impact than might at first be thought on the public purse. Release of mid-scale mapping (1:10,000 scale) could have an impact on companies operating in this field and also on OS's business model. The impact would be much greater if the data released for free were vector, *rather* than raster, data. This level of mapping may be "good enough" for various purposes and feed into both mid range and large scale mapping markets. These markets form the bulk of both OS's revenues and the mapping revenues of its re-sellers and trading partners. This is a complex market and unpicking the mid and large scale mapping revenues and their inter-dependencies would be difficult. One might precipitate a fall in the revenues of the other ("good enough") through product substitution. Without details of the numbers and characteristics of businesses partnering with Ordnance Survey, we are not able to give an informed opinion on the total costs and benefits of such a change; we think this would be a relatively straightforward exercise for an organisation like L.E.K. Consulting if they had access to detailed data and discussions with representative firms.
- 3.43 Large scale mapping (OS Mastermap etc.) free release will significantly impact both OS's business model and the few commercial competitors (Infoterra, Landmark, UK Map etc.) active in this area.
- 3.44 The iterative approach suggested in Option 3 seems sensible apart from creating initial uncertainty. As products are released for free, a better understanding of the impacts will be made. Also, if the release is timed and pre-announced so that businesses and users can mitigate where necessary, the unforeseen consequences will be minimised. Small-scale mapping products seem the place to start.
- 3.45 Some impacts, such as better public accountability, appear reasonable to anticipate but can await the resolution of OS's Public Task definition. For some of the OS Free products, benefits due to public accountability will need to be high if they are to be the main reason for a decision. For example, large-scale mapping is a sector of the market presently worth ca £100-200m (together with mid scale mapping above). It would be wise to assess the public accountability benefits to check that they are in the same scale as the sector.
- 3.46 The impact of data quality needs further consideration as diminution of it might become a potential consequence of free release of data. Data quality might also include speed and efficiency which in turn might be more important than perfection for some users and some datasets.

Question 9: What are your comments on the proposal for a single National Address Register and suggestions for mechanisms to deliver it?

- 3.47 The situation as regards addressing must be resolved. The commercial interests of different organisations, all directly or indirectly answerable to government, have prevented their being a single national address register. This has caused confusion, lost opportunity and unnecessary cost over the last decade. The £10+ million which the ONS expects to spend investigating and, where it deems necessary, rationalising the three existing datasets is just one example of this.
- 3.48 The situation has been the subject of Parliamentary comment, as well as in various reports to government such as the Power of Information Report; on 22 February, the Shadow Cabinet Office Minister expressed outrage at the additional expenditure devoted to addressing by ONS.
- 3.49 A major complicating factor is that the Royal Mail has its own Intellectual Property Right interests in this matter through having compiled its Postcode Address File (though we note that local authorities are the street naming authorities). OS provides a co-ordinate for each PAF address. The result is a tangle of rights which have proved impossible thus far to untangle.
- 3.50 Yet other countries have resolved such issues: the consultation document (page 62) gives the example of Australia and many other examples (e.g. Denmark) exist.
- 3.51 We have only the following comments to make:
- It is a national scandal that we do not have a definitive single National Address Register when most of the components have long resided in the public sector, not least when an integrated solution already exists in Northern Ireland. We strongly support any moves to create and maintain it.
 - We welcome the very recent news that DEFRA has taken over the leadership in re-examining a National Address Register. We trust that the many reports on this over the last 10 years will lead to speedy action and hope to see a programme timetable for this as soon as possible.

Question 10: What are your views on the options outlined in this consultation?

- 3.52 As indicated at the outset, APPSI's approach in response to this question is conditioned by the conviction that a review of the current business model without an analysis of what government and the nation requires by way of a national GI infrastructure and strategy and, following from that, what OS is for will inevitably limit and even skew the options presented. This is acknowledged in the Consultation document (paragraphs 1.10 et seq) but an *a priori* agenda is then openly stated in paragraph 1.21, i.e. OS will remain in existence and sit at the heart of the geographic information innovation chain. A number of APPSI members regard this as a remarkable statement in the context – and somewhat risky, especially given the recent evidence of the destructive disintermediating forces of new technology.
- 3.53 The Consultation acknowledges that a definition of Public Task as 'everything OS does' is not appropriate but concludes that its definition will depend on the policy proposal (paragraph 4.33). APPSI believes that the definition of Public Task, and the process by which it is deduced, should follow from a re-think as to what a 21st century

Britain needs in terms of a national GI strategy and infrastructure, followed by decisions on who does what.

- 3.54 APPSI members do not support Option 1. This seems to us not to deliver anything which will significantly improve the long-standing difficulties associated with access to OS data and, in particular, does not properly address the objectives set out on page 47 of the Consultation document.
- 3.55 Adopting Option 2 would be most consistent with the logic of *Making Public Data Public*, and the most likely means of removing the obstacles and inefficiencies inherent in the current system. Adopting Option 2 would also force a much more radical re-think of what was essential to government, and what is the best way of providing it.
- 3.56 We recognise of course that multiple policies are in place which impact on such decisions, notably financial policies. We also recognise the political urgency to move towards a solution. We reluctantly therefore come to the view that Option 3 provides the best short-term pragmatic solution of those on offer but believe it is highly likely to become a staging post to Option 2. We believe that there should be a review of the successes, difficulties and unintended consequences of implementing Option 3 within three years by which time we would expect the pressures to move to Option 2 could well be overwhelming. We also note that implementing Option 3 successfully will be difficult, notably in the iteration towards tariff rebalancing and some contingency plans will be required.
- 3.57 Finally, central to the success of all the options is a need for additional, adequate and enduring public funding for maintenance of the relevant data sets; to allow them to degrade through not incorporating change would be catastrophic. This may not be as large as suggested because nearly half of OS's revenues arise from the public sector and are funded through HM Treasury.

Question 11: For local authorities: what will be the balance of impact of these proposals on your costs and revenues?

- 3.58 We have seen the Local Government Association's response to the Consultation and would commend it to you. Our view on the impact on local authorities is as follows:
- 3.59 Option 1 perpetuates the existing highly unsatisfactory position. Whilst it is noted that as part of the public sector, local government has been paying *relatively* less than the private sector, OS's indicative prices between with existing Mapping Service Agreement (MSA) and the Replacement Mapping Service Agreement have gone up *absolutely and significantly*, which is cost shunting onto local government at a time when the Government is looking to councils to protect frontline services by making reductions in support expenditure.
- 3.60 This could be made even worse by the reset option. Moreover, the Option 1 does not deal with the issue of derived data, which causes further expenditure for councils in sharing data with other organisations - NHS, voluntary and business organisations, providers, etc. - as part of joint working, thus undermining another plank of the Government's drive for service improvement and cost reduction. It has also inhibited the availability of the National Land & Property Gazetteer (NLPG) to the detriment of the wider economy and caused substantial additional costs for the Census 2011. Finally it does not address local government's desire to purchase OS data even more cost efficiently, because OS would continue to bundle up its data services and products into one price. What discounts local government receives is mainly for bulk purchase, not for being in the public sector. It seems wrong to penalise local government for being

organised and efficient. A better answer would be to extend local government's approach to other sectors.

3.61 Option 2 of "OS Free" (but without the high resolution data; including that would increase the cost savings) would reduce the cost to local government by some 8%, though this is less than the proposed increase in licensing costs for the Replacement MSA, and would be offset by the costs of compiling the data to a given standard and for a service provider to collate and publish the data. However it would overcome the derived data issue for the "OS Free" products in terms of sharing data. However the Consultation document does not specify how the "OS Free" data would be funded. So there is a concern that this might be via higher prices for other data/products, especially as part of any reset option, and/or reduction in grant, all of which would impact on councils' abilities to maintain and improve services and reduce costs.

3.62 Making address data freely available could mean that local authorities would also release their land and property data for free, funding the capture of the data through their statutory street naming and numbering duty. This however does not cover the collation and provision of the national dataset through the NLPG hub. To cover these costs local government would most likely apply to charge for the infrastructure which is permitted under the INSPIRE Regulations. Alternatively Government funding for making OS Free data available could also be applied to local authorities and other government departments responsible for providing Core Reference Geographies.

3.63 Option 3 would also reduce the cost to local government by some 8% whilst failing to address the disadvantages and costs of Option 1. It also leaves the funding issues referred in Option 2 unresolved. Moreover the transitional arrangements could well lead increased burdens on data administration and prolonged procurement negotiations as the prices would not be known and stable for some time. All this would lead to uncertainty not only for local government but also for OS, users of its services and products, other GI providers and the wider market.

Question 12: Will these proposals have any impact on race, gender or disability equalities?

3.64 None appear to be likely.

**Advisory Panel on Public Sector Information
9 March 2010**

ANNEX: The role and composition of APPSI

The Advisory Panel on Public Sector Information (APPSI) is a Non-Departmental Public Body of the Ministry of Justice. Its members are drawn from a wide variety of backgrounds including: information providers; re-users and consumers of public-sector information; experts from academia and industry; representatives of producer and consumer groups; and representatives of the devolved administrations. Its role is:

- To advise Ministers on how to encourage and create opportunities in the information industry for greater re-use of public sector information;
- To advise the Director of the Office of Public Sector Information and Controller of Her Majesty's Stationery Office about changes and opportunities in the information industry, so that the licensing of Crown copyright and public sector information is aligned with current and emerging developments;
- To review and consider complaints under the Re-use of Public Sector Information Regulations 2005 and advise on the impact of the complaints procedures under those regulations.

Full details about our Panel can be found at www.appsi.gov.uk.

If you wish to discuss any of the points made in this response, please email the APPSI Secretariat: secretariat@appsi.gsi.gov.uk or telephone: 020 8392 5330 ext: 2252.