# THE USE OF SPATIAL DATA TO ENHANCE THE DEMOCRATIC PROCESS

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**Abstract**. The United Kingdom (UK) is a constitutional monarchy and parliamentary democracy comprising a unique combination of legal systems developed over several centuries. Over the years the democratic political system that underlies the process has evolved to meet the growing demands of the citizens for more open government and accountability.

Recent changes in the political structure of the UK include elections to create a Parliament in Scotland (the first since the Act of Union in 1707); an elected assembly in Wales, and for the first time a directly elected Mayor and Assembly for Greater London, in the year 2000.

These changes, which impact upon the democratic make-up of the UK, present professional groups within the Spatial Information Community with an opportunity to demonstrate to the general public and urban decision makers the power of spatial information and ensure that leaders and officers of these new bodies understand how to use available data to make more informed decisions.

This paper will explore the capability of the public and private sectors in the UK to exploit the opportunities offered by the new political bodies to use spatial information effectively. It will cover the activities of the spatial information community to increase the awareness and understanding of the general public and politicians, to the potential use of spatial information as a method of disseminating information in a readily understandable form. The paper will also discuss the rôle of the Association for Geographic Information (AGI) in taking forward the agenda for change, in the political forum, in education and in the media. Finally the paper addresses some of the issues raised in the wider European context.

## 1. Changes within the United Kingdom

The United Kingdom covers 244,100 square kilometers, contains approximately 60,000,000 people and comprises four countries: England, Scotland, Wales and Northern Ireland. England and Wales were unified politically, administratively and legally by the acts of union of 1536 and 1542. In 1707 Scotland joined England and Wales in forming a single parliament for the three countries, though it retained its own legal and education systems. Between 1920 and the early 1970's Northern Ireland had a parliament and cabinet with domestic autonomy. The British constitution is unusual being partially unwritten and flexible. Its basic sources are parliamentary legislation, decisions by courts of law and conventions.

Local government was first introduced into the UK on a uniform basis between 1835 and 1888 and remained broadly unchanged until the present system was introduced between 1965 and 1975.

In 1986 The Greater London Council (GLC) was abolished, leaving London's seven million plus population without a directly elected assembly.

Since the 1997 general election rapid and radical changes have been made to the manner in which the UK is governed. Referendums in Wales and Scotland gained a majority of votes for greater autonomy from the UK parliament based in Westminster (London). The result has been the reformation of a directly elected Scottish Parliament and Welsh Assembly. London will see elections for a Mayor and Assembly in May 2,000. Changes within Northern Ireland are dependent upon the outcome of the present political debate.

These changes to the political structure of the UK are providing an opportunity for the spatial information community in general and the Association for Geographical Information (AGI) in particular to practically demonstrate the benefits to be gained from the use of spatial data in the democratic process. The opportunities enable professional users of spatial information to explain to politicians where their influence can release information into the public domain, encourage the integration of data and use spatial analysis to support and explain political decisions.

## 2. Influential drivers behind the use of Spatial data

In April 1987 the Chorley Committee of Enquiry into the handling of Geographical Information [Chorley 1987] was published. The report contained 65 recommendations broadly setting out how the barriers to the wider use of geographic information could be overcome. One of the major recommendations was that a Centre of Excellence for geographic information be established in the UK, funded by central government. However, no government funding was made available and it was left to the spatial information community to act on its own. In 1989 the Association for Geographic Information (AGI) was formed with support from key government departments and agencies, local government, the commercial sector, professional bodies, academia and individuals. The key aims of the AGI are to inform, influence and act.

A significant number of initiatives and developments have taken place since the publication of the Chorley report. The major milestones can be summarised as follows:

- central and local governments investment in the use of spatial data;
- utility companies investment in the use of spatial data;
- investment in research initiatives and pilots e.g. National Land Information Service (NLIS);
- major changes in the availability and cost of computing power;
- the availability of spatial data generally including both maps, and social demographic data;
- emerging standards;
- National Geospatial Data Framework (NGDF);
- government information policy;

- the governments Geographic Information Charter Standard
- private sector funded initiatives, e.g; Teramedia [Glover 1999]; and
- the world wide web.

The year 1997 can, with hindsight, be seen as a turning point when, 11 years after the publication of the Chorley report, spatial data 'came of age' in the political environment. A government White Paper government.direct proposed the delivery of government services using computer networks and other legislation built upon the recognition that the 'Information Society' had arrived.

One early driver of the use of spatial data in the democratic process was a Web Site, www.election.co.uk, built by Business Geographics Ltd [Tear 1997] in collaboration with several other companies. This site received over 4 million 'hits' over the election period. The Web Site was designed to provide background information on the 1997 general election and featured maps, political facts, political commentary and geographic profiles of each of the UK's 659 parliamentary constituencies. The site offered four mechanisms for interacting with a particular constituency:

- a town to parliamentary constituency lookup accessed through a text interface;
- sets of image maps for navigation from county through to constituency level;
- virtual reality worlds showing constituencies in three dimensions, the third dimension showing electoral density; and
- fully scaleable and interactive vectorised maps of the UK, accessed through a 'plug in'.

Essentially the site provided information and analysis on voting patterns through the Web, a major innovation. It may be argued that this was not a driver in its own right though it did act as a focal point for others to move again into the political arena.

## 3. Awareness for the politician

Many factors influence politicians and it would be presumptuous to assume that the spatial information community possesses any unique expertise in this area. What is does possess is a tool that can clearly demonstrate to the politician how effectively spatial data can be used in promulgating debate and supporting effective decision making. At least three events contributed to the greater political awareness of spatial information:

- GIS demonstrator for the House of Commons;
- presentation to the Parliamentary Information Technology Committee (PITCOM);and
- National Land Information Service (NLIS) and the Scottish Land Information Service (ScotLIS).

### 3.1 GIS demonstrator for the House of Commons

On 10th March 1997 Members of the House of Commons and their researchers were provided with access to a GIS in the House of Commons Library. The GIS enabled Census and other data based on enumeration districts or local authority areas to be analysed by constituency and displayed against a map backdrop to provide a highly visible representation of the information. The GIS allowed users to produce maps comparing a constituency with its neighbour and national averages in, for example, respect of population distribution, car ownership and unemployment rates.

This greatly supported the argument made by the spatial information community that spatial data underpins every aspect of decision making in government and public service.

**3.2 Presentation to the Parliamentary Information Technology Committee (PITCOM)**

The AGI hosted the Parliamentary Information Technology Committee (PITCOM) in November 1997. This influential parliamentary committee was shown detailed examples (live demonstrations, supported by expert witnesses) of how spatial data has been used in the past (though hampered by the lack of technology), and will or could be used in the future to support essential decision making for the benefit of society. This was followed by an extensive question and answer session with a panel of speakers and experts to discuss "the policy and legislative implications of the issues raised during the presentations and develop an action plan".

At least 9 pieces of pending legislation were identified where the issues of: Availability of data; Copyright; Price of data; and Data privacy, were key to enabling the accessibility to government held data and thereby the ability to fully exploit the potential use of the data – the politicians could open the door to the greater use of spatial data.

The presentation was reported in the PITCOM Journal [PITCOM 1997] and a special PITCOM Journal Supplement [AGI 1998] with a foreword by The Minister for the Environment, Nick Raynsford MP and Lord Chorley. The article provided considerable awareness of the potential of spatial data at the political level.

**3.3 National Land Information Service (NLIS) and the Scottish Land Information Service (ScotLIS)**

Two initiatives led by former government departments (now agencies) also played a central rôle promoting the primary significance of spatial data to both government and the business community [Smith 1998]. The NLIS designed and implemented a working pilot, a front end search facility to the conveyancing process in England and Wales. ScotLIS, led by the Registers of Scotland and working with local government and others to develop a wider land information system attracted government support and opened the debate on a number of key issues, foremost amongst which are:

> ❑ who should fund these projects, the public or private sector?;
> ❑ should they be formally controlled or should the market place be free to act as it wishes?; and
> ❑ which option is in the best long term public interest?

# 4. Pragmatism, Control or Co-ordination?

The debate, with the wider spatial information community, as to the necessity to provide government control frameworks for the use and analysis of spatial data broadly concluded that there was only a limited window of opportunity if this was to be imposed. It further concluded that if this window of opportunity was the market would, by default, create its own solutions and controls.

The NGDF initiative is now formulating the structures and processes that should open the way to the development of spatial information services. The government funding now in place behind this is recognition that some degree of co-ordination is required that can not be provided by the commercial sector alone.

# 5. Recent initiatives to support the new political institutions

The recent political changes have created an opportunity to further prove that spatial information can and should be used to support policy decisions, both inside government during policy formation and by politicians to explain policy.

The AGI has taken a pro-active stance, following the inauguration of the Welsh Assembly and the opening of the new Scottish Parliament, by setting up regional groups with their own identity logo.

The newly elected Scottish MP's have been sent a "welcome package" and AGI Scotland will be holding a high level seminar on the 24th November 1999 in Edinburgh. AGI Cymru (Wales is officially bilingual) is also holding a high level seminar on the 18th November 1999. The AGI are building up a portfolio of case studies to support regional activities.

The AGI and the Royal Geographic Society (RGS) have appointed part time project managers for the London initiative from the 1st September 1999 The RGS will be bringing the initiative to the attention of secondary school Geography teachers during September 1999 and looking for active participants to become involved in running projects involving teachers and pupils.

The current plans are to develop an Interactive Street Map for the whole of the greater London area. It will be tuned for use on the web and intended to enable the analysis of, for example, transportation, emergency services, tourism, financial spending and ethnicity in a pluralistic society – all key issues for a new assembly.

The AGI are making contact with the candidates for Mayor and the Greater London Assembly (GLA) as they are announced and a high level seminar entitled Strategic Solutions for Joining Up London has been organised for 12th November 1999 aimed at politicians, senior executives and those that are involved in the GLA.

## 6. The wider implications within the European context

The recent changes to the structure of political representation in the UK have provided an opportunity to exploit the use of spatial data in pursuit of more directly accountable representation. This has particular significance in terms of spatial data held and maintained by government organisations and the private sector alike.

The UK made a decision, over ten years ago, not to create a government funded GIS Centre of Excellence as recommended by the committee chaired by Lord Chorley. What has emerged over the past few months is a response to events. On the face of it, it is unco-ordinated and it could be argued that the outcome is fragmented. However, it is working and the drive for greater political accountability has ensured that senior civil servants and politicians search for better ways to demonstrate that decisions are in the best public interest. It is also arguably an economically sound approach, with the private sector picking up those areas where it sees financial gain.

Underpinning the greater use of spatial data will be the NGDF. This recognises the need for government support if the full potential of spatial data is to be realised. This strengthens the arguments in favour of initiatives for a European Geographic Information Infrastructure (EGII) and the European Spatial Metadata Infrastructure (ESMI).

In 'Thriving on Chaos' Tom Peters [Peters 1987] suggested that "… the winners of tomorrow will deal pro-actively with chaos and will look at chaos per se as the source of marketing advantage, not as a problem to get around, chaos and uncertainty are (will be) marketing opportunities for the wise". Whilst the approach in the UK has materialised and evolved, as opposed to being government driven, in an environment that at times has seemed chaotic to those involved, the approach that has become adopted has the potential to deliver dramatic results. This is the start of a new age and only history will provide certainty. The initial drive by the professionals involved has effectively acted as a natural filter for innovation which has eventually created a situation that has attracted the appropriate funding and, where appropriate, action by government to ensure spatial data is used to support governance and hence democracy.

## 7. Conclusions

There is little doubt that without the drive, enthusiasm and tenacity of many individuals in the spatial information community the use of spatial data to enhance the democratic process in the United Kingdom would have made little progress. Faced with the choice, many in the spatial information community would have preferred to have seen a substantially higher level of direct Government involvement and financial support in the 1980's and 1990's. Today a more pragmatic situation exists where, with good illustrative examples and an overwhelming level of support from the spatial information community, the use of spatial information to support the democratic process is in evidence and will grow. The purists may argue that the same result could have been achieved faster if government support had been forth coming.

However, the current situation is that the Use of Spatial Data is only now 'coming of age', in particular within the democratic process. The use of spatial data will enable politicians to understand and explain the rationale that underlies decisions in a range of areas of public interest, for example, public health, law and order and transportation The use of spatial data has embarked upon a new and expanding journey to new horizons and can be understood in the same vein as opening up of a new world of economic possibility and progress. The Vice President of the USA, Al Gore is quoted as saying "We are on the verge of a revolution that is just as profound as a change in the economy that came with the industrial revolution. Soon electronic networks will allow people to transcend the barriers of time and distance and take advantage of global markets and business opportunities not even imaginable today".

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The views expressed in this paper are those of the authors and must not be taken as representing those of any organisation cited.

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