

Committee:	Executive	Agenda Item No.:	8.
Date:	16 th February 2009	Status	Open
Category	2. Decision within the functions of Executive		
Subject:	Geographical Information Strategy		
Report by:	Senior IT Projects Officer		
Other Officers Involved	GIS Officer		
Director	Director of Resources		
Relevant Portfolio Holder	Corporate Efficiency		

RELEVANT CORPORATE AIMS

COMMUNITY SAFETY – Ensuring that communities are safe and secure

CUSTOMER FOCUSED SERVICES – Providing excellent customer focused services

ENVIRONMENT – Promoting and enhancing a clean and sustainable environment

REGENERATION – Developing healthy, prosperous and sustainable communities

SOCIAL INCLUSION – Promoting fairness, equality and lifelong learning.

STRATEGIC ORGANISATIONAL DEVELOPMENT – Continually improving our organisation.

Geographical systems enable analysis of information which will contribute to the decision making in support of all corporate aims.

TARGETS

This Strategy was identified as a task to be completed in the IT Strategy improvement plan.

VALUE FOR MONEY

This does not directly deliver value for money for the Council and its customers.

THE REPORT

The objective of this strategy is to maximise the value of geographic information for the Authority. The Government's Location Strategy for the United Kingdom states that, "Place matters. Everything happens somewhere. If we can understand more about the nature of place, where events happen, and the impacts on the people and assets at that location, we can plan better, manage risk better and use our resources better. This will increase the

success rate for new initiatives, assist in the reduction of the potential for future problems and give tangible financial benefits.”

A demonstration of the potential of Geographical Information systems will be given at the meeting.

ISSUES/OPTIONS FOR CONSIDERATION

The adoption of the GIS Strategy

IMPLICATIONS

Financial: None
Legal: None
Human Resources: None

RECOMMENDATION(S)

To adopt the strategy

REASON FOR DECISION TO BE GIVEN IN ACCORDANCE WITH THE CONSTITUTION

In order to improve the use of geographic information systems throughout the Authority leading to potential efficiency savings.

ATTACHMENTS: Y
FILE REFERENCE: sups/computer/policies-plans-procedures
SOURCE DOCUMENT: GIS Strategy 2008-2010

BOLSOVER DISTRICT COUNCIL
Geographical Information Strategy 2008 - 2010
November 2008

This Strategy addresses the following Corporate Aims



COMMUNITY
SAFETY



CUSTOMER
FOCUSED SERVICES



ENVIRONMENT



REGENERATION



SOCIAL INCLUSION



STRATEGIC ORGANISATIONAL
DEVELOPMENT



The District of Bolsover Equalities Statement

The District of Bolsover is committed to equalities as an employer and in all the services provided to all sections of the community.

The Council believes that no person should be treated unfairly and is committed to eliminate all forms of discrimination in compliance with the Equality Strategy.

The Council also has due regard to eliminate racial discrimination and to proactively promote equality of opportunity and good relations between persons of different racial groups when performing it's functions.

This document is available in large print and other formats from any of the Council Offices or by contacting the Chief Executives Directorate on 01246 242323. Please bear in mind we will need a few days to arrange this facility.

If you need help to read this document please do not hesitate to contact us.

Our Equality and Diversity Officer can be contacted via [Email](#) or by telephoning 01246 242407.

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Details of Document	
Title	Geographical Information Strategy
Document type –	Draft version
Location of Strategy	L:\sups/computer/policies procedure and strategies/GIS Strategy2008-2010
Lead Author of Strategy	GIS Officer
Member route for Approval & Cabinet Member concerned	Executive Committee Portfolio Holder for Corporate Efficiency
Reviewed by Director of Strategy	
Date Risk Assessment completed	20 th November 2008
Date Equality Impact Assessment approved	Submitted to CSPD, November 2008
Consultation Undertaken (Internal or External) if required	
Partnership Involvement (if applicable)	
Strategy Approved by	
Date Approved	
Strategy Review Date	
Date forwarded to CSPD (to include on Intranet and Internet if applicable to the public)	

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Principles of the Strategy

The Council is committed to improving services for local people, local businesses and visitors to the District to ensure they are of the highest standard. This is reflected in the Council's vision 'to improve the wealth profile of the area known as the District of Bolsover and enhance and improve the quality of life and well being of its communities' and in the aims of "providing excellent customer focused services" and "continually improving our organisation".

The purpose of the strategy is to explore the issues that will influence the Authority within the next two years and suggest how Geographical Information systems (GIS) may be able to support the Authority in achieving its aims and objectives. As such this strategy meets all corporate aims. The strategy needs to be adaptable to be able to take account of changing circumstances and unexpected events.

Introduction

The basic purpose of GIS in a modern Local Government organisation, is to provide a tool that enables Departments to access their information spatially. The potential of GIS is far more, it enables analysis of the information which will lead to improvements in performance and efficiency.

Geographical information (GI) can show us where events happen, helping us to understand the impacts on the people and assets at that location. This will help us to plan better, manage risk better and make better use of our resources.

This strategy was created based on consultations with all Heads of Service, key GIS users and an external audit undertaken by one of our GIS suppliers, ESRI, during 2008.

All ICT services, which include GIS, need to provide a means to:

- Generate efficiency savings across the organisation
- allow joint working with partner organisations
- reduce the use of carbon resources (fuel, use of paper etc.)
- share information held by the organisation in a way compatible with legislation
- support accessible systems both "out of hours" and for those with disabilities
- enhance the quality and speed of service delivery.

Other strategies that were referenced in the creation of this document include:

- ICT Strategy 207-2010
- Location Strategy for the United Kingdom 2008
- National Improvement and Efficiency Strategy 2008

The emphasis of this strategy is looking at improving service provision and exploiting the systems, processes and people we have in order to deliver and meet the demands.

Scope of the strategy

The strategy applies to all Departments of the Authority and to Elected Members. It also includes external customers as they have the ability to use the functionality of GIS through the Council website.

The Strategy

Review of the current situation

The Council has had a GIS in place for a number of years, it's use has grown primarily in a number of key areas such as Planning Policy, Development Control, Regeneration and Environmental Health. Access to geographical information is achieved in three ways.

Use of Desktop GIS tools for trained users

ArcView, is provided by ESRI UK, and provides users with extensive mapping capabilities, data use and analysis along with simple editing and geo processing functionality. There are currently 10 licenses of this software available to users throughout the authority.

Use of web-based GIS for casual users;

Geognosis.net, provided by Cadcorp, is a web-based GIS System that allows employees access to basic mapping functionality, such as finding an address, drawing basic shapes and production of basic maps. This software is currently under development.

Embedded GIS in business systems (e.g. Caps UNI-form)

GIS is embedded within every module of the Caps UNI-form system, and allows users to view and plot data spatially. This data can then be analysed depending on the requirement.

The management and provision of GIS is maintained corporately, by the GIS Officer, within the ICT department.

The Vision

The ultimate goal is a corporate, if not a community wide, GIS which integrates all information resources into a seamless system. This would be accessed, regardless of the user type, through a multitude of access channels such as a web browser, personal digital device on the street or via a third party such as a Contact Centre advisor. At the least technical level a GIS will provide a visual gateway into the Council's services and information sources. The sophistication of the system will gradually keep increasing to the point where it will be possible to interact with a virtual representation of Bolsover

district, where members of the public and employees of the Council are able to explore “what if” scenarios, such as “find my nearest”. Integrated into the appropriate system this will allow members of the public to self serve, reducing the number of calls to the Contact Centre, and therefore providing a lower cost access channel. This goal will be reached by establishing an environment in which separate GIS operations, whether desktop, embedded or web based, have the potential to evolve into a fully integrated and seamless system. The principle of collecting data once, managing it, maintaining to a consistent quality standard and then using and sharing it in a multitude of citizen-focused applications is essential if we are to enjoy the efficiency benefits of fully connected, electronic service delivery.

If data within systems has even a basic GI built in, such as postcodes or coordinates, then the options are endless. This includes analysis for performance and efficiency reviews that would aid with implementing the vision of the Corporate Plan. For example, using the GI systems the Council, working with the Street Services department, would be able to make bin and recycling routes more effective and efficient by revising the routes. By having the existing routes plotted the Council would be able to optimise refuse collection routes by spreading workloads more effectively between crews and reducing fuel consumption.

Corporate Aims

The national improvement and efficiency strategy talks about “Councils, as leaders of place, working with their local partners to deliver better outcomes, improve the quality of life in places”. To achieve this there has to be an underpinning knowledge of places, which can be partially achieved through geographical information. The Local Area Agreement (LAA) has agreed the thirty five national indicators that the Council has to contribute towards. The following table sets out the indicators that the analysis of GI can possibly contribute towards targeting and achieving.

Indicator Number	Description
1	% of people who believe people from different backgrounds get on well together in their local area
2	% of people who feel that they belong to their neighbourhood
3	Civic participation in the local area
4	% of people who feel they can influence decisions in their locality
5	Overall / general satisfaction with local area
17	Perceptions of anti-social behaviour
21	Dealing with local concerns about anti-social behaviour and crime by the local council and police
27	Understanding of local concerns about anti-social behaviour and crime by the local council and police
37	Awareness of civil protection arrangements in the local area

Indicator Number	Description
138	Satisfaction of people over 65 with both home and neighbourhood
153	Working age people claiming out of work benefits in the worst performing neighbourhoods
172	Percentage of small businesses in an area showing employment growth
189	Flood and coastal erosion risk management
195	Improved street and environmental cleanliness (levels of litter, detritus, graffiti and fly-posting)
196	Improved street and environmental cleanliness – fly tipping

Efficiency

With the spotlight firmly fixed on public sector spending and efficiency, Councils are being presented with a great opportunity to improve service delivery for the better. Local Government is being challenged to strip out inefficiencies and deliver services that are designed around the customer, sharing information and resources across the Council to eliminate duplication of effort. One of the efficiencies will come from statistical analysis of the GI data contained within the Uniform data. Users currently entering data into the Uniform system for problems such as fly tipping, dog fouling and anti social behaviour do not necessarily see common problems as they are only entering their own information in isolation. Using the GIS we are able to export the data contained within Uniform into a format where we can analyse the data to give a better overview of where clusters of problems are occurring within the District. This gives a better knowledge of where CAN Rangers need to patrol in order to keep an eye on areas where these problems are occurring and therefore aid in the reduction of the amount of problems that are being reported by members of the public.

It is proposed that within the next six months all Departments will be consulted as to how they can introduce GIS into their operations and benchmarking will take place. After six months the use of GIS will be reviewed and Departments will be expected to have achieved the identified efficiencies.

Infrastructure

A brief infrastructure review has taken place. Currently the majority of the GI is stored on a Server accessible through the Network. This allows everybody within the Council that uses GI to gain access to the data that they want to

use in projects within ARcMap, MapExplorer, Uniform and Geognosis.net. However the review has highlighted that there is duplicated information. This will be resolved.

Metadata plays a vital part in identifying which data sets are the most up to date and also those that are out of date. Metadata is data about the data itself, e.g. attributes of a shapefile have data attached stating when the data was created or changed. A minimum list of metadata will be agreed with the key GI users. This list should be complete enough to support data management enquiries but short enough to be manageable.

GI data and metadata is supplied to the Derbyshire Transformational Government Partnership for inclusion within their web application, the mapping portal which gives information on “Where’s my nearest”.

Web Service Delivery

Access to GI data, by every employee who needs it, is being delivered through the Intranet enabled by the Geognosis.net product.

Some business systems, such as CRM, will be able to consume GI web services into their own applications. This is a lower risk and lower cost method of spatially enabling these applications than traditional methods. The future requirement for any new business systems that require GI data is that this functionality should be through web services.

Local Land and Property Integration

The Council has put significant effort into creating and updating its Local Land and Property Gazetteer (LLPG) within the Gazetteer Management System (GMS) module of the Uniform system. All Uniform modules share the centralised gazetteer; however it is not widely linked with other business systems such as Council Tax, NNDR, or Electoral Register. Instead extracts are taken and where possible the database is re-populated otherwise there is no direct link at all.

By linking the LLPG with systems such as NNDR, Council Tax and Electoral Register the quality of the data within the LLPG and other address systems throughout the Council would increase for internal users and customers visiting the Council’s website. Allowing this linking of data would mean that these databases would have a spatial reference link (UPRN) that would allow Officers to view properties before inspections as well as providing the facility, for example, to question why property footprints do not have a rating point. This could be done via the web browser, Geognosis.net, or could be built into the systems themselves in a future release.

A project to identify the existence of all gazetteers or address databases and investigate how these can utilise the GMS database has been identified and an Address Management Strategy will be produced.

Skills Development

The majority of users, who have access to the GI data on a day to day basis, are skilled enough in using the ESRI software. A number of the users would benefit from refresher training.

Employees using the Geognosis.net software would also need training so they have the ability of looking up an address and producing basic maps.

Training for these two areas will be undertaken by the GIS Officer.

The Council should also develop new GI skills, for example, spatial analysis to support the Corporate objectives as mentioned above. There are ESRI software modules that would support the additional analysis needed they are:

Network Analyst – this module allows the user to create and manage sophisticated network data sets and generate routing solutions. This would allow for the optimisation of Refuse routes.

Spatial Analyst – this adds a comprehensive set of advanced spatial modelling and analysis tools. This would allow for modelling in areas such as anti social behaviour or fly tipping.

Both would identify efficiencies.

Mapping Services Agreement (MSA)

The MSA is a legal agreement with the IDeA that allows Councils access to mapping and NLPG data. It is provided by three suppliers, Ordnance Survey, Intermap and Intelligent Addressing. The Council will continue to be a signatory to the MSA, some of the standard services that are provided are the initial collation and ongoing maintenance of a national version of an LLPG for England and Wales (NLPG) and the provision of updated mapping data.

Location Strategy for the United Kingdom

In November 2008 the Government produced a strategy called Place Matters: the Location Strategy for the United Kingdom. It's creation has been prompted by the European Directive INSPIRE which lays down general rules aimed at the establishment of the Infrastructure for Spatial Information in the European Community. It's Executive Summary states that " Place matters. Everything happens somewhere. If we can understand more about the nature of place, where events happen, and the impacts on the people and assets at that location, we can plan better, manage risk better and use our resources better. This will increase the success rate for new initiatives, assist in the reduction of the potential for future problems and give tangible financial benefits." The objective of the strategy is to maximise the value of geographic information.

Implementation of the Strategy will be monitored to ensure that the Council meets any requirements and obtains the best advantage.

Implementation of the GIS Strategy

The GIS Strategy is managed operationally by the Head of ICT. They report on progress to the ICT Strategy group on a quarterly basis. The ICT Strategy group is responsible for monitoring the Improvement plan attached as appendix A.

Performance management

The responsibility for ensuring GIS is deployed economically and efficiently within a service lies jointly with the managers responsible for those services and the GIS Officer. This responsibility includes the collation and analysis of appropriate management information and data: for example:

- Efficiency gains, as appropriate to the activity

The GIS Officer will work with Departments to identify the areas that can benefit from the use of GIS and where sharing data with other Departments will help the Council.

ICT will work with Departments to define and agree the areas of responsibility that ICT will deliver.

The GIS Officer will continue to organise a GIS user group.

Appendix A

Improvement/Action Plan

Improvement	Lead Officer	Target Date	Expected Outcome	Resources	Progress Update	Actual Outcome
Undergo a clean up of the network drive and delete duplicated datasets	GIS Officer	February 2009	Cleaner set of datasets that are more accurate and up to date	Staff time		
Determine the attributes that make up the metadata with key GIS users and ensure that they are implemented in Shapefiles	GIS Officer	February 2009	Structured, appropriate information	Staff time,		
Finish the implementation of Geognosis.net	GIS Officer	April 2009	Web based system available to all employees who need it	Staff time		
Promote the use of Geognosis.net	GIS Officer	June 2009	All employees aware of the functionality of the system	Staff time		
Meet with Departments to identify GIS use	GIS Officer	July 2009	Identified efficiencies	Staff time		
Benchmark current working practices using BPI techniques	GIS Officer	September 2009	Benchmark of current service	Staff time		
Evaluate use of GIS	GIS Officer	February 2010	Proven efficiencies	Staff time		
Build the web functionality into the CRM self serve.	GIS Officer	December 2009	Functional transactional website encouraging	Staff time.		

Improvement	Lead Officer	Target Date	Expected Outcome	Resources	Progress Update	Actual Outcome
			customers to use this lower cost access channel.			
Purchase ESRI modules for network and spatial analysis	GIS Officer	December 2009	Efficiencies from, for example, revised Refuse routing, targeting of fly tipping, ASB.	Staff time Cost of modules		
Complete an Address Management Strategy	GIS Officer	September 2009	Improved data quality	Staff time		