



Local Information Systems:

*A review of their role, characteristics
and benefits*

Summary



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Executive Summary

Introduction

Increasing importance is being placed on the value of information in the regeneration process. The 2006 Local Government White Paper highlighted the important role that local information systems can play in improving decision making and targeting service delivery (Communities and Local Government paragraph 6.27).

National sources of information are valuable, but these are increasingly being supplemented with data from local sources collected by local information systems. These systems have a strong focus on meeting the data requirements of local policy makers and citizens by enabling users to interrogate, map, analyse and download local and national data sets.

Prior to this study, relatively little was known about the characteristics of these systems or the role they play in the regeneration process. This research found that in some areas they are playing a significant role in partnership and regeneration activities. Most notably:

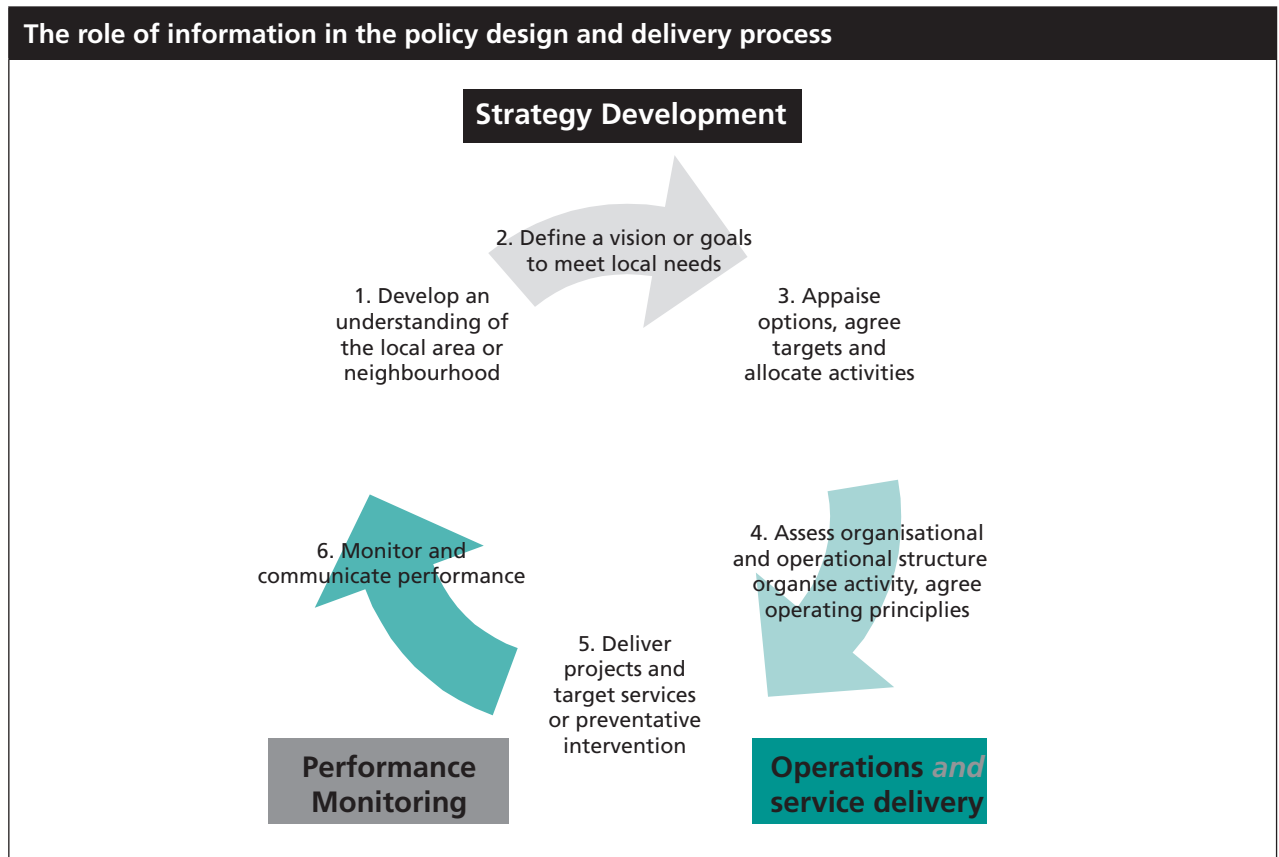
1. They provide information to inform and enhance all stages of the policy design and delivery process.
2. They contribute to the development of three key strands of the 2006 Local Government White Paper. Systems assist policies promoting ***empowerment and devolution, preventative work and early intervention and they strengthen bottom up accountability.***
3. Systems are beneficial in collecting and analysing data from local partners and other organisations. This information is often more up-to-date or at finer geographical detail than data provided by central government and its agencies.
4. Systems are frequently a catalyst for a more analytical and focused culture for regeneration activities.

Sixty-nine upper and lower tier English local authorities have established regeneration information systems. These systems provide information to authorities that serve 48 per cent of the population in England.

The working definition adopted by this study is an information system that regularly collects, processes, stores and disseminates information for neighbourhood renewal activities.

The Big Picture: The role of local information systems on the policy design and development process

Local information systems can be used to enhance performance at all stages of the policy design and delivery process, but different stages require different types of information. Information systems are usually most active at the beginning (strategy development) and end (performance monitoring) of the design and delivery process, see the figure below.



At the **strategy development** stage systems are able to provide a broad range of up-to-date information at fine geographical detail to provide a better understanding of baselines and trends in neighbourhoods and local authority districts. For example, ground breaking analysis in Warwickshire showed there were severe pockets of deprivation in what was otherwise perceived as an affluent shire county – this led to a major change in the regeneration strategy.

Some systems support **service delivery** activities by analysing individual and household information to better target services on those most in need and to ‘join-up’ and enhance services. For example, analysis of crime data by one system is regularly used to inform the scheduling of street lighting maintenance activities.

At the final stage of the policy design and development process local information systems are able to collect and disseminate data collected in a consistent way for **performance monitoring**. This enables comparison over time and is important in ensuring accountability. Local information system data also provides important contextual information to better understand performance.

The political context for local information systems

The development and delivery of several strands of government policy are already utilising the skills and information resources provided by local information systems. Three themes in the 2006 Local Government White Paper suggest there could be a more significant role for local information systems in the future. These are:

- **Empowerment and devolution:** The White Paper proposes a significant reduction in the number of performance indicators required by central government. Instead local service providers will be able to develop their own local targets to better meet local priorities. Information systems and/or better access to suitable local information is vital to inform the establishment of goals or targets by local partnerships and/or communities. Indeed, the White Paper states service providers should ‘use local information to radically reshape services in ways that better meet the expectations of their communities’ (para 6.4).
- **Preventative work and early intervention:** The White Paper stresses that ‘we have not achieved a sufficient shift to prevention and early intervention in the delivery of public services’ (para 6.15). This study provides several examples to demonstrate that local information systems enable data sharing and the presentation of information in ways that can improve decisions, provide opportunities for better targeted service provision and for staff to work in new ways. Local data sharing and utilisation is vital if services for the most disadvantaged groups suffering from ‘multiple disadvantages’ are to be targeted more successfully.
- **Strengthening bottom up accountability:** The White Paper proposes that previous performance reporting methods will be replaced by ‘new opportunities for citizens to hold their local providers to account for the quality of services’ (para 6.6). The White Paper places considerable importance on providing citizens with timely information. This new central-local relationship, which will enhance bottom-up accountability, will only be possible if communities and citizens have information about the performance of services delivered or the achievement of local regeneration targets.

Supplying data does not automatically provide accountability. Accountability arises when users understand and know how to use the data. Local information systems are providing easy 24/7 access to local information at relevant local neighbourhood geographies. Many are also providing support to assist users to learn how to use and understand data. This will be important if information provision is to enhance accountability and stimulate informed local debate about targets.

Local information systems are operating within the context of several newly developing government policies. Analysis has shown that most of these policies will support systems development and they emphasise the growing importance of information in the policy making process in the future. For example, the **MISC31** Cabinet Office committee should help to create a robust strategy for tackling obstacles to data sharing. **Government Connect** offers local information systems an infrastructure to securely exchange information with central government, local government and other organisations. The development of **interoperability standards** will ensure that data can be coded or tagged in a consistent way to ensure that the correct data can be exchanged manually and automatically between organisations.

Systems are also operating within the context of rapid technological change. Technologies are being developed that will enable the automated sharing of data in a manner similar to **pod-casting**. Communities and Local Government-funded iGather pilot project has shown the process is viable. If this method of data exchange was adopted by systems it could offer considerable time and cost savings in reducing the 36 hours per month on average that systems spend updating data from local and national information sources.

Characteristics of local information systems

Development history

Local information systems have developed relatively recently. Sixty-nine systems were found by the study; only two were active before 2000. System managers reported there were two key stimuli for the creation of the 30 systems that went live between 2001 and 2003. Firstly, the creation of Regional Development Agencies in 1999, this stipulated a statutory requirement to produce regional strategies. Secondly, the Policy Action Team 18 report *better information for neighbourhood renewal* published by the Social Exclusion Unit in 2000. The slight 'lag' in the creation of systems after these two catalytic events is probably because systems on average take one year and four months to develop. Nearly all systems have been developed as bespoke applications, only three are using the same software.

There are four key factors that can be used to differentiate between systems. These are primarily:

- The **type of authority** leading the developing systems
- **Funding models**
- **Mapping capability**
- Provision of a **system or service**

Geographical distribution and lead authority

Systems are most prevalent in counties (65 per cent have systems) and metropolitan boroughs (56 per cent). Only 12 per cent of London boroughs have systems. In the East of England and the South West the development of county systems has been supported by regional government organisations. County systems provide the district authorities within their boundaries with economies of scale when creating systems.

Thirty-two of the 69 systems have been created in areas receiving Neighbourhood Renewal Funds; this is 35 per cent of the 91 authorities receiving these funds.

Funding

Different funding models have been developed by systems. Some 70 per cent of systems in Neighbourhood Renewal Fund areas have been absorbed into the mainstream budget of local authorities, only 17 per cent were funded by contributions from partners. The 'partner contribution' model was most popular amongst county systems, 69 per cent of these systems are funded by partner contributions from districts or other organisations within

their boundaries. Only six systems in other authority types were supported by partners. Across all the systems studied only 33 per cent had a partnership funding model.

Resource requirements

The average development cost for systems is £95,500; average running costs are £59,800 per annum. Development costs ranged from less than £10,000 to nearly £500,000, annual running costs had a similar relatively broad spread between £5,000 and £150,000 per annum.

Systems in Neighbourhood Renewal Funded areas had slightly higher than average development costs (£125,300) and running costs (£77,800). This is probably because these systems have more staff than other areas. The average staffing level for all systems is 1.5 full time and 1.6 part time employees.

Mapping capability

A key distinguishing feature between systems is their ability to map data, 60 per cent of the systems provide this capability. Since 2000 there has been an increasing trend for systems to enable users to map data. More than 80 per cent of systems developed in 2004 and 2005 mapped data.

Systems that provide a mapping capability require more resources. The average development cost of systems with maps is £111,500, for systems without maps the average cost is £70,200. Running costs are also higher. Mapping systems averaged £75,100 per annum to run; whereas systems without maps require £31,900.

System or service

One of the key differences between systems is the extent to which they rely on a web site to provide everything a user requires. Some were developed solely as a web-based one-stop-shop to provide information. Others have placed a much greater emphasis on providing a service supporting users to find and analyse data by telephone or face-to-face. These service-orientated systems usually provided training on how to use their web site and/or introductory or advanced statistics. Systems that offer a service supporting users generally require more staff. However, this study found that users regard support activities as one of the most important elements of a local information system.

The amount of information held by systems

The information systems examined in this study provided details of about 179 variables related to regeneration; a list of all the variables can be found in Appendix 3.

The largest data holding by any single system was 63 of the 179 variables (35 per cent). Interviews with system managers revealed two main causes for this relatively low level of coverage. Firstly, system managers do not know and do not have sufficient time to search for and regularly download all available data sets. Secondly, the amount of information held on local systems is determined by local needs, managers were keen to avoid 'data overload' for users.

Eighty-four (of the 179) variables on systems are known to be available from central government sources. However, only 45 of these data sets have information at a fine geographical level of detail and 21 of these are becoming dated because they were collected as part of the 2001 Census. This study found that only 22 of the variables from central government agencies (utilised by systems) provided data for 2004 or later at the fine degree of detail required to monitor neighbourhood change. These shortcomings have encouraged system managers to find additional local data.

System use

The average number of unique visitors every month at systems is 2,650; the trend at most systems is increasing. The average number of unique users is largest at county systems (5,100 unique users). These systems have the largest average populations (average 590,400) within their administrative boundaries (the average population size for all systems is 408,500).

Partners are thought to make up 51 per cent of the unique users at local information systems. Other public sector groups are responsible for 20 per cent. Citizens are thought to comprise 29 per cent of users. On average this would represent about 770 citizen users per month at each system. Many managers have been surprised that the level of citizen use is about 10 per cent greater than envisaged when systems started.

System benefits

This study has shown that local information systems are beneficial against a number of different criteria. Most importantly the use of a system by Local Strategic Partnership might be loosely correlated with good regeneration performance. In 2005 Local Strategic Partnerships in receipt of Neighbourhood Renewal Funds self assessed their performance against national and local targets during 2004/05, using a traffic light rating system. Forty-five per cent of Local Strategic Partnerships with a local information system gave themselves a green light, the highest performance ranking. Only 29 per cent of partnerships without a system gave themselves this rating.

Seventy-one per cent of system managers had observed a change in the way regeneration activities are undertaken following the establishment of their system. This impact is best characterised by one interviewee who stated “decision makers have become more aware of the need and importance of information when planning. Baseline information is used more and more for setting realistic objectives and monitoring performance”.

As noted earlier, systems are beneficial at all stages of the policy development process. Eighty-five per cent of systems in Neighbourhood Renewal Funded areas are used to develop targets for Local Strategic Partnerships. They are also useful for strategy development activities; good examples of the strategic use of system information include:

- Better targeting of after school care according to local need
- Targeting the locations of early year’s children centres
- Crime audits to respond strategically to crime patterns

Operational and service delivery activities are usually reliant on the information held by service providers, rather than data from information systems. Nonetheless, systems have been used for operational activities, the Hammersmith and Fulham system processes a great deal of this information and the GIS capabilities of the Southampton system enable highways' staff to check the geographical details of road traffic incidents without having to visit the scene of the event.

Many systems are used to provide an evidence base for funding applications by system partners, community and voluntary groups. Anecdotal comments from managers and users suggest that the process of finding evidence to support applications prevents the inappropriate allocation of resources to areas that system statistics show are not the most in need of support.

The primary benefits arising from system use identified by managers and users were:

- Creating a more accurate and clearer picture of what is going on in the local area
- Providing easier and more efficient information sharing amongst partners
- Better knowledge of individual or neighbourhood needs
- Improving the timeliness of information received and shared by partners
- Removing local duplication of effort in collecting and analysing data amongst partners

Users unequivocally agreed that their system represented good value for money. They were challenged to suggest a price at which costs would match the benefits derived from the system. The average figure suggested was about £120,000, this is twice the average running cost for all systems. Only four systems had annual running costs above £120,000.

System development tips

Twenty-three barriers to system development and 55 tips for advancement are provided in chapter six. Seven key tips were thought to be important to any system, whatever its stage of development. These were:

- Establish and regularly re-appraise needs carefully with users
- Obtain and maintain 'buy in' (especially at high levels) from partners
- Carefully research what others are doing, how they are doing it and learn from them
- Start simple and maintain simplicity of use, style and content
- Manage expectations
- Try to use in-house IT resources
- Don't get seduced by expensive IT systems

Conclusions and recommendations

This report proposes 13 recommendations to enhance the development and utilisation of local information systems. Ten of the recommendations need to be undertaken or facilitated by central government. These are presented first.

Recommendations for central government:

Recommendation: A local information system network should be developed to build on the successful project workshop held at the Communities and Local Government in June 2006.

There is currently no mechanism for system managers to meet and exchange experiences. A network to share ideas, best practice, overcome problems and assist new managers to establish systems would enhance the development of systems, overcome problems and avoid pitfalls. The network should be facilitated by central government, but established and developed by a representative group of system managers and users. The goal of the network should be to support and encourage innovation in the development and use of local information systems to support and monitor regeneration.

Recommendation: Further research is required to investigate the benefits, barriers and conflicts that arise if local information systems provide information to meet all three stages of the policy design and development process.

This research is required to investigate how local information systems will be able to successfully provide information to achieve three key objectives of the Local Government White Paper – empowerment, early intervention and bottom-up accountability. There is anecdotal evidence that the transition from a data-providing role, assisting strategy development, to an additional role in performance monitoring can be problematical.

Recommendation: A detailed cost-benefit appraisal of a small number of systems should be undertaken to examine the business case for local information systems.

Studies have not been undertaken of the costs and benefits of local information systems. This information is important to enlighten policy makers considering developing systems about the true costs and benefits of their investment. The appraisal should also provide a 'framework' to guide and inform the preparation of a 'business case'.

Recommendation: The correlation study of Local Strategic Partnerships with local information systems and regeneration performance should be repeated with 2005/6 self assessment replies. Case studies should then be undertaken to investigate the importance of information systems in contributing to good regeneration management practices and performance.

Limited evidence was provided by this study to correlate the existence of a system with good regeneration performance. The proposed research will reveal the nature of any causal links and the ways that LSPs with and without systems obtain and use information to

support good regeneration management practices and performance. Analysis should also examine the importance of systems as a key component in sound management or good regeneration practices.

Recommendation: A review should be undertaken to ensure changes advocated in the White Paper are supported by adequate information provision by central government agencies to inform and monitor the development of new policies and activities by local regeneration partnerships.

Central government agencies provide a lot of information, but this study found that only a relatively small number of these data sets (22) provided timely data at the scale required to monitor neighbourhood change. The proposed review is required to examine whether data provided by central government agencies meets the needs of local policy makers or whether gaps in provision exist. Results from the review should contribute to the activities of the newly created Statistics Board.

Recommendation: Generic web-based teaching and support materials should be developed to assist local information system users to better understand, analyse and present data.

Users need to understand data in order to use it properly. The provision and quality of online tutorials and help at many systems is poor. The type of generic support provided by the development of teaching and support materials should be useful to all systems and many users. Central government should commission or encourage the development of these materials.

Recommendation: System managers and (policymaker and citizen) users should analyse selected systems to find exemplars of the characteristics of best practice. These will provide a real life vision of functionality and the components that should be considered in the development of any new or existing system.

A study to find exemplars of the different components of local information systems is required to provide new and existing systems developers and users with 'real life' examples of components they might aspire to or specify in the development of their own systems. Central government should commission or obtain support from a private sector sponsor to undertake the systems study on a regular basis and provide prizes to 'winners'.

Recommendation: The legitimacy of sharing the variables found in this study with system partners and other organisations should be clearly established by central government.

There is considerable scope for a reduction in duplication of activities at many systems if the legitimacy of sharing common data sets within organisations and between partners was clearly established. Unequivocal clarification of the legitimacy of sharing important data sets should also ensure that the same data is available to all systems. The Transformational Government Group in the Prime Minister's Delivery Unit and the MISC31 committee should take forward this proposal.

Recommendation: The success of automated download pilots should be evaluated and, if appropriate, XML tagging of data sets useful for regeneration held by central government agencies and other data providers should be undertaken.

At all information systems one of the primary day-to-day activities is obtaining data from external sources and incorporating it in the local system. Central government should commission a short study to verify the feasibility of automated download technologies and to evaluate the success of pilots. XML tagging of data sets useful for regeneration should then be encouraged or supported by central government.

Recommendation: An international study should be undertaken to investigate the characteristics and activities of systems in other countries.

An international study of systems would provide an overview of the methods and approaches used in other countries. Central government should commission the study. Analysis should adopt a comparative approach and identify areas where the performance of English systems could be enhanced.

Recommendations to be undertaken by the local information system network:

Recommendation: Local information system managers should have input to Government Connect, interoperability, standards and data/service vocabulary working groups. Relevant developments in standards should be communicated to systems managers.

There is a lot of work underway at the national level to ensure information systems and the data sets they contain conform to interoperability principles. A representative should be selected from the local information systems network to represent the interests of systems managers and users on appropriate interoperability working groups and committees. They should report relevant developments and standards to the network. This should ensure that systems managers and partners are aware of interoperability standards. Systems that develop within these standards should be able to easily exchange data.

Recommendation: A small group of system managers and (policymaker and citizen) users should be invited to recommend the key variables (perhaps 50 or 60) that should be held on any new or existing system.

Achieving a compromise between information comprehensiveness and overload, whilst maintaining local relevance, is difficult for many managers. The proposed exercise will provide guidance for new and existing systems about the data sets that should comprise the core data holding of a system. Additional variables to meet local needs would obviously be included on systems.

The local information systems network (supported by central government) should recruit a number of managers and users from network members to undertake this exercise. The list of recommended variables should be re-appraised and updated on a regular basis.

Recommendation: The local information systems network should co-ordinate workshops and visits to systems to enable managers and users to share and develop best practice. These experiences should be consolidated into a best practice guide.

A best practice guide, to examine in more detail some of the important elements in establishing and developing local information systems, would provide a valuable focus for network activities. It would also produce a beneficial dissemination avenue for sharing experiences. The local information system network should be supported to undertake this activity by central government.