

Figure 1 – The seven levels of information sharing standards.

LOCAL GOVERNMENT IN ENGLAND currently comprises over 350 councils and their partners, each charged with delivering over 1500 different and wide-ranging services. Local democracy encourages each organisation to define its own priorities and methods of service delivery such that the electorate can influence and shape the environment and community in which they live. In essence, every

manage its services more effectively. During the last decade, substantial progress has been achieved by coordinated involvement of almost every council developing an information framework to facilitate such data sharing whilst keeping burdens low and maintaining possibilities for independent working. After this prolonged investment we are now on the cusp of realising significant benefits for society.

Seven levels In 2011, the Cabinet Office published its cross Government Enterprise Architecture strategy, which describes the seven levels of information standards (see Figure 1) necessary to underpin data interchange. Local government set up expert working groups and national programmes to oversee the development of each of these levels. The Local eGovernment Standards Body (LeGSB) (<http://legsb.i-network.org.uk/>) maintains a watching brief and encourages participation. Although take-up is still far short of 100 per cent, more organisations are seeing the benefits to be gained through participation. Central government prefers to encourage guidance and recommend codes of practice rather than to legislate.

The development of some standards for this architecture is more advanced than others. Local government can pride itself on creating a national response to the *semantic* layer, which provides precise

Information standards in local government

A major programme has been transforming how information is used in local government in England over the last decade, explains **Tim Adams**. Much of it can now be analysed, compared and presented online for the benefit of council officers, councillors and the public, improving transparency and enhancing local democracy.

council undertakes the same responsibilities, although each delivers them differently within the constraints of the statutory powers and duties laid on them. As a consequence, local government collects and monitors huge volumes of information about its business.

Traditionally, these datasets are collected and held according to many and varied formats and levels of specification. This legacy working arrangement has the potential to create a plethora of inconsistent and unconnected data in an age where web 2.0 developments call for the interconnection of linked data. This article explores the opportunities of using consistent standards and classifications to make data linkable. The work builds on a 10-year experience of the ESD (effective service delivery) toolkit programme supported by the Local Government Association (LGA) and its partners. The recently launched LG Inform service shows what the future holds.

If local government is to gain maximum benefit from its vast stocks of information, it is vital that councils are encouraged to share business information more widely – with each other and with other data communities. Wider availability and exploitation of data has the potential to encourage innovation and shared learning. The sector will gain more in-depth customer and service insight to

definitions essential for the sharing of every aspect of local government's business information if it is to be compiled into regional or national 'pictures'.

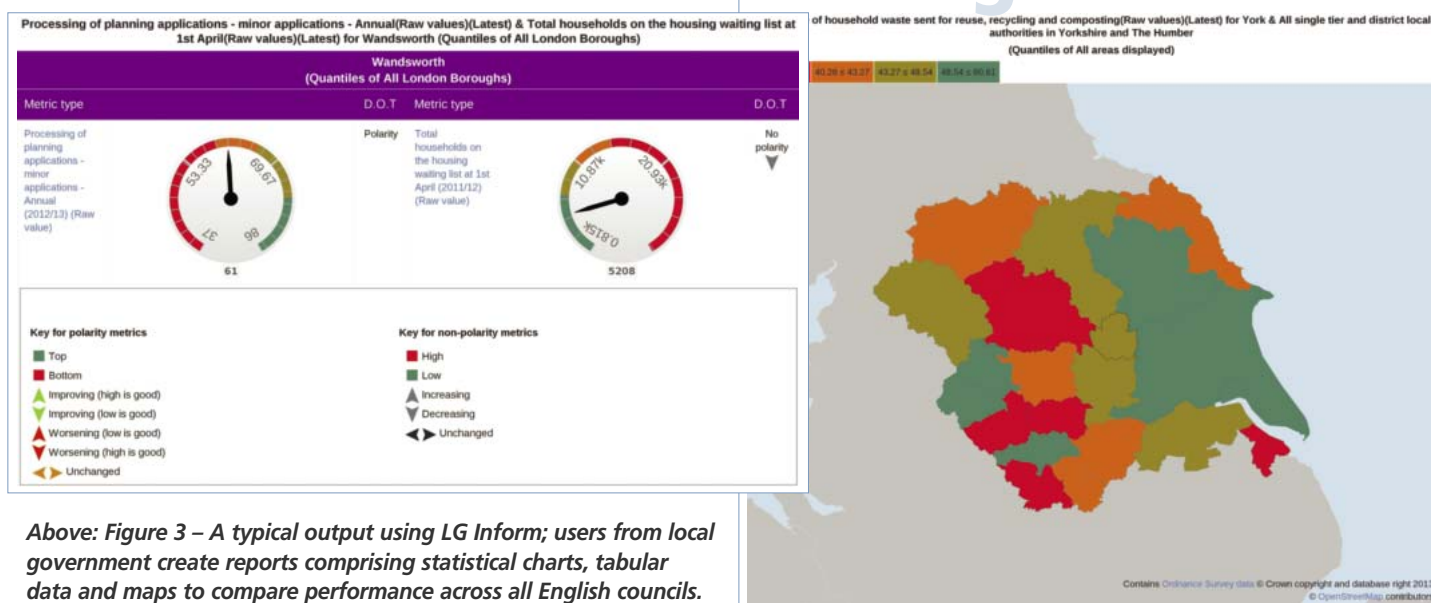
Since 2001, the LGA and its partners have facilitated a highly successful, self-funded programme: the esd-toolkit. This brings together experts from almost every participating council, fire service, national park and passenger transport executive, as well as representatives from central government and the private sector, to develop a model of local government semantics describing all of a council's business. This has paid dividends as we now grapple with a move to greater transparency, publication of open Linked Data, and local oversight of performance management and wider scrutiny. The local government sector is now arguably more advanced in its provision of an infrastructure for information sharing than the rest of the UK, and even of most European, public sectors. There are signs that the wider public sector is beginning to learn lessons from and base improvements in information sharing on local government's initial achievements.

These standards are freely available to all users and are hosted on <http://standards.esd.org.uk>. Readers are encouraged to explore these assets online and build them into their own systems and applications development.

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Above: Figure 3 – A typical output using LG Inform; users from local government create reports comprising statistical charts, tabular data and maps to compare performance across all English councils.

Users are offered a range of version-controlled lists of definitions that describe the delivery of services within councils, with the types of people and business that receive them. There are lists of internal business processes and delivery channels that reflect councils' organisational structures. There are links to a list of metrics that show councils' impacts and their performance.

Informing the transparency agenda From such a detailed oversight of its business, local government can better model and manage its operations. It can inform its councillors, optimise its strategies, and encourage innovative value added products and services as per the government's transparency agenda.

Each list centres on an area of information important to the workings of local government and provides the interconnections between them to enable scrutiny of specific themes. A call centre operative can examine what services best offer assistance to unemployed people. A finance manager can identify performance metrics on expenditure in children's services. LG Inform – see description further down – shows how performance managers, and increasingly, the general public, can analyse and map some 1500 measures such as recycling rates or the distribution of homeless people against the availability of accommodation (see Figure 2).

The framework, referred to as the Local Government Business Model (LGBM), is at the heart of the semantic layer and is used in many councils' corporate systems and drives web-links from the gov.uk service to service pages in each English council. The centre of the model is the Services List providing precise definitions for every service delivered by local government. There are subsets showing back-office services and those specific to Scotland. Extensions have now been added to include services in municipalities elsewhere in Europe.

Other supporting controlled lists interconnect to create a "mind-map" of local government. Thus from each service, there are links to the delivery channels, to business processes, to performance metrics, to legislative controls,

to partner multi-agency resources and many more. The Navigation List provides an organisational framework for councils' websites in such a way that pages for each service can be reliably located on any council's website irrespective of its corporate style or branding.

The Powers and Duties List cross-references every service with the precise legislation in the National Archives to clarify what, why and how the service should perform. The austerity pressures of recent years have prompted many councils to audit their services against legislation using these lists to identify those services provided by "power" (rather than by "duty") i.e. those that are optional under statute. This may provide scope to redesign services in the interests of efficiencies, value for money and/or local impact.

There is also a series of interconnected controlled lists that consider the life style of the populations being served. So lists of *life events* and *circumstances* (such as birth, death, starting school, loss of job) link to the council services that best meet the *needs*. This powerful linking of people to services should lead to better targeted impact, improved productivity and reduction in waste – especially when used in combination with socio-economic classifications from partner organisations such as Experian, CACI and Office of National Statistics. Many councils build these structures into their customer relationship management systems, call centres and one-stop-shops to assist in delivering services tailored to individual needs – especially when assisting the most vulnerable.

Performance management The current public sector funding cuts and the escalating demand on many local public services from an aging population, immigration, environmental constraints, etc., is inevitably prompting more public scrutiny of all aspects of public sector activities. Government policy to decentralise local government scrutiny in line with the *localism* agenda is placing an increased expectation on the sector to manage, monitor and share its own performance metrics.

The challenges associated with more council led

Above: Figure 2 – An analysis map focusing on Yorkshire and The Humber, showing the percentage of household waste sent for reuse, recycling and composting.

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About the author



Tim Adams has been a programme manager at the Local Government Association since 2001 and previously spent 20 years at Laser-Scan. He graduated in Land Surveying Sciences and gained a masters and PhD in spatial information management at Durham. His main roles in the public sector involve programmes that focus on the promotion of information sharing. Adams is an honorary fellow of the British Cartographic Society.

performance monitoring should not be underestimated. Data availability, however, is not an issue. There is already a plethora of online information about local government available from a wide range of sources; but often with varying standards and specifications. The single data list shows that there are currently around 42,000 pieces of information being collected about each council annually.

LG Inform, an online performance monitoring service, has now been launched, which builds upon the information framework and which enables local government performance to be analysed, compared and shared (<http://www.local.gov.uk/lginform>). It provides standard and bespoke reports for the latest published data about local areas. Principally designed for local government, registered users are provided with facilities for easy creation of reports comprising maps, statistical charts, tabular data and narratives, which enable them to compare performance across all English councils and fire and rescue services. Information standards are built into a cloud-based data library to support accessibility and speed. The model has inbuilt links between performance or contextual metrics values for an area, categorised into precisely defined metric types, time periods and different levels of geography. It enables complex combinations of data to be aggregated and presented easily. A list of current content is available on the esd-standards pages as the *metrics-types list* at <http://standards.esd.org.uk/>. A typical output is shown in Figure 3.

LG Inform assists elected members to examine their own patch easily and compare their local issues and service delivery performance with others. They can then work with their officials to develop strategies for improvement. Council officers responsible for policy and performance, business analysis, finance, or customer services are able to develop tailored reports on specialised themes incorporating performance measures and context. Reports can then be printed, emailed, embedded in corporate communications or shared on social media to demonstrate areas of success or concern. These reports enable comparisons of performance locally, regionally or nationally across the sector and encourage early interventions for improvement and potentially shared working between organisations by identifying and adopting best practice.

Since November 2013, LG Inform has been available to the public and users can now search, view, print and share a huge range of pre-prepared reports. Many reports on a wide list of themes can be further tailored to areas and comparison groups of choice. These themes include: advice and benefits, business and employment, community safety, education and learning, environmental protection, government, citizens and rights, health and social care, housing, leisure and culture, planning and building control, transport and highways.

Additionally, a partner service available only to local authorities known as LG Inform Plus (<http://www.local.gov.uk/lginformplus>) provides a means to drill down from the top-level strategic data to lower geographies at ward or census super output area levels. Small area profiling reports can be compiled for councils to analyse

and compare topics such as demographic make-up, education and public health within their boundaries.

Involvement of the wider data community A significant driver of the work described in this article has been the vision to make the wide range of information held within local government more accessible. The current pressure to develop open government and local transparency is possible because of the preparatory work within local government over the past decade.

The convention to publish open data using nationally recognised identifiers – underpinned by standards – makes it possible to link and combine diverse sets of data more easily. This should encourage wider thinking and innovation. Typical sources being used widely and in combination include: the Open Data Communities holdings from the Department of Communities and Local Government; company data from Companies House; administrative geographies from the Ordnance Survey; statistical geographies from the Office for National Statistics; legislation from the National Archives; local government finance management from the Chartered Institute of Public Finance and Accountancy; and local government business concepts from esd-standards.

A number of local government programmes currently underway, supported by the Department for Business, Innovation and Skills and overseen by the LGA and its partners, give an insight into the future vision for improved open access underpinned by standards.

Kent County Council is currently linking local government services to legislation.gov.uk URIs (uniform resource identifiers) to define legal duties to deliver services and hold records.

Cheshire East Borough Council is overseeing online process developments with Porism Ltd for defining unofficial geographies (e.g. town centres) as open data against which performance and contextual data will be calculated and published by LG Inform Plus.

Peterborough City Council and Redbridge London Borough are defining a standard for inventories of datasets indexed by service and function to be used by data.gov.uk.

Local government is being encouraged to publish data online as Linked Data. A clear requirement for success will be to use the types of information governance described here. Guidelines for such publication are available on the LeGSB website: <http://legsb.i-network.org.uk/>. As more open linked datasets become available, the potential to exploit them in various combinations will be immense and the vision of innovation expressed in the transparency agenda will be realised.

Please take a look at the data holdings that are available now in the esd-standards, in LG Inform and in LG Inform Plus. Participating councils are also beginning to show interest in our direct data feed via the application programmable interface (API). We are exploring any interest in opening this API to wider data communities and value your ideas on how this might assist the wider public and private sectors.