"It makes life easier…"
A STUDY TO EVALUATE THE BENEFIT OF
THE LOCAL AND NATIONAL LAND AND PROPERTY GAZETTEERS

Final Report

centre for economics and business research ltd

Contents

1: Executive summary

Complete, accurate and joined up address data is the foundation of efficient, reliable and integrated service delivery.

In local government, the subject of this review, current systems and processes suffer from a lack of consistent and centralised information. Local authority departments and other bodies often store disparate information about the same properties and areas. The information varies in terms of both the number and format of references across the different databases – making it difficult and expensive to share information and bringing into question the reliability of address data.

These issues have raised calls for the creation of a centralised system of addressing. In 1999, local government initiated the National Land and Property Gazetteer (NLPG) to join up address data across England and Wales.

> **Local Land and Property Gazetteers** (LLPGs)
>
> These are the local repositories of address information created by councils who are ultimately responsible for creating addresses.
>
> **National Land and Property Gazetteer** (NLPG)
>
> The LLPGs are supplied to a central hub to create a national dataset.

The key findings of our research are as follows:

- The NLPG could save local government in England and Wales alone at least **£54.4 million per annum**

- This saving only takes account of the benefits to the 376 local authorities in England and Wales that have responsibility for creating an LLPG (creating authorities).

- Accounting for the benefits to other services that use this data – including county authorities and the Police and Fire and Rescue Service – **the annual saving could be even higher**

- On average, **the cost of setting up an LLPG to a local authority is £34,000 and the running costs are £40,000 per annum** (including staff costs and other costs such as software licences)

- Our project evaluation shows that over a ten year period, the **benefit-cost ratio of the NLPG to local government alone could amount to 3.3 : 1**.

- At present, not all departments within authorities that maintain an LLPG are making use of it – and of those that are, only some are linked directly to the LLPG database. This presents a **big opportunity in further developing the existing benefits** as more departments get on board and links to the gazetteer are improved. Once a master list of addresses has been compiled, the marginal costs of rolling it out to other departments and services are low while the benefits are considerable and ongoing.

- The savings made possible by the LLPGs and the NLPG result from increases in efficiency as processes become faster, more accurate and customer satisfaction improves. Of the total annual benefits, we estimate that **63% accrues from faster and more efficient** service delivery and **37% from greater quality shown by a reduction in complaints and mistakes**. The remaining respondents stated that they expect these benefits to feed through as their LLPGs are developed further.

We spoke to 30 local authorities that have implemented an LLPG about their use of the system and experience to date. We found that:

- **70 per cent** of all respondents agreed that the LLPG has resulted in faster and more efficient service delivery; **77 per cent** feel it has it has led to a reduction in errors and complaints; and **83 per cent** believe that the LLPG has improved the accuracy of their service delivery

- As well as helping local authority departments to improve the delivery of existing services, the LLPGs have **enabled almost three-quarters of them to implement new services**, such as one-stop shops for customers – where information about different services is brought together

- Some of the local authority services that are currently benefiting from using an LLPG include: Planning; Building Control; Land Charges; Council Tax and Non Domestic Rates; Environmental Health; and Customer Services

- Within the majority of authorities that have set up an LLPG, there are still many departments that are not making any use of it. Some others maintain their existing address databases and only use the LLPG on an ad hoc basis to cross-reference certain records – and therefore do not exploit it to its full potential

2: The joined up approach

Joining up address databases

Addressing data is a vital input into the majority of publicly-provided services – including, for example, the police and ambulance services, which rely heavily on complete and accurate information.

Local authorities have statutory responsibility for street and property naming and numbering. Across authorities however, different departments have historically built up their own address databases – differing from one another in terms of the number of addresses stored, the format in which they are recorded and the types of locations covered. This has led to a range of problems and inefficiencies in operation and service delivery – resulting in unnecessary financial costs, delays and mistakes and leading to calls for a national master list of address references.

The National Land and Property Gazetteer (NLPG), which was set up in 1999 is based on unique property reference numbers (or UPRNs). The NLPG exists for the whole of England and Wales and is the central hub for the 376 Local Land and Property Gazetteers (LLPGs). LLPGs are in turn the repositories of addresses which are linked through the UPRN to local datasets within the local authority area.

Definitive National Addressing for Scotland (or DNA-Scotland) is based on the same process model and BS7666 standard as the NLPG. It can be fully integrated with the NLPG where required.

Integrating and communicating

A key benefit of the LLPG is that it has led to greater integration within local authorities. Departments are now able to share much more information than before and provide a joined up approach to carrying out their tasks.

Prior to LLPGs, each authority maintained a multitude of different address data sets. Different departments would collect the same information, thereby duplicating effort. The result was inefficient and piecemeal, and fed through to disaggregated and protracted service delivery with poor, or often no, communication between departments.

> *"Departments are actually talking to each other now. There is a much more joined up approach within the local authority."*
> [Christopher Quinn, Systems Support Officer, Lancaster City Council]

When we spoke to local authorities that have working LLPGs they told us that it:

- **is breaking down barriers** between departments – people are finally communicating and sharing more information

> *"There has been far better integration by communication – people are enquiring about things more, communication across departments is much better."*
> [Verna Mills, LLPG Officer, Wolverhampton City Council]

- **prevents wasting time in chasing down information** – they no longer have to ring around different departments and deal with getting inconsistent information about the same address, as there now exists one reliable source of information

- **means that the job can be done more thoroughly** – departments such as billing departments for council tax are finding addresses they previously did not know existed. This has positive financial implications for the authorities. The level of social care provision has also improved as the LLPG coupled with GIS enables social care workers to make more 24-hour call outs and to reach people faster

- **gives greater confidence in the information provided** to fellow staff members and the general public

- **allows them to provide 'one stop shop' service delivery** to residents and others making enquiries as the customer service centre now has all the required information at their fingertips

> *"Without the gazetteer we wouldn't be able to have a contact centre that was as efficient. Dealing with queries is a lot quicker. The planning department do hundreds of planning applications a month and now they know as soon as an application has been filed… building starts sooner, and there is less of a delay because it's all processed faster."*
> [Chris Phillips, Project Manager for Corporate IT, North Warwickshire Borough Council]

- **enables accurate and instant mapping** of geographical locations – you can now visibly pinpoint the locations you're dealing with

How were things done before?

Before local authorities began creating their central gazetteers, addressing information was generally collected and stored individually by different departments – so when new addressing intelligence was gathered by a department, this was rarely passed on to others. Within one local authority, there would be a multitude of disparate address data sets. Data would cover different addresses, with different formats… and different mistakes.

Departments would spend time chasing down new information and correcting existing records when and if a problem arose. This would entail either sending someone from the department to go to a location to verify an address or to phone around various departments until the required information was attained. Once this information was corrected, the new information would not normally be communicated to other departments – leading to repeat inefficiencies over time.

"Before, when people who were moving into a new house rang up to ask when their refuse is collected, the customer services wouldn't know and could take half a day to ring around and find out and then get back to the customer. Now, they have access to the central information of the NLPG within the contact centre, they can get this information instantaneously and it is there before people have moved into their new place."
[Lyn Smith, GIS Officer, Sedgefield Borough Council]

Before the LLPG

After the LLPG

LLPG

flow of addressing information

department/authority/body
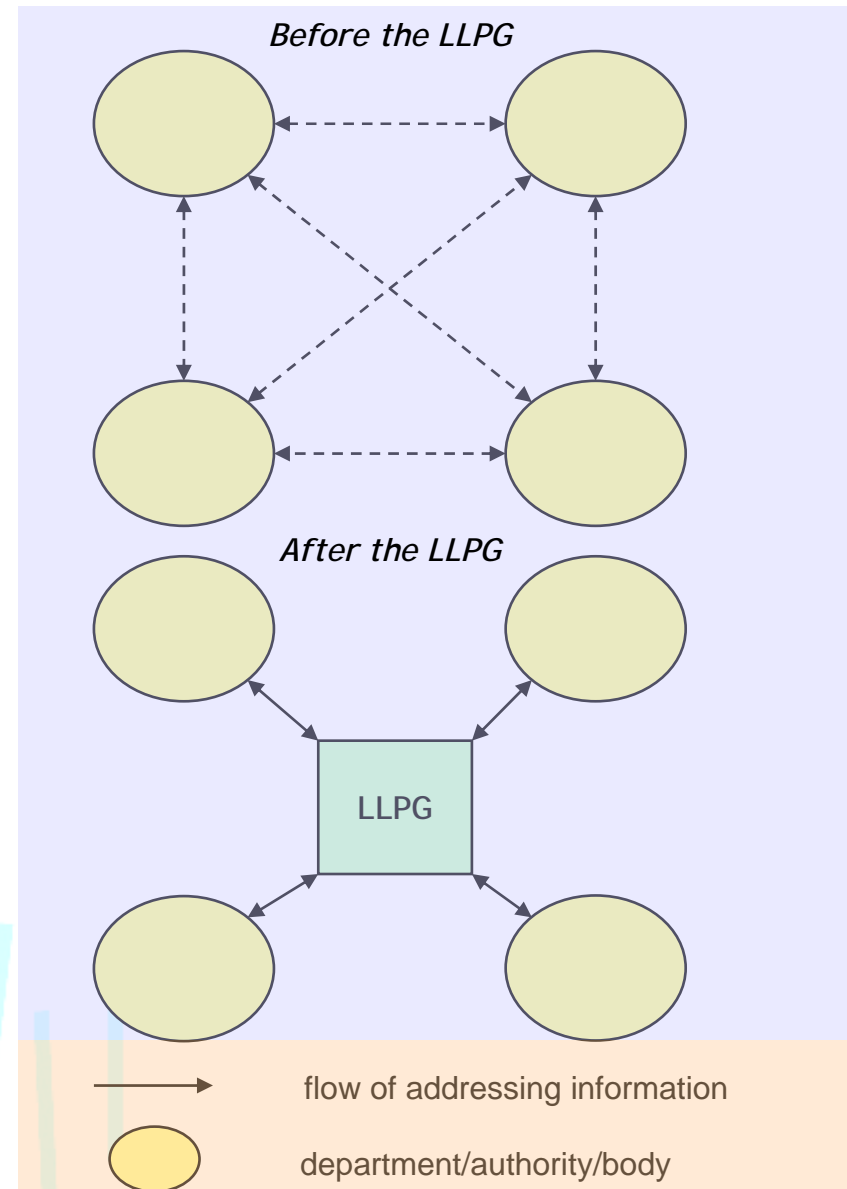
How is addressing data accessed now?

Since authorities have started to build a central gazetteer, their method of accessing and recording addressing data has been transformed. Often, benefits are seen even where roll out of the LLPG is only partial. Even departments not fully linked to an LLPG are benefiting from a reliable point of reference.

The gazetteer offers a definitive single point of reference that allows departments to access up-to-date and accurate addressing information. With the LLPG team updating address information as it changes, users are confident that information is accurate and up to the minute.

"The gazetteer enables you to do an audit trace of what has happened at a property"
[Matthew Marshall, E-Government Officer, Kettering Borough Council]

The ability to pinpoint addresses exactly on a map by using the gazetteer combined with GIS technology has been a particular catalyst in speeding up processes, for example by saving time searching through printed maps.

88 per cent of address users believe that addressing data is more easily available now that they are using the LLPG.

Providing new services

73 per cent of authorities that have implemented an LLPG **have been able to provide a number of new services** – both as a result of the functionality of a central database and also as a result of the time savings it permits. Examples of these new services include:

- *Customer service centre*: Although most authorities were intending to set up customer service centres regardless of the LLPG, they feel that it has allowed the centres to respond to a wider range of queries and to address customer enquiries much more efficiently. Furthermore, there are now plans across some authorities to combine their datasets to offer county-wide customer service centres.

- *Online property enquiries:* The majority of authorities we spoke to have set up, or are developing, a function on their website which allows the public to obtain a range of information about their property and local area – simply by typing in their address. The information available usually includes: council tax band; refuse collection details; local schools and hospitals; and other local amenities.

- *The 'Planning Portal'*: As well as allowing the public to make online enquiries, various councils have also put in place on-line systems that allow people to make planning applications online.

Supporting other objectives

Most authorities also feel that the LLPG has helped them significantly in meeting their e-commerce targets.

In particular, the LLPG is forming the backbone of a lot of their web initiatives, and is (or will) be used as a basis for enabling people to make enquiries and log planning applications online.

"The LLPG has helped us to achieve our G7 E-government target – which entails, for example, using crime data to help the licencing department decide whether planning permission should be given for extensions to licencing hours."
[Chris Phillips, Project Manager for Corporate IT, North Warwickshire Borough Council]

3: Working smarter: saving time and increasing efficiency

How much faster are services delivered?

The gazetteer has enabled the majority of users to complete their tasks and deliver their services faster and more efficiently. In total, **70 per cent of users agree that the gazetteer has enabled faster service delivery.** Departments reported that the **ease of access and reliability** were the most important factors enabling faster service delivery.

*The Environmental Health division at Lancaster City Council for example, believes that the LLPG has **reduced the working time spent in accessing address data by up to 15 per cent**. The time it takes in waiting to clarify address-related queries has fallen from approximately a week to only a couple of hours.*
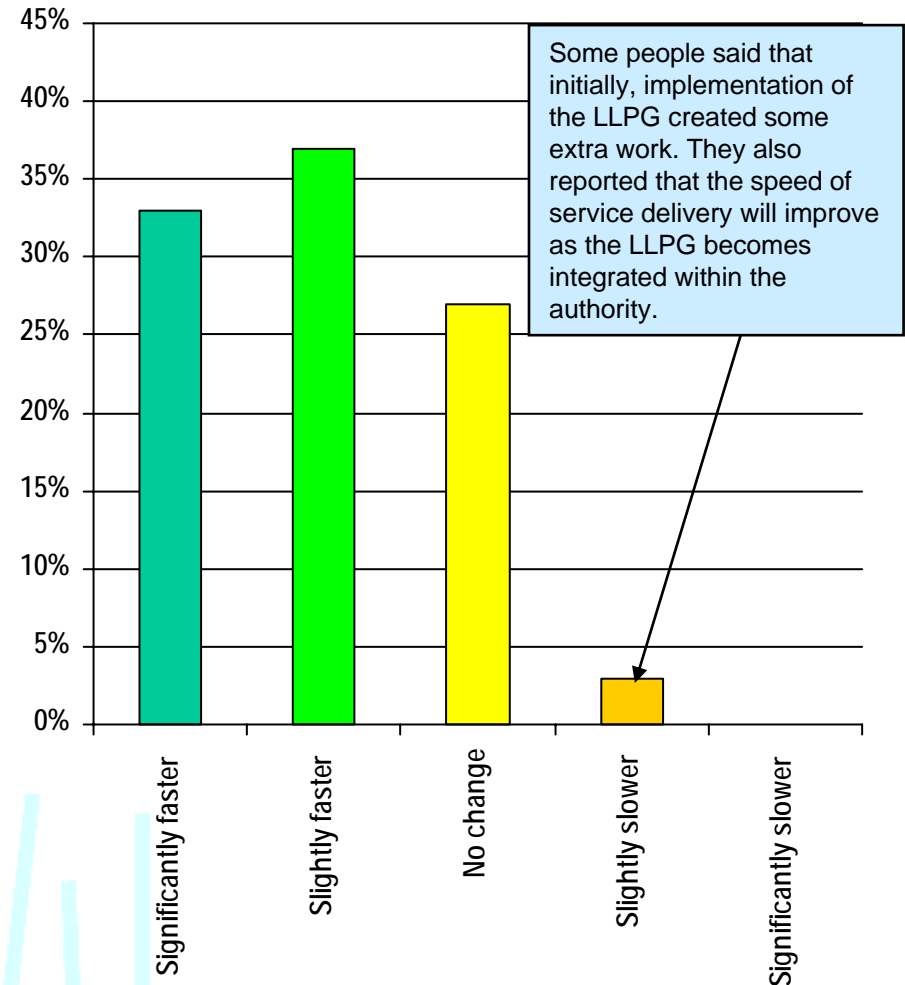
*The Planning Services department at Huntingdonshire District Council says that the **time taken in searching for information attached to addresses has come down from ten minutes to just one** since they have started to use the LLPG, saving the department five hours every month: "It was impossible before – we had to search through lots of databases or get out of our seats and pull the maps out."*

On average, authorities report that accessing the address data they need takes **two-thirds of the time** it used to since the LLPG was implemented.

"It's speeding it up – the public wouldn't know, but it is making life easier for the fire service."
[Graham Price, Station Manager, Kent Fire and Rescue Service]

Change in speed of service delivery since implementation of LLPG

Some people said that initially, implementation of the LLPG created some extra work. They also reported that the speed of service delivery will improve as the LLPG becomes integrated within the authority.

Source: cebr calculations based on interviews with a sample of local authorities in England and Wales

How much time is saved?

We estimate that in the average local authority, users of the LLPG could save almost **4,200 hours a year due to the increased speed** of accessing address data offered by the gazetteer.

"Everybody who uses the LLPG says it is really good…and that it saves time and money… because there is less arguing about which address is right or wrong."
[Andrew Lawes, Strategic Property Manager, East Riding of Yorkshire Council]

*At Lancaster City Council for example, the Planning Services and Building Control department were able to process 1,600 planning applications in 2005 compared to 1,300 in 2003 – a **19 per cent rise in output**, attributed to its use of the LLPG.*

"Enforcement Officers investigating fly-tipping say that the GIS address search based on the LLPG enables them to find properties more quickly"
[Karen Hawkes, Information Officer, Denbighshire County Council]

4: Increasing precision and customer satisfaction

Accuracy gains

Improvement in the accuracy of addressing information is considered to be one of the most significant advantages of the LLPG – and also one of the first benefits to feed through.

By assigning a unique property reference number to a location, problems previously created by storing addresses in multiple formats are avoided. Address users often record the same location differently and can sometimes make minor spelling mistakes.

Spot the difference

- 1 St Katharine's Street
- 1 Saint Katharine's Street
- 1 St. Katharines Street
- 1 St. Katherine's Street
- 1 St. Catharine's Street

Prior to the LLPG, this would often make it impossible, or at least time consuming, to obtain data from different systems. With a UPRN however, different departments can be sure that they are communicating about the same location when sharing and providing information.

The capability provided by the LLPG, alongside GIS software, for users to accurately map locations is considered as a key mechanism in improving the accuracy of service delivery across departments.

Do you feel that the LLPG has improved the accuracy of service delivery?

"Lots of roads don't have an official name , just a number – there was once a pregnant woman that couldn't be found by a midwife. Within two days, the LLPG team gave it a name and then the midwife was able to find her!"
[Chris Phillips, Project Manager for Corporate IT, North Warwickshire Borough Council]

"The LLPG has given us more confidence that the data we are looking at and the data we provide is correct."
[Jonathan Saunders, LPG Custodian, Cambridge City Council]

"As a result of the data cleansing process we were able to find addresses that weren't on the council tax system." [Pat Porter, LPG Custodian, Tandridge District Council]

"We're now using the LLPG data in Borough Care - who look after about 6,500 vulnerable people – the LLPG coupled with GIS helps them to do their 24-hour call outs. The drivers have a direct map with all the information about who they're visiting - before they had to take along a 40 page excel sheet and locations were harder to find."
[Chris Phillips, Project Manager for Corporate IT, North Warwickshire Borough Council]

83 per cent of the authorities we spoke to feel that the LLPG has **improved the accuracy of their service delivery**. **63 per cent** of respondents feel that this greater accuracy has led to financial savings.

Minimising mistakes and complaints

Having access to more reliable and complete information has led to a reduction in the number of mistakes made in address-based activities, which has in turn lowered the number of complaints received by local authorities and other organisations using an LLPG.

77 per cent of authorities questioned feel that both the number of errors made in address-dependent activities and the number of complaints received have fallen since they have started to use an LLPG.

On average, we estimate that the number of mistakes made per local authority department has fallen by **42 per cent** across departments since authorities have implemented an LLPG.

We estimate that in the average local authority, users of the LLPG could **save almost 2,500 hours a year from making less mistakes and having to deal with less complaints**.

*The Council Tax and National Non-Domestic Rates department at Tandridge District Council believe that the **number of complaints they receive has fallen by 50 per cent** since they started using the LLPG.*

Change in accuracy of information since implementation of LLPG
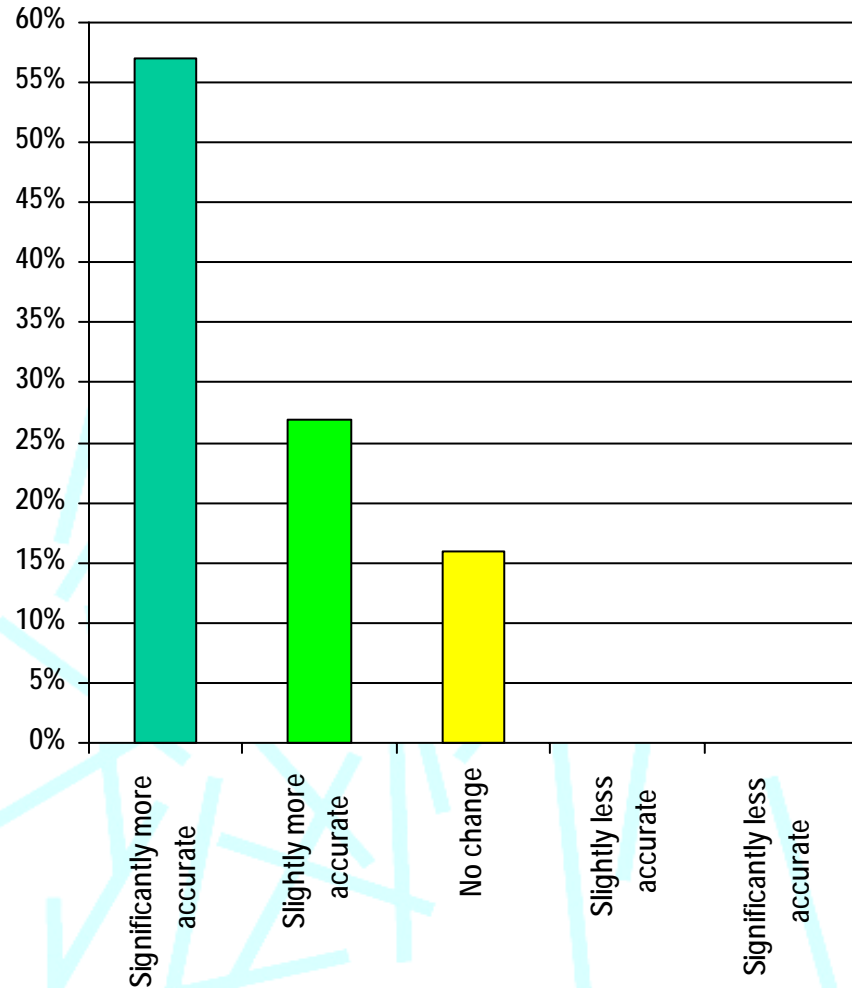
Change in volume of mistakes and complaints since implementation of LLPG
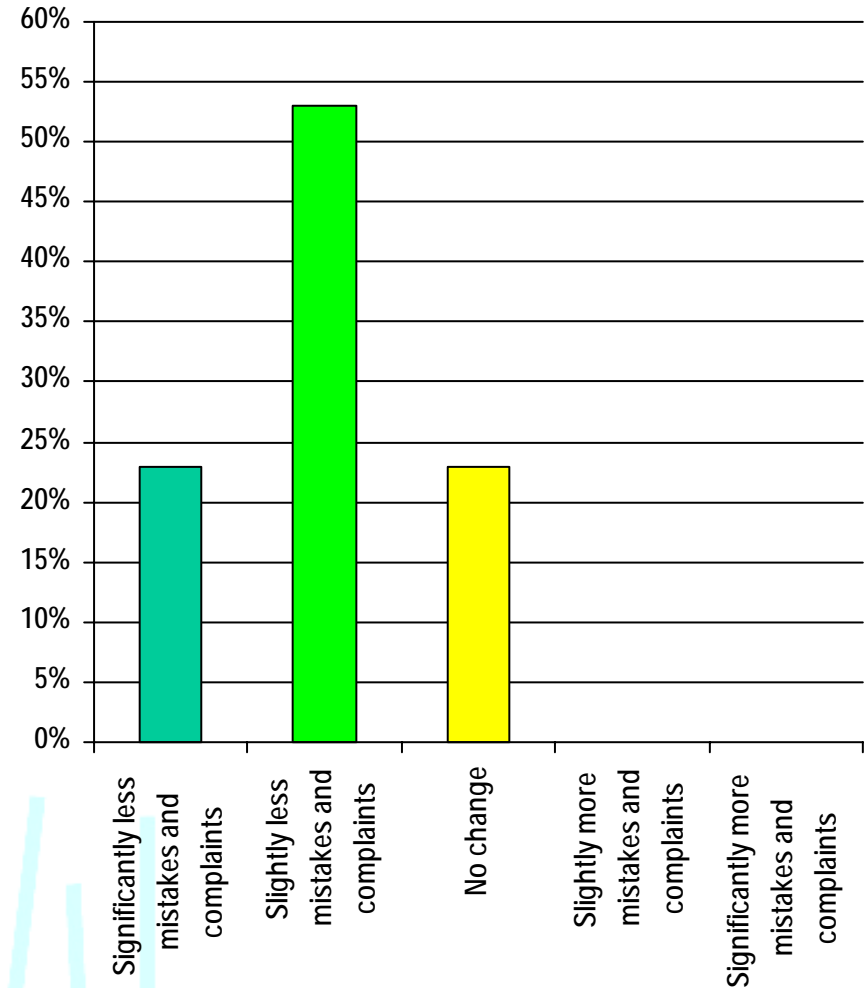
What are the consequences of getting it wrong?

In many local authority departments, getting the wrong address can have severe consequences and repercussions. At the very least, mistakes slow down operations and can lead to a rise in complaint levels.

At the extreme, an address-related mistake can have more serious consequences, particularly for certain departments. For example, getting an address wrong in Land Charges could lead to litigation and financial losses. For organisations such as the Police and Fire and Rescue Service, inaccurate addressing can inhibit the delivery of vital and time-critical services.

"Getting an address wrong can lead to an elector not receiving a poll card and therefore not knowing which polling station to go to, to vote – if they don't ring the council to find out, then the electoral register division won't know how many people aren't voting for that reason"
[Sedgefield Borough Council]

How does the LLPG help when things do go wrong?

"Before if we had a doubt about a particular address, we had to get into a car and go and have a look. Now we can just cross-reference with the gazetteer – which is not only faster, but provides us with the confidence that we need"
[Tandridge District Council]

*The Environmental Health department at Lancaster City Council feels that the LLPG has reduced the average time it takes to correct an address-related mistake to only **one minute** from the **15-20 minutes** it took before. This is because addresses can now be verified simply by making an online enquiry.*

5: Financial costs and savings

The previous chapters illustrate the wide range of benefits that result from using an LLPG. However, in order to fully appraise whether or not implementing the system is actually worthwhile, we must also analyse the associated costs. The costs involved include:

- direct financial costs (including costs of set up and other on-going costs)

- staff costs (as well as staff cost savings)

Does the LLPG save money?

The majority of authorities we talked to said that their operating costs had fallen since implementing and using an LLPG. **67 per cent of authorities reported either a slight or significant reduction in operating costs since implementing an LLPG** – with those reporting higher costs, or no change in cost, stating that costs should begin to decline as their LLPG has more time to feed in.

The financial savings gained from centralised addressing information come from various sources. Most authorities report that the biggest savings are due to **efficiency gains** as the LLPG has released man hours previously used in searching for and clarifying address data. This could allow reduced staffing levels and costs or could free up time to improve services elsewhere – helping to achieve the public sector efficiency savings as identified in the Gershon review[1].

[1]"Releasing resources to the front line" *Independent Review of Public Sector Efficiency,* Sir Peter Gershon CBE, July 2004

Change in operating costs since implementation of LLPG
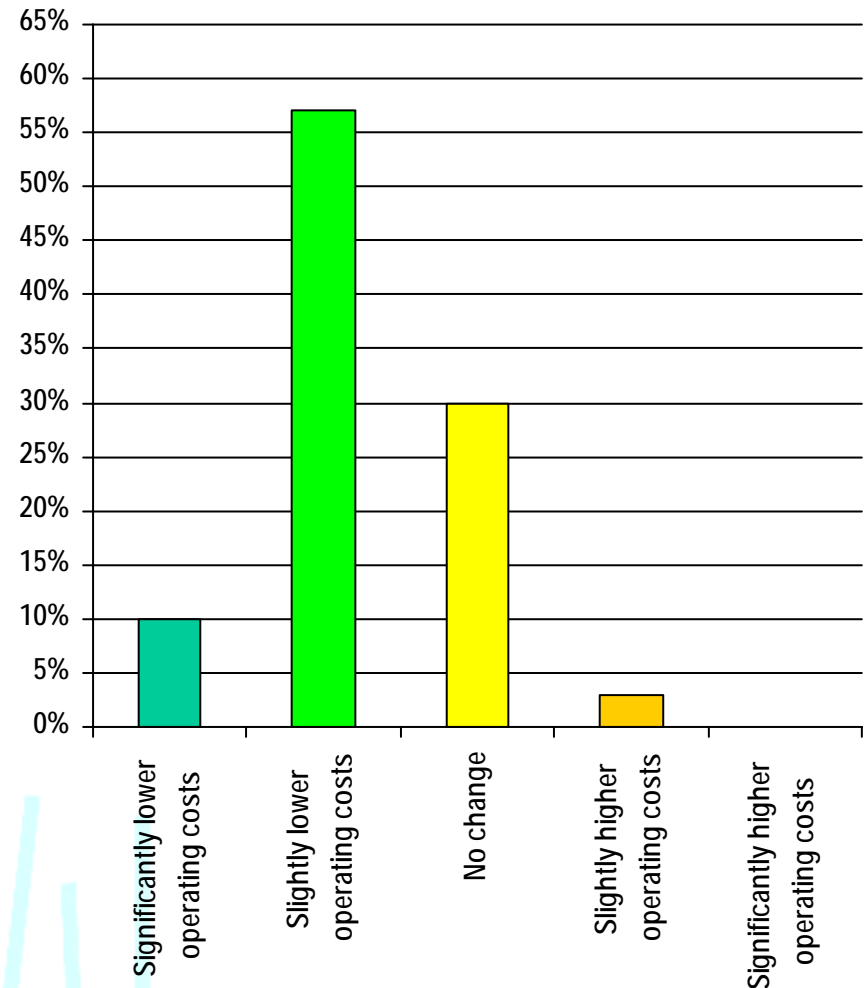
Source: cebr calculations based on interviews with a sample of local authorities in England and Wales

Teignbridge District Council used their LLPG to model optimal collection routes for the refuse collection service. The resulting rescheduling of the refuse service has enabled Teignbridge District Council to make savings of £20,000 per year - £15,000 due to evenly distributing the workload across different crews and cessation of overtime and £5,000 from the reduction in fuel and maintenance costs. The council believes however, that full optimisation of routes has the potential to **save them £110,000 per annum** *by reducing refuse collection routes by one.*[1]

Using the LLPG at Blackpool Council has eliminated the need to operate and maintain seven of the Council's key datasets – **saving the council a total of £750,000** *since their addressing records were consolidated.*[2]

But what are the costs?

The costs of setting up and maintaining an LLPG vary across authorities – and can depend on a variety of factors. For example, certain authorities may have already had most of the software necessary for setting up the LLPG, whereas others may have had to purchase it solely for LLPG use. Furthermore, the process of 'data cleansing' may be more costly in larger authorities that have a larger number of addresses to cover and therefore need to spend more resource in gathering, storing and amending data.

The set-up costs

On average, across the authorities sampled (focusing solely on those that are LLPG 'creators' rather than 'receivers'), the **set-up costs** of the LLPG are reported to be **£34,400**. These include the costs of initial software, costs of any additional hardware including computers and any one-off staff costs such as the costs of hiring consultants and initial staff training.

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[1]Source: Land & Property Information: Underpinning Service Transformation & Efficiency (James Thompson, ESRI),
http://www.localegovnp.org/webfiles/presentations06a/CAPS%20ESRI.pdf#search=%22valuebill%20refuse%20collectio n%20saving%22
[2]Source: Reaping the rewards (Geoconnexion UK magazine)
http://www.geoconnexion.com/uploads/ggpnewsletter.pdf

Staff costs

Our investigation found that the average **staff costs** associated with maintaining and operating the LLPG amount to **£34,500 per annum**.

A few of the authorities in our sample employ a Street Naming and Numbering Officer as well as an LLPG Custodian. However, once the LLPG is fully integrated, it is likely that time savings will be gained from merging these roles.

Some authorities – through reorganisation of tasks – have already been able to reduce staff costs. On average, **20 per cent** of authorities we spoke to reported some reduction in their staffing requirement as a result of the LLPG, while others have freed up time to concentrate on other tasks.

Other on-going costs

Other on-going costs associated with the LLPG include licence fees for software packages as well as maintenance of systems. These are on average **£5,500 per annum** for each local authority.

Average cost by type of cost, £ thousand
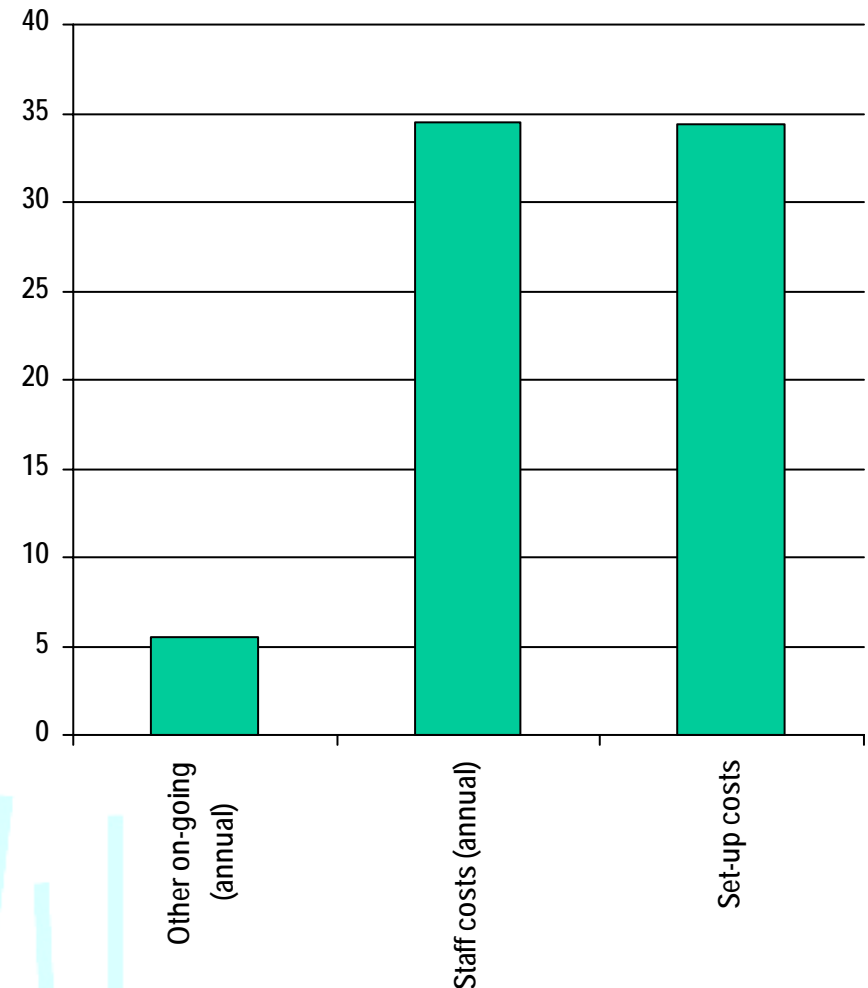
Source: cebr calculations based on interviews with a sample of local authorities in England and Wales

6: Is it all worth it?

The national verdict

Having examined the constituent impacts of the LLPG, we now look at the aggregate impact across England and Wales, taking into account both the cost savings and cost implications of the LLPG.

The potential of the LLPGs

The majority of local authorities that have an LLPG have not yet rolled it out to all of their departments. The planning and building control departments are usually the first to start using the LLPG, as they rely heavily on addressing information and are, in many cases, the department in which the LLPG team operates.

Every authority confirmed that they are aiming for all of their departments to be integrated with the LLPG eventually – and that progress is being made in achieving this.

Councils are developing closer links between the LLPG and other databases, although some hurdles remain. Some departments are directly linked to their authority's central gazetteer and have instantaneous updates of addressing information, whereas others may receive daily or weekly updates.

> *"The benefits of the LLPG will really start to feed in when it is taken on board by all departments."*
>
> [Brian Stickings, GIS/Information Manager, Pembrokeshire County Council]

However, in most council tax departments that we spoke to, systems software difficulties are delaying direct links between council tax databases and the LLPG.

Cost implications

We estimate that the total set-up costs of the LLPGs across England and Wales stand at **£12.9 million pounds.** The total annual staff costs are estimated at **£13.0 million pounds** and the other annual running costs of the system at **£2.1 million pounds.** This is estimated by applying our results to the local authorities that create and maintain LLPGs and those that will when the scheme is further rolled out (376 local authorities in total).

This implies that a fully rolled out LLPG would cost **£15.1 million pounds per year to run.**

Adding up the benefits

We estimate that in local government alone the **annual savings of the NLPG will grow to at least £54.4 million**.

The monetary value of the benefits we have captured reflect:

- Benefits that will accrue assuming all local authorities throughout England and Wales have fully and effectively implemented their LLPGs;

- Benefits restricted to the internal use of those primary local authority functions that use geographical and addressing data;

- Benefits accruing from the use of an LLPG as a central source for each local authority assuming they have live access and cease to maintain separate address datasets.

We have not captured:

- Benefits that may accrue to third parties from faster and more efficient delivery of services by local authorities with fewer mistakes (for example in the Planning process)

- Benefits in efficiency and quality of services that may arise from other government organisations using the NLPG where they must work with local government and require geographical and addressing data in a consistent format (for example, some Central Government Departments and Agencies, Emergency Services etc)

- Other wider benefits that may accrue from the NLPG, such as in vehicle navigation devices

Our investigation has found that the LLPGs and the NLPG are delivering substantial benefits in the authorities that have begun to roll them out. We estimate that as roll out continues, the **benefits will outweigh the costs by 3.3 : 1**.

This saving only takes account of the benefits to the 376 creating local authorities in England and Wales. Accounting for the benefits to receiving authorities and bodies – including county authorities and the Police and Fire and Rescue Service – **the annual saving could be even higher**.

"The potential it has is vast - having a single address source brings areas that were never possible before into play."
[Allan Cooke, Systems Administrator, Lancaster City Council]

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