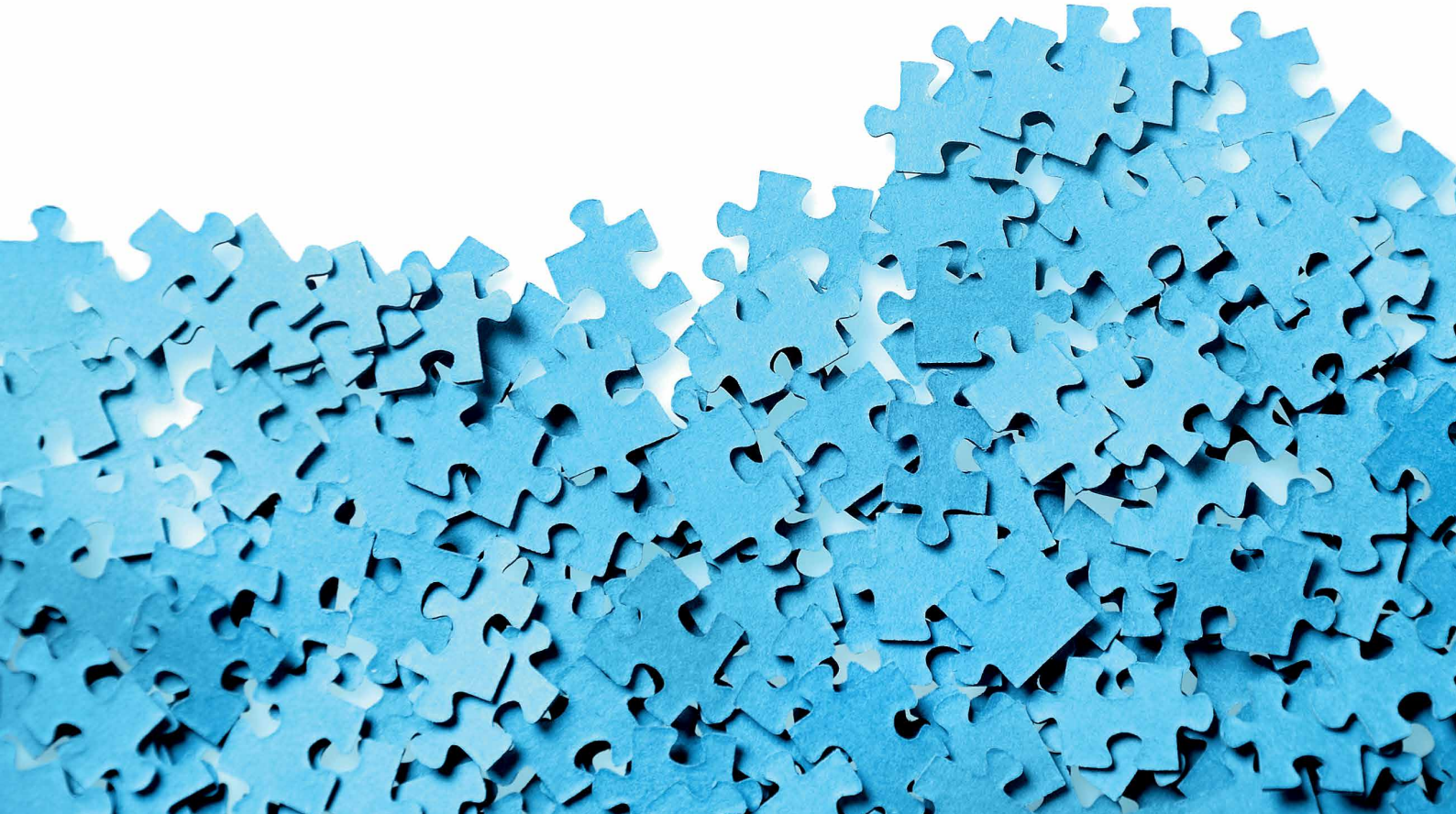
Small Pieces Loosely Joined

How smarter use of technology and data can deliver real reform of local government

Eddie Copeland



Small Pieces Loosely Joined

How smarter use of technology and data can deliver real reform of local government

Eddie Copeland

Policy Exchange

About the Author

Eddie Copeland – Head of Unit – @EddieACopeland. Eddie joined Policy Exchange as Head of the Technology Policy Unit in October 2013. Previously he has worked as Parliamentary Researcher to Sir Alan Haselhurst, MP; Congressional intern to Congressman Tom Petri and the Office of the Parliamentarians; Project Manager of global IT infrastructure projects at Accenture and Shell; Development Director of The Perse School, Cambridge; and founder of web start-up, Orier Digital. He has a degree in Politics and Philosophy from the University of Bristol, and a Master's in International Relations from the University of Leicester.

About the Technology Policy Unit

Policy Exchange's Technology Policy Unit helps politicians and policymakers unlock the potential of technology: for an innovative digital economy, a smarter public sector and a stronger society. Our aim is to be recognised as the pre-eminent thought leader on technology in UK policymaking. Visit: policyexchange.org.uk/technology-policy or contact Head of Unit, Eddie Copeland, at: eddie.copeland@policyexchange.org.uk/020 7340 2650 for more information.

Published by
Policy Exchange, Clutha House, 10 Storey's Gate, London SW1P 3AY
www.policyexchange.org.uk

ISBN: 978-1-907689-90-1
Printed by Heron, Dawson and Sawyer
Designed by Soapbox, www.soapbox.co.uk

Contents

Acknowledgements

The author would like to thank Unit Partner, Fujitsu, for their support for this piece of research. He is also grateful to the following people (and those who prefer to remain anonymous) who kindly gave up their time to answer questions and share their perspectives:

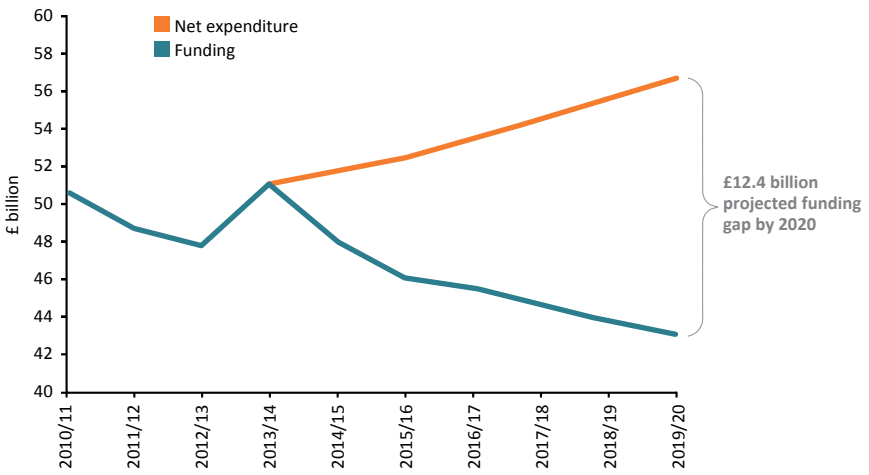
Clark Vasey – Fujitsu; Heather Savory – Open Data User Group; Mark Thompson – Methods; Richard Copley – Rotherham Council; Dominic Campbell – FutureGov; Andy Hopkirk, Martin Ferguson and Nick Roberts – Socitm; Carl Haggerty, Phil Rumens and Sarah Lay – LocalGov Digital; Peter Wells – Labour Digital Government Review; Chris Lindsay and Lucy Cowcill – BT; Dan Jellinek – Freelance writer, politics and technology; Siobhan Coughlan and Laurence Meehan – LGA; Peter Cummings – Adobe; Helen Olsen – DCLG Local Digital Campaign; Paul Maltby, Jemma Insall and Oliver Buckley – Cabinet Office; Kathy Settle and Russell Davies – Government Digital Service; Steven Howell – Localis; Ellen Broad – ODI; Laura Citron – WPP; Ben Hawes – Department for Business Innovation and Skills; Andrew Collinge – GLA; Tom Brown – Lambeth Council; Barry Quirk – Lewisham Council; Michael Flowers – Enigma.io; Professor Mike Batty and Dr Andrew Hudson-Smith – The Bartlett Centre for Advanced Spatial Analysis, UCL; Dan Huppert – Appy Parking; Jackie Hudson – Hammersmith and Fulham Council; Casper Mahoney and Arturo Dell – Camden Council; Professor Viktor Mayer-Schönberger – Oxford Internet Institute; Rob Miller, Royal Borough of Kingston and London Borough of Sutton; Neil Wholey – Westminster Council; Rob Wilson and Mike Martin – Centre for Knowledge, Innovation, Technology and Enterprise (KITE), Newcastle University Business School; Phil Young – Transport for London; Cameron Scott and Dr Katherine Drayson – Policy Exchange; William Heath – Mydex CIC.

The conclusions of this report, along with any errors and omissions, remain the author's alone.

Executive Summary

The era of austerity has had a major impact on the UK's public finances. In few areas has this been felt more acutely than in the local government sector. According to the Local Government Association (LGA), local authorities in England face a funding shortfall of £12.4 billion by 2020.[1] At the same time, councils provide 80% of local public services – including those that support the most vulnerable in society – and demand for many of them is rising fast.[2] £10 billion of savings have already been made through cutting back on discretionary services and finding internal efficiencies, but the low-hanging fruit is almost gone.[3] The sector therefore has a choice: either it must stop providing some services altogether or fundamentally reinvent the way it works. This report is about how it can achieve the latter by harnessing the principles of digital government: doing more and better with less, through smarter use of technology and data.

Figure ES1: LGA projections for income against expenditure for local authorities in England



Source: LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.15

The report argues that the single greatest barrier to achieving technology-enabled reform is the sector's fragmentation. Across England and Wales there are 375 local authorities, each with their own leadership, local links and priorities.[4] Added to that, there are approximately 18,500 elected councillors, 1,783,500 local government employees[5] and thousands of delivery teams providing more than 700 services.[6] Chapter 2 explains how, over many years, local authorities have separately procured or developed their own hardware, software and applications to enable them to carry out their functions and to deliver their services. As a

1 LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.15

2 Local Gov, 'Transform local services to tackle 'huge pressure' of rising demand', 25 February 2014, available at: http://www.localgov.co.uk/Transform-local-services-to-tackle-huge-pressure-of-rising-demand/35707. Local services are also under pressure to change in short timescales to support new national policy directions, such as implementation of the Care Act 2014.

3 LGA, 'Councils reaching 'end of road' for managing cuts through efficiency savings', 12 May 2014, available at: http://www.local.gov.uk/media-releases/-/journal_content/56/10180/6172733/NEWS

4 LGA, 'The LGA quick guide to local government', December 2011, p.2

5 LGA, 'Local Government Employment Quarter 4, 2013', available at: http://www.local.gov.uk/documents/10180/12013/QPSES+Q4+2013.pdf/2b089b6a-d330-4a62-8088-4c818aa42daa

6 LGA, 'The LGA quick guide to local government', December 2011, p.3

result, though they all perform very similar tasks in their respective areas, each council's IT architecture (the collection of software, hardware and processes it uses) is virtually unique to itself. This raises the cost of technology (through duplication, inefficiency and limiting economies of scale) and prevents local authorities from adopting – or rolling out at scale – the more efficient ways of working that could save significant money. Shared services, targeted and coordinated action, and reducing demand on council services all require shared data. The chapter highlights how local government's fragmentation hinders that sharing from taking place.

Though there are many digital government initiatives taking place in local authorities, Chapter 3 argues that few are likely to make a significant impact. That is because they are largely fragmented and reinforce inefficient silos of people, IT and data when real value comes from joining them up and sharing. They tend to focus on technology and not on using data to enable better ways of working. They prioritise efficiency without looking to engage citizens, charities and businesses in designing and delivering public services – routes that offer potentially far greater long-term savings.

Progress is being hindered by the fact that much of the debate on local digital government is framed as a binary choice between localism and centralisation. The dominant narrative has been that the sector can have *either* local innovation and democracy, at the cost of duplication and inefficiency, *or* a Local Government Digital Service that dictates from the centre, saving money but disempowering local communities.

That is a false choice. Instead, in Chapter 4, this report outlines a new vision for digital government. It entails putting in place the core building blocks on which digital reform depends: compatibility with open standards, a common data network, clear legal advice on data sharing, citizen control of personal data, interoperability of IT systems, a dynamic and flexible marketplace for online services, data analytics capabilities that cross public sector boundaries, budget flexibility and freedom to design local services to meet local needs. It also requires an acknowledgement that some of these cannot be effectively implemented at a local level. The report's recommendations are therefore broken down into those that need to be performed by central government (or the public sector as a whole); by local government collectively; by regions; and by local authorities. In doing so, it outlines a model of digital government that can:

1. **Support efforts to close the £12.4 billion funding gap;**
2. **Make services not just cheaper but better for citizens;**
3. **Prioritise getting the right (as opposed to the cheapest) technology to enable more efficient ways of working;**
4. **Promote local innovation (localism) while removing duplication and waste by developing common capabilities;**
5. **Increase collaboration within and between local authorities;**
6. **Enable coordination with other public sector bodies;**
7. **Engage the mixed economy (individuals, volunteer organisations and businesses) in public service delivery; and**
8. **Increase democratic engagement and transparency.**

Summary of Recommendations

Central government/public sector as a whole

Recommendation 1

A newly appointed Government Chief Data Officer[7] should work with representatives from local government, central government departments, other public sector bodies and industry, to define – and continuously update – open standards for data for the entire public sector. Standards should be set with a clear focus on achieving specific outcomes, for example delivering integrated care for the elderly. Compatibility with open standards should be highly recommended for 10 years, with a clear commitment that it will become legally mandated from 2025, allowing each organisation to phase out non-compliant systems.

Ensuring compatibility with open standards – common formats and schemas for recording data – makes it easier to move, share and analyse data from different IT systems. This helps prevent vendor lock-in, reduces IT costs, and enables more efficient ways of working (such as shared services) that required shared data. Since the delivery of complex public services – such as social care or supporting troubled families – requires coordination between many different organisations, compatibility with open data standards is needed across the entire public sector.

Recommendation 2

For public services to be joined up and efficiently coordinated, the whole public sector needs to have one secure mechanism for exchanging data, with a single set of compliance standards. The Public Services Network (PSN) and N3 (used by the NHS) should be merged to create a Single Public Services Network (SPSN). Longer term, government should consider whether that combined network could be replaced with secure, encrypted communication sent via the internet: a Public Services Virtual Network (PSvN). This would offer a Secure Network as a Service (SNaaS) for all but the most critical applications.

The Single PSN could be the mechanism for enforcing compatibility with open standards (as per Recommendation 1), creating the fundamental building block for communication and interoperability across the public sector. Moving to a virtual network in future (PSvN) would provide the flexibility and instant scalability to adapt to local government's changing needs, including the development of smart city infrastructure and integration with Internet of Things sensors.

7 The government announced its intention to appoint a Government Chief Data Officer in a December 2014 publication by HM Treasury and the Cabinet Office, 'Efficiency and Reform in the next Parliament'.

Recommendation 3

An Office of Data Responsibility (ODR) should be established as an extension to the work of the Information Commissioner's Office. The ODR would be an independent body that: A) Provides common legal guidance on data sharing across the public sector based on current legislation; B) Independently reviews novel ideas for using data and helps share examples of best practice; and C) Gives independent auditing and accreditation of public sector data privacy and data ethics policies.

The creation of the Office of Data Responsibility would be a key step towards supporting local authorities in responsible data sharing that could reduce costs and improve public services. Councils are currently hindered from embarking on data sharing initiatives due to confusion over what the law does and does not permit. The ODR would provide legal clarity. Following the controversies of schemes such as Care.Data, the ODR would also independently adjudicate and advise the public sector on developing more ambitious data initiatives.

Recommendation 4

The public sector should commit to compatibility with personal data stores, based on open standards. Except in cases of extreme sensitivity, citizens should have access to the data that the public sector holds about them. Government should set dates by when citizens can access their records from each public sector organisation via their personal data store. Where public services hold verified attributes about people (e.g. qualifications, licences, proof of residency or status) it should be ready to hand digital versions back to individuals for reuse.

One of the key lessons from Care.Data was that the government cannot embark on ambitious data projects while giving no immediate, personal, direct and tangible benefit (or mechanism for giving and withdrawing consent) to citizens. It should have been done in conjunction with efforts to give people access to their own personal health records online. The same principle applies to the wider public sector. Until citizens are given control of their own data, government is likely to come unstuck time and time again when it tries more advanced data initiatives. Personal data stores could put citizens in control of which organisations share their data with each other.

Recommendation 5

To ensure interoperability of IT across the public sector, a new iteration of the Digital Marketplace (formerly the CloudStore) should be created, listing only systems that are compatible with open standards and can communicate with the Single Public Services Network (SPSN). Suppliers of proprietary systems should be required to provide open APIs so that all systems can share data.

The main marketplace for IT systems used by local authorities should ensure its products are compatible with open standards (as per Recommendation 1), and integrate with the Single Public Services Network (Recommendation 2). This

would be a vital part of ridding local authorities of the bespoke, siloed legacy IT that currently keeps costs high and prevents better ways of working.

Local government collectively

Recommendation 6

A Local Government Digital Service, owned by the sector, should be established that creates and manages a Local Government Data Marketplace (LGDM). The LGDM would be a competitive online marketplace that brought together local authorities that needed particular online services (transactions, apps or data) with individuals, businesses and other organisations that could provide them. It would operate strictly in accordance with open standards and integrate with the SPSN to create solutions that could be scaled across the sector.

Local authorities do not need a version of the Government Digital Service to build their online transactions or apps. That would entail government becoming a monopoly supplier of IT to itself, the very antithesis of innovation. Instead, a Local GDS should build the equivalent of an app store: the Local Government Data Marketplace (LGDM). The LGDM would enable local authorities to declare the transactions, apps or data they need and let the market innovate to provide them. By creating a marketplace, local authorities would be able to source their front-end digital services at a competitive price. If several councils needed the same service via the LGDM, companies would be able to offer much cheaper prices for all, as instead of having to deal with hundreds of different organisations (and different interfaces) they could create one solution that worked for all of them. As prices became cheaper for standard solutions, this would in turn encourage more local authorities to converge on common platforms, ways of working and capabilities, driving down costs still further.

Regionally

Recommendation 7

Each of the UK's cities should establish an Office of Data Analytics (ODA) to emulate the New York City Mayor's Office of Data Analytics. Each ODA should be tasked with helping increase the efficiency of public sector operations by targeting resources at areas of greatest need, and identifying areas for significant expansion of shared services. The ODA would also release a subset of non-sensitive data on a city-wide open data portal, enabling third parties to create apps and products. Once established in cities, the remit of ODAs should be expanded to cover their wider regions, including rural areas.

Each Office of Data Analytics would collect, combine and analyse datasets from the local authorities and other public sector organisations in their region, and then provide their insights back to those bodies. This would enable local authorities to see how the issues they address feature beyond their boundaries (enabling them to identify potential for more shared services), coordinate the activities of different teams using real-time data, and target their resources by predicting where future issues were most likely to occur.

Locally

Recommendation 8

The roll out of Whole Place Community Budgets should be accelerated for Local Authorities that commit to sharing data with their region's Office of Data Analytics. Redesigning public services and delivering value from data insights are mutually dependent and need to be delivered hand-in-hand.

Whole Place Community Budgets have the potential to become the gold standard for how digital government works. They encourage public sector teams based in a specific geographical area to work together, sharing resources and budgets to prevent issues arising or escalating. They start by designing fundamentally better ways of working, which can then be *enabled* by smarter use of technology and data. A report by Ernst and Young found that greater data sharing and data analysis was needed in order to spot potential areas for efficiency to make the scheme work.[8] As a result, the roll out of Whole Place Community Budgets should be accelerated for local authorities that agree to share their data with their Office of Data Analytics.

Estimating the potential savings that could be delivered by adopting these recommendations is extremely challenging. However, the examples given in the report indicate that together they could make a substantial contribution towards meeting – or exceeding – the sector's £12.4 billion funding gap. Developing more shared capabilities (as outlined in Chapter 3) could save £1 billion over five years. Implementing a New York-style data team in each city offers to increase the efficiency of some public services fivefold and help predict and prevent fraudulent claims, such as the £1.3 billion lost each year to housing tenancy, benefit and Council Tax fraud. Expanding shared services could plausibly increase savings to more than £500 million each year. Putting in place data-sharing arrangements to make a success of Whole Place Community Budgets across the country could save the public sector between £9.4 billion and £20.6 billion over 5 years. Hundreds of millions more stand to be saved by removing bespoke IT and replacing it with commoditised platform components based on open standards. As a result, the report argues that the local government sector should set a target to use these measures to achieve at least £10 billion of savings by 2020.

8 Ernst and Young on behalf of Local Government Association, 'Whole Place Community Budgets: A Review of the Potential for Aggregation', January 2013

1
The Need for Digital Government

Recent years have seen rising interest in digital government: the principle of doing more and better with less, through smarter use of technology and data.

This has been driven by two main factors. The first is the current and immovable policy priority for government to be more efficient. Right across the public sector, budgets are being frozen or cut, while demand for many services is rising fast. Technology is seen as a means to square the circle of reduced funding and growing need.

The second is the aspiration to deliver public services that are as convenient, seamless and personalised as those offered by leading organisations in the private sector. People are used to communicating instantly via Twitter, buying with one click on Amazon, accessing the exact information they need on Google, and doing all of these on any device they choose, when and wherever they like. Digital government is thought to be able to bring those same benefits to interactions with the public sector.

Local government reform: challenging and urgent

To date, the vast majority of digital government attention has been focused on central government. Yet more challenging and urgent is the need for digital transformation in the local government sector.

It is more challenging because of the sector's scale and complexity, its fragmentation and decentralised control. Across England and Wales there are 375 local authorities, each with their own leadership, local links and priorities.[9] Added to that, there are approximately 18,500 elected councillors, 1,783,500 local government employees,[10] and thousands of delivery teams providing more than 700 services, enabled by numerous different IT systems and applications.[11] To conduct their duties, local authorities also have to work in conjunction with many other public, private and third sector bodies, from central government departments to the police, and from hospitals to social care charities. In no context would delivering radical change across so many organisations be easy. But radical change *is* needed.

It is urgent because local authorities in England face a financial shortfall of at least £12.4 billion by 2020.[12] Since the economic downturn of 2008, councils have shouldered the largest spending cuts of any part of the public sector and the funding gap is growing by £2.1 billion every year.[13] As the Local Government Association (LGA) reported in 2014:

9 LGA, 'The LGA quick guide to local government', December 2011, p.2

10 LGA, 'Local Government Employment Quarter 4, 2013', available at: http://www.local.gov.uk/documents/10180/12013/QPSES+Q4+2013.pdf/2b089b6a-d330-4a62-8088-4c818aa42daa

11 LGA, 'The LGA quick guide to local government', December 2011, p.3

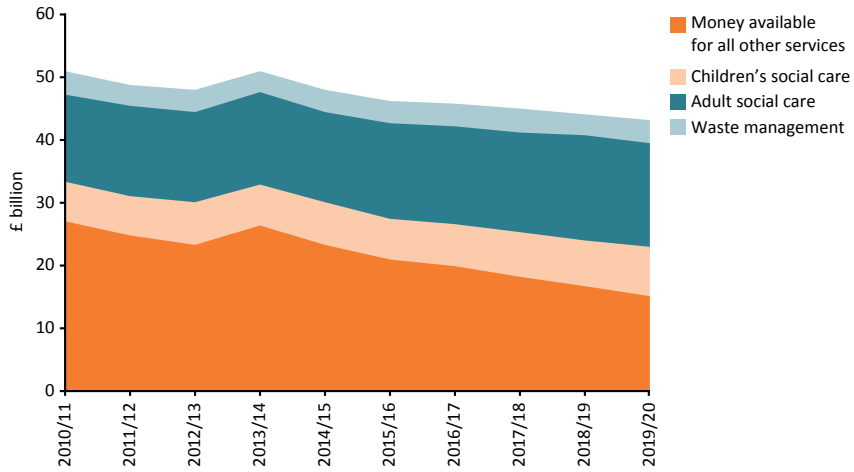
12 LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.15

13 LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.2

> *'Funding was reduced by 33 per cent in real terms over the course of the 2010 Spending Review, followed by confirmation of a further 10 per cent cut for 2015/16. By next year, central government funding… will have been cut by 40 per cent over the period of this Parliament.'*[14]

At the same time, local authorities provide 80% of local public services[15] – including those that support the most vulnerable in society – and demand for many of them is rising fast.[16] Since some services are delivered by statutory obligation (i.e. councils are mandated by law to provide them), those that are discretionary face even greater cuts. As social care and waste management take up a rising proportion of total budgets, funding for other services such as libraries, swimming pools and parks is expected to drop by as much as 43% in cash terms by the end of the decade, from £26.6 billion in 2010/11 to £15 billion in 2019/20.[17]

Figure 1.1: LGA figures on social care and waste spending as part of overall spending by local authorities in England



Source: LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.16

A graph in the LGA's 2014 *Future Funding Outlook* illustrates the gap between local authorities' projected incomes and spending over the next decade in stark terms (Figure 1.2).[18]

The message is therefore unequivocal. Business as usual is no longer an option. Seeking internal efficiencies and salami slicing back public services will no longer be enough. (By the LGA's own analysis, two thirds of councils believe that efficiencies will be running out by 2015/16.)[19] Local authorities have to make a choice: either they must stop delivering some services altogether or fundamentally reinvent the way they work. Given that most citizens' experience of government is of *local* government, how councils respond will be of huge consequence to the public.

14 LGA, 'Transforming local public services using technology and digital tools and approaches', July 2014, p.6

15 LGA, 'The LGA quick guide to local government', December 2011, p.8

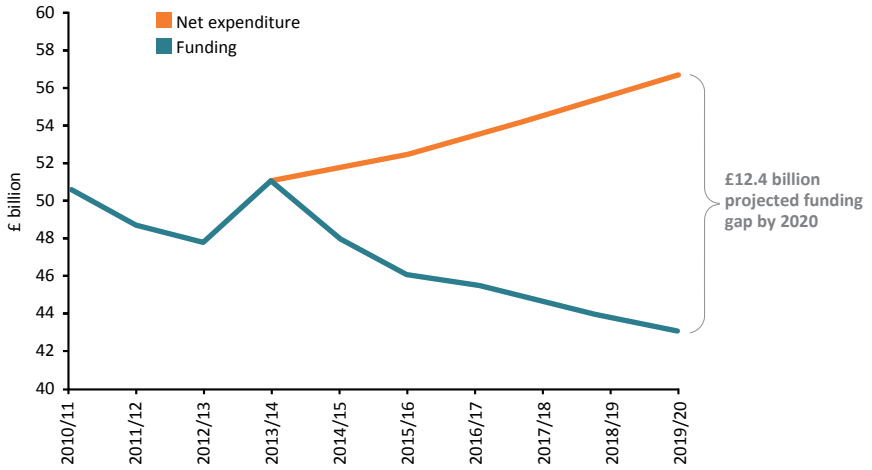
16 RSA, 'Managing Demand Building Future Public Services', February 2014

17 LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.16. The number of people aged 65 and over who require daily disability-related assistance is expected to almost double by 2030, causing the costs of social care to spiral. Source: Local Gov, 'Transform local services to tackle 'huge pressure' of rising demand', 25 February 2014, available at: http://www.localgov.co.uk/Transform-local-services-to-tackle-huge-pressure-of-rising-demand/35707

18 LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.15

19 LGA, 'Future funding outlook for councils to 2019/20', July 2014. The London borough of Camden alone needs to save £70 million by 2020 and has reported it would have to increase council tax by 83% to meet the gap.

Figure 1.2: LGA projections for income against expenditure for local authorities in England



Source: LGA, 'Future funding outlook for councils to 2019/20', July 2014, p.15

Technology's promise

Harnessing technology is frequently suggested as a means for local authorities to respond to these challenges. Various reports cite the benefits of adopting cloud, mobile, Bring Your Own Device, online transactions and apps, open data and big data, to name just a few. Debates have raged over whether local government needs its own version of the Government Digital Service (GDS) and if so what it should look like. Different groups – including Policy Exchange – have asked whether a single domain could replace all other council websites, as GOV.UK has done for central government.[20] Others have argued that IT outsourcing is the problem and that the real challenge is bringing technical skills, resources and financial control back in-house.

> "Local authorities have to make a choice: either they must stop delivering some services altogether or fundamentally reinvent the way they work"

The scale and urgency of change required is too great for this piecemeal approach to be sufficient. Far too much debate has focused on the pros and cons of specific technologies without first asking what problem actually needs to be solved and what vision needs to be delivered. Too often digital government is treated as a procurement issue – a system or app that needs to be bought or implemented. It is not. It is about identifying fundamentally better ways of working that may be enabled by smarter use of technology and data. In short, there is a pressing need to take a step back and ask the much broader question: *how can smarter use of technology and data deliver real reform of local government?*

That is the purpose of this report.

And as the next chapter will argue, defining an answer must start by acknowledging that the single greatest challenge for delivering real reform in local government is fragmentation.

20 Policy Exchange, 'Technology Manifesto', June 2014, p.23

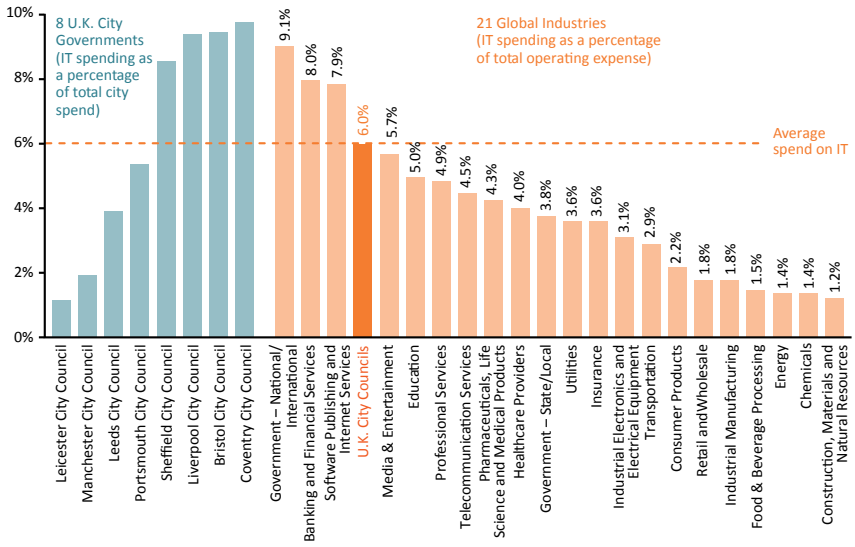
2
The Problem of Fragmentation

Local authorities are proud of their independence and autonomy. Addressing the specific needs and priorities of local communities is their very raison d'être. In short, localism matters. Yet the sector's fragmentation is also the single greatest barrier to achieving technology-enabled reform. That is because technology delivers value through being scaled; local government keeps it small-scale. Data delivers value through being shared and integrated; local government keeps it siloed. The result is that the sector's fragmentation gives rise to two major problems.

1. Raising the cost of technology

As independent organisations, over many years local authorities have separately procured or developed their own hardware, software and applications to enable them to carry out their functions and to deliver their services. Consequently, today, though they all perform very similar tasks in their respective areas, every council's IT architecture (the collection of software, hardware and processes it uses) is virtually unique to itself. This has a number of negative consequences for the local government ICT market.

Figure 2.1: Analysis of public spending data from eight city councils (April 2011 to March 2014) by Spend Network, compared with IT spending as a percentage of total operating expense in 21 global industries



Source: Arup, 'Delivering the Smart City', November 2014, p.28

- **Prevents economies of scale:** Across local government in England and Wales there are over 375 separate websites (each with their own designers, hosting and support), an estimated 28,000 separate instances of line-of-business systems,[21] thousands of apps, and a substantial number of data centres. All of this creates duplication – and therefore redundancy – of capacity. As each council separately procures these systems, the buying power of the sector as a whole is diminished, keeping procurement costs high. A recent report by Arup, UCL and Spend Network found that local authorities in eight of the UK's largest cities spent 6% of their budgets on IT, almost twice as much as the utility and transport sectors (3.6% and 3.1% respectively).[22]

- **Raises costs for suppliers:** Since every council's IT architecture is different, it is hard for software developers to design a new product once and it sell many times (achieving savings in production that can be passed on to local authorities). Instead, they frequently have to adapt their product or offer integration tools (middleware) so that it can communicate with each council's existing systems, all of which adds expense. During interviews for this research, even some large IT providers said they would not serve the sector because of these challenges.

- **Encourages creation of bespoke IT:** Since the market struggles to serve all the sector's needs, local authorities have developed a tendency to build (or commission) bespoke solutions rather than simply buying off-the-shelf IT or making use of freely-available open source products. This leaves councils having to manage, support and update software that does not exist anywhere else on the market. While the costs of technology for consumers and businesses continuously fall as products are created and sold in bulk, by building or commissioning their own unique tools local authorities pay bespoke prices for bespoke IT. Central government has exacerbated this issue. Councils are subject to IT requirements imposed by government departments. Examples include handling NHS mail from the Department of Health, and some of the systems and processes required for dealing with the Department for Work and Pensions (DWP) to deliver benefits. Having to integrate with bespoke central government systems forces local authorities to use bespoke software themselves.

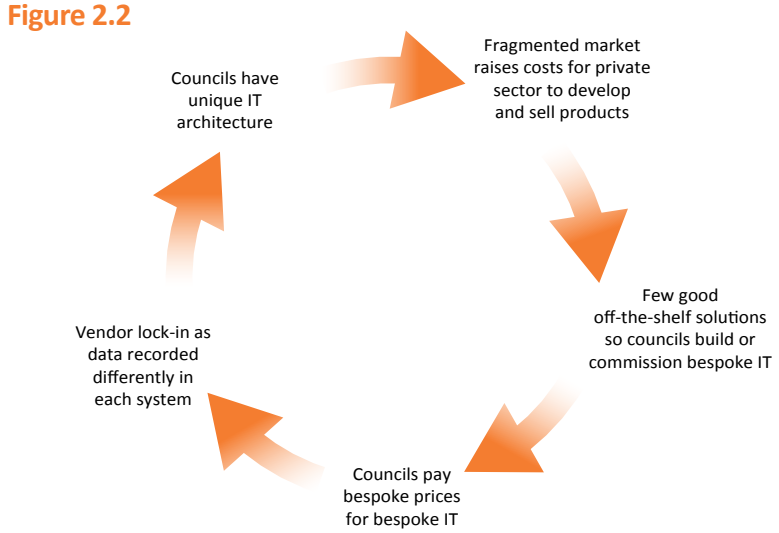
- **Leads to vendor lock-in:** Different IT systems record data in a variety of schemas and formats. As a result, it is often very challenging – and therefore expensive – to move data to a new system. This discourages local authorities from switching vendors, hindering competition and keeping prices high.

Together, these factors lead to a self-perpetuating, negative cycle of fragmentation and expense.

21 This is a modest estimate. Some local authorities interviewed for this report claimed to have more than 200 separate line of business systems each.

22 Arup, 'Delivering the Smart City', November 2014, p.28

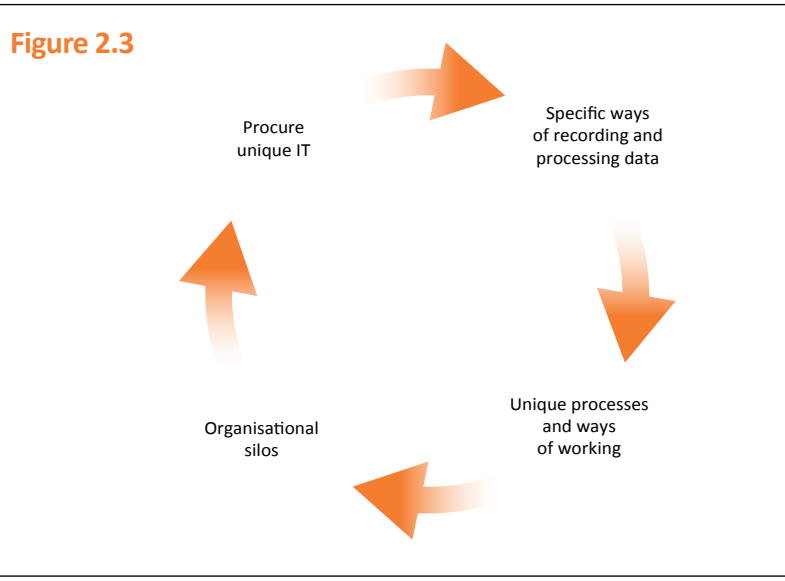
Figure 2.2



2. Hindering the adoption of more efficient ways of working

Of far greater concern is that the fragmentation of local government IT reinforces *organisational silos* that prevent local authorities from adopting – or rolling out at scale – more efficient ways of working that could save significant money. This is largely because of the impact on data. Separate teams (both within and between councils) use separate IT systems, all of which require recording data in specific ways and formats.[23] This encourages those teams to work in different ways, which in turn leads them to procure more bespoke IT to support their particular activities. These technology and organisational silos create a damaging, self-reinforcing cycle.

Figure 2.3



To demonstrate the point, below are outlined the ways in which fragmentation hinders three of the most well-known methods of working more efficiently: a) shared services, b) targeting and collaboration, and c) demand reduction.

23 These specific schemas and formats can also be driven by policy/regulation, as seen in the different requirements for adults' and children's social care.

Shared services

Councils can share and/or co-fund resources, staff and functions with neighbouring local authorities, saving them money by reducing duplication of capacity and increasing economies of scale. According to the LGA, at least 337 councils are already engaged in shared service arrangements, leading to savings of £165 million in 2012, £278 million in 2013 and £357 million in 2014.[24] While investment is required to establish new shared services, an LGA study found that 'the set up and integration costs… are modest with less than a two year payback period'.[25]

The problem of fragmentation

Shared services will always be limited without shared data.[26] Local authorities increasingly use their own data to create digital maps showing the location of parks, buildings and parking spaces. They can show the addresses of individuals or families with particular needs, from education to welfare. But – for the most part – they have little or no data on those same things *beyond their boundaries*.

That is a serious problem for the expansion of shared services as the issues councils are tasked to address are rarely contained within one local authority area. Communities, areas of deprivation, crime, littering and school catchment areas can (and frequently do) cut across borders. Without shared data, it is hard for a council to know if a particular problem they are tackling, or service need they are meeting, represents the tip of the iceberg or the mass below sea level. How far does the area of urban deprivation on the eastern boundary continue into the neighbouring borough? What's the demand for library services in the community that falls at the intersection of three councils' areas?

> "Shared services will always be limited without shared data"

Without having detailed, current data to see the real size and shape of problems beyond their jurisdiction it is very challenging for local authorities to resolve them efficiently. If one council spends £5 million each year on combating a particular issue, might they be better to hire the services of the team of a neighbouring council that has a far greater incidence of that same issue, or together fund a third party to do the same? While there are examples of data being shared between councils (for example in the Tri-borough,[27] and in Surrey and Norfolk), for shared services to be rolled out at scale, local government needs *systematic* data sharing across the sector. The fact that local authorities act as organisational and data silos prevents significant expansion of shared services and the cost savings they could bring.

Targeted, coordinated operations and delivery

More can be delivered with less by targeting local government's finite resources at areas of greatest need and by coordinating the activities of different teams involved in resolving a specific problem. Targeting can be achieved by having accurate data that shows where the greatest incidences of problems are, or by correlating data from a number of different sources to *predict* where problems are most likely to occur in future. To give just one example, each year housing tenancy, benefit and Council Tax fraud (such as false entitlement, illegal subletting, lease sell-on and

24 LGA, 'Investing In Our Nation's Future: The First 100 Days Of The Next Government', July 2014, p.4

25 LGA, 'Shared Services: costs spared?', October 2014, p.5

26 A point explored in detail in: Localis, 'Changing Places – how innovation and transformation is taking place in local government', October 2013. Lack of shared systems is also an issue. The causes of that are complex, including inter alia: cost, notions of sovereignty, difficulties in agreeing common business processes and data quality.

27 The Tri-borough is composed of Westminster City Council, Hammersmith and Fulham Borough Council, and Kensington and Chelsea Borough Council.

unauthorised succession) cost the UK's local authorities in excess of £1.3 billion. By bringing together and analysing data from past cases and combining with data from sources such as Experian, it is possible to predict where future violations are most likely to occur and direct investigative teams to respond to them first. A trial using these methods conducted by Gravesham Borough Council identified 75 properties where the council made a range of interventions, including eight cases in which council property needed to be repossessed, four properties that were under-occupied and twelve where there were illegal tenancy successions. £108,000 of tenancy fraud was discovered.[28] Coordination, meanwhile, can be improved when different teams have real-time data on the activities of those with whom they work. The creation of the Mayor's Office of Data Analytics in New York City (see case study below) shows how adopting these principles can lead to a fivefold increase in the efficiency of some local government activities.

Case study: New York City

A small team of graduates with statistical, economics, and computer science backgrounds has quietly been unleashing a data revolution in New York City. The Mayor's Office of Data Analytics (MODA) was established by Mayor Michael Bloomberg and tasked with harnessing the city's data to better inform policymaking and to improve public services.[29] The team systematically gathered records from the city's myriad agencies and departments and began processing and mapping the data to identify trends and spot correlations. The results have been nothing short of remarkable.

One example is the team's work on illegal conversions. Every year New York City receives around 25,000 complaints about dwellings that have been illegally subdivided into smaller units. The city has just 200 inspectors to handle all these complaints. Before the creation of MODA, only 13% of their investigations resulted in a vacate order, leaving thousands of genuine problem cases unaccounted for. MODA sought to address this problem with data.

They started with a list of the city's 900,000 properties and combined it with datasets from 19 agencies. They added information such as foreclosure proceedings, anomalies in utilities usage, dates of construction, ambulance visits, crime rates and rodent complaints. They compared this information to fire records and developed a model to determine where inspectors should investigate next. In short, they were looking for predictive indicators of illegal conversions. Using their more aggressively data-driven analysis, 70% of cases investigated now warrant a vacate order: a 500% increase in efficiency.[30]

The problem of fragmentation

The provision of many local public services requires coordinated activity between different teams. Thirty-one separate organisations can be involved in supporting a troubled family and their interactions can be numerous, complex and expensive.[31] Just one such family in Oldham required 410 separate interventions by 25 different organisations, with 32 referrals between services. The estimated total cost of responding to this family in 2011–12 was £47,235.[32] Fragmentation creates technical and organisational barriers that prevent those different teams from working together efficiently.

On a technical level, the different IT systems used by each team make it hard to share data, as information is recorded in different styles and formats. This affects

28 Fujitsu, 'Case Study: Gravesham Borough Council', November 2013, available at: http://www.fujitsu.com/fts/about/resources/case-studies/CS-Gravesham-Borough-Council-171013.html

29 See Mayor's Office of Data Analytics website, available at: http://www.nyc.gov/html/analytics/html/home/home.shtml

30 Michael P. Flowers, Chapter 15 of: 'Beyond Transparency: Open Data and the Future of Civic Innovation', Edited by Brett Goldstein with Lauren Dyson, available at: http://beyondtransparency.org

31 LGiU, 'Technology and transformation in town halls', July 2014, p.25

32 The Guardian, 'Eric Pickles tells councils to cut spending on problem families', 23 January 2013, available at: http://www.theguardian.com/politics/2013/jan/23/eric-pickles-cuts-problem-families

both personal and non-personal data. Within a single council, the same individual can be recorded on as many as 30 separate systems with no unique identifier linking the records. 'Jonathan Smith' in one system could be 'J Smith' in another; 'Smith, J. A.' in another still. Likewise places can be recorded in variable formats such as by postcode, street address or grid reference.

> "Like a jigsaw that has never been put together, the public sector has all the separate pieces, but no way of seeing the big picture"

Even where data is recorded in technically compatible ways, the lack of systematic data sharing between different teams – due to culture, ingrained ways of working and organisational silos – is problematic. The example of troubled families is, again, indicative. To identify families that may need support, councils look for those that show warning signs against three separate indicators, including employment, education and criminal activity. One council interviewed for this report explained that some troubled families were failing to be identified because data on the children's school attendance was not available to the local authority when the child was educated in the neighbouring borough.[33] Like a jigsaw that has never been put together, the public sector has all the separate pieces, but no way of seeing the big picture.

Demand reduction

The final major way of decreasing costs is to reduce demand for a council's services. Three of the main mechanisms by which that can be achieved are outline below:

1. **Preventing problems arising:** Targeting resources and ensuring more coordinated activity (as described above) can help nip problems in the bud before they become more serious and expensive to resolve. Put simply: prevention is better than cure. Interventions to support just one troubled family can cost between £75,000 and £100,000. In Barnet 18 troubled families cost taxpayers £1,729,112 in a year – an average of just over £96,000 per family. The money was spent on prison and probation services, policing, health costs and benefit payments to the families.[34] The problem of fragmentation is that data fails to be shared between teams to enable the necessary targeting and coordination of action that could pre-empt and prevent problems occurring.

   This problem has been highlighted during pilots of Whole Place Community Budgets (WPCB).[35] The WPCB scheme (see case study below) encourages public sector teams based in a specific geographical area to work together, sharing resources and budgets to prevent issues from escalating. If the results from early pilots in the Tri-borough, Greater Manchester, Essex and West Cheshire could be scaled across the whole sector, the potential savings have been estimated at being between £9.4 billion and £20.6 billion.[36] Such dramatic figures arise from the ability to redirect public services towards preventing rather than responding to failure, addressing problems before they grow in severity and cost. Yet a report on the initiative conducted by Ernst and Young noted that the success of the scheme, and the savings it offers, depends on greater data sharing.[37] Without shared data, it is extremely hard to know how to redesign services, predict where problems will occur and coordinate activity to respond to them.

33 Policy Exchange original interview. Council requested to remain anonymous.

34 The Daily Telegraph, 'Problem families are costing the taxpayer as much as £345,000 a year', 23 January 2013, available at: http://www.telegraph.co.uk/news/politics/9819689/Problem-families-are-costing-the-taxpayer-as-much-as-345000-a-year.html

35 See http://communitybudgets.org.uk/ for details about the scheme

36 Ernst and Young on behalf of Local Government Association, 'Whole Place Community Budgets: A Review of the Potential for Aggregation', January 2013, p.1

37 Ernst and Young on behalf of Local Government Association, 'Whole Place Community Budgets: A Review of the Potential for Aggregation', January 2013, p.22

Case study: Whole Place Community Budgets, Greater Manchester

During 2012, four areas in England (the Tri-borough, Greater Manchester, Essex and West Cheshire) began trialling Community Budgets as a mechanism for tackling some of their most significant local challenges, from domestic violence to skills and employment.[38] Each area identified potential benefits from taking a more integrated approach to frontline services, focusing on outcomes like preventing avoidable hospital admissions or reducing reoffending.

Greater Manchester's pilot focused on changing the way services were delivered to families with complex needs. In two neighbourhoods – Wythenshawe and Gorton/Longsight, a new delivery model was tested with 240 families, and compared to a 'business as usual' approach for another 240 families. The new model involved establishing a single virtual team (including representatives from the council, health organisations, schools and work programme providers), to take care of all referrals for complex families. The families were given one individual to work with who agreed with them what kind of help they needed, including referrals to other services. Having just one team helped stop the duplication of effort and counter-productive results of working in bureaucratic silos. This led to two key benefits:

- **Prioritisation:** Previously families would be referred to services but would have to join a waiting list to receive them. Complex families can now be prioritised when referred to services across the public sector, such as mental health treatments, preventing their problems escalating.
- **Timing:** Previously families were referred to services in an ad hoc way and there was limited communication between the services provided. For instance, a parent with a drug addiction could receive methadone treatment in the morning and have a parenting class in the afternoon. Services can now be scheduled so that they can be mutually supportive around the needs of the family.

Manchester's cost-benefit analysis suggests that applying this new approach to 240 families will result in £0.7 million of future costs being avoided over the first two years of delivery (above what would be achieved if a business as usual approach was maintained). This is equivalent to a return of 44 pence for every £1 invested in the programme compared to the estimated current return of 32 pence. Significantly greater returns are then expected in future years as complex families are supported effectively and become less dependent on public services.

Adapted from: http://www.local.gov.uk/community-budgets/-/journal_content/56/10180/3691988/ARTICLE

2. **Encouraging self-service:** The most commonly-cited example of demand reduction is channel shift: getting people to use online services (e.g. applying for a resident parking permit) in place of methods that require more staff time and resources. When implemented effectively, the cost of digital transactions is estimated to be 20 times lower than by telephone, 30 times lower than by post and 50 times lower than face-to-face. Government estimates suggest that £1.7 billion a year can be saved by encouraging citizens to transact online.[39] Yet, as the next chapter will argue, the potential savings of channel shift are reduced when each local authority separately designs or commissions its own digital services, preventing economies of scale.

38 Whole Place Community Budgets, available at: http://communitybudgets.org.uk/

39 Cabinet Office, 'Sprint 14: speech by Francis Maude', 29 January 2014, available at: https://www.gov.uk/government/speeches/sprint-14-speech-by-francis-maude. Cheshire West and Chester Council have adopted this approach. If a resident wants to complain about their bins, they are now able to interact online directly with the individual refuse collector working in that area without needing to call up their local council office. Source: Localis, 'Changing Places – how innovation and transformation is taking place in local government', October 2013, p.16

Table 1: Reducing the cost of customer contact – LGA[40]

Source channel	Socitm insight May 2012	Socitm insight Dec 2009	NWeGG 2006	Consultant study for council partnership April 2009
Face-to-face	£8.62 per transaction	£8.23 per visit	£7.81	£5.51
Phone	£2.83 per transaction	£3.21 per call	£4.00	£2.53
Web	£0.15 per transaction	£0.39 per visitor	£0.17	£0.17

3. **Directing citizens to services offered by other organisations:** Funds can be saved by enabling third and private sector organisations (the 'mixed economy') to serve particular public needs. For example, councils might direct citizens to the Casserole Club (which offers peer-to-peer food sharing) or the Citizens Advice Bureau. Other services could be commissioned and paid for by local authorities at a cheaper price than running them in-house.

   Another way of engaging the mixed economy is by releasing open data that enables developers to build apps, products and services that serve local communities. Transport for London (TfL) estimates that it saves £4 million a year by not having to develop apps itself, but by instead releasing its data for developers to work with.[41] The result has been the creation of more than 350 apps,[42] including celebrated products such as CityMapper.

   Once again, potential savings are hindered by fragmentation – in this case, the fragmentation of councils' open data. Though a small number of local authorities make use of combined open data portals, such as data.gov.uk or the London Data Store, the vast majority release open data separately (and in non-comparable formats). At the time of writing, 21 local authorities had developed their own open data portals; 224 had simple landing pages offering a small number of spreadsheets; a further 192 offered no open data at all.[43] This fragmentation disincentivises app developers from building products because the data covers too small a geographical area to provide a large enough potential customer base to create viable business models. Given that the typical price of an app is around 69p, and revenues from advertising are just a few pence per click,[44] it is not possible to sell a sufficient number if the product only covers a small population. The reason TfL apps have been so successful is that they can appeal to London's eight million residents, as well as those that commute into the capital. Conversely, according to the 2011 census, the largest local authority area in the UK is Birmingham, with only 1,073,000 residents.[45] Though developers can aggregate data from different sources, this increases the complexity and expense of developing a new product.

40 LGA, 'Transforming local public services using technology and digital tools and approaches', July 2014

41 Policy Exchange interview with Transport for London

42 TfL, 'Open Data Audit: Smartphone apps powered by TfL open data', 5 November 2014

43 Figures taken from http://www.owenboswarva.com/localopendata.htm

44 According to Flurry, in 2013, 90% of all apps in the Apple App Store were free. See: http://www.flurry.com/bid/99013/The-History-of-App-Pricing-And-Why-Most-Apps-Are-Free#.VGoOz_msWfg

45 Birmingham Census 2011 report

Summary

While a great strength for localism, the fragmentation of the local government sector presents a serious challenge for technology-enabled reform. It leads to higher IT costs and prevents the adoption and scaling of the more efficient ways of working that could realistically help meet the funding gap of £12.4 billion by 2020. Worryingly, as the next chapter will show, many current digital government initiatives exacerbate rather than address these problems.

3
The Shortcomings of Current Approaches to Digital Government

There are many initiatives aimed at bringing the principles of digital government to the local government sector. Yet, as is explained below, few are likely to help address the sector's financial crisis or deliver genuinely transformed services for citizens.

1. Fragmented approach and failure to scale best practice

The vast majority of local authorities are independently working to bring about their own digital transformation. That means almost 375 organisations trying to solve the same problems, commissioning the same advice and developing similar (but often incompatible) solutions in isolation of one another. This perpetuates the very fragmentation that keeps IT costs high and reinforces councils' organisational and data silos, exacerbating all the problems outlined in the previous chapter.

Localism is often given as the justification for this fragmented approach. But significant savings will require combined action and developing shared capabilities that can be scaled. Evidence comes from elsewhere in the public sector. For example, the creation of the NHS online recruitment service (http://www.jobs.nhs.uk) has already generated savings of over £1 billion since its launch in 2003. Rather than build its own 'e-recruitment' system, the Department of Health (DoH) recognised that it could instead procure a single, nationally-available commodity that would be used on a transactional basis by NHS employers throughout the UK. Working with DoH, the digital consultancy *Methods* persuaded more than 500 NHS employers to forego their specific services to make use of this common capability, providing significant savings for all.[46]

Meanwhile, the Department for Communities and Local Government (DCLG) Local Digital programme is exploring how a similar idea could be brought to local authorities. Early indications show that significant sums can be saved by giving councils common API (Application Programming Interface) access to Land Registry information and DVLA data to reduce fraud. Smaller savings can be made by avoiding duplication through the creation of standard API tools to help councils deliver the new requirements of the Care Act 2014. An example of this would be the work currently underway to create a common deferred payments calculator.

This is not to deny that there are local authorities that have successfully implemented highly effective digital solutions, or that some do work to design solutions with their neighbours.[47] The LGA's report 'Rewiring Public Services'

46 Alan W. Brown, Jerry Fishenden, Mark Thompson, 'Digitizing Government, Understanding and Implementing New Digital Business Models', Methods Digital, December 2014, p.121

47 For example, Leeds, Yorkshire and Humber are looking to create a single, shared platform for commodity services. Reported by: ComputerWeekly.com, 'Is a local GDS the answer to local authority transformation? Lessons from the Labour digital review', available at: http://www.computerweekly.com/news/2240235614/Is-a-local-GDS-the-answer-to-local-authority-transformation

lists several dozen case studies of excellence.[48] Yet despite initiatives to share good ideas, led by organisations such as Socitm and volunteer groups like LocalGov Digital, best practice is not being sufficiently scaled across the sector. Theorising why, Socitm has suggested that:

> *'Part of the reason is the number of steps involved. Councils looking to share the process and software for an already developed 'my account' project would need first to identify others who have done it. Then they would need to investigate and evaluate what they have done, and, if the project looked worth replicating, find out whether any code available is, in fact, re-usable and can be supported in-house. The next step will then be to persuade colleagues to go down this path…. [I]t may be quicker, less risky, and even cheaper, to start from scratch or call in a trusted supplier and 'do it alone.'*[49]

The lack of coordinated activity in the name of localism is unequivocally not leading to better digital services for the public. For example, in surveys conducted by Socitm, fewer than 10% of council websites in England and Wales (32 out of 433) achieved a four star ranking in 2014.[50] Only 11 councils were rated as 'very good' in the way they promoted their digital engagement.[51] Just 31% of sites achieve the *Better Connected* standard for mobile access.[52]

2. The wrong interpretation of user-centric services

Digital government is often interpreted as being about creating websites, apps and online services that are easier for citizens to navigate and use. This idea is problematic in three ways.

> "To deliver radical reform it is not sufficient to focus on any one aspect of the service, even the user"

First, it has led to many councils focusing almost entirely on the front face of government (i.e. their website and apps), rather than the processes that lie behind them. That is a mistake. Local government will not save £12.4 billion through channel shift alone. Indeed, while money can be saved by giving citizens the information they require online (preventing the need for them to call or visit), offering better online transactions can actually *increase* costs by stimulating demand for services. Savings will only be made if the services themselves are redesigned to reduce demand on council staff time and resources. Digital government cannot be about bolting new technology on to old ways of working.

Second, to deliver radical reform it is not sufficient to focus on any one aspect of the service, *even the user*. Though many commentators like to point out how Google and Amazon have been successful because of their relentless focus on the customer experience – and urge local authorities to emulate them – that is not the whole story. Those companies have been successful because every process, both *internal* and external, has been designed to be efficient. Focusing on only those that interact with citizens leads to the flawed idea that the hundreds of other internal processes do not need to be reformed.

Third, the tendency to think about digital transformation as primarily a technical or web issue has led many local authorities to put their IT department in charge of delivering reform. If it is to mean anything at all, digital government

48 LGA, 'Rewiring Public Services', July 2014

49 Socitm Insight Briefing, No. 68, 'Collaborating and sharing digital assets: towards a local government digital service?', 2014, p.4

50 Socitm Insight Briefing, No. 68, 'Collaborating and sharing digital assets: towards a local government digital service?', 2014, p.1

51 Socitm, 'Rapid growth in use of mobiles a major challenge for local government websites suggests latest Better connected survey', available at: http://www.socitm.net/press/rapid-growth-use-mobiles-major-challenge-local-government-websites-suggests-latest-better

52 Socitm 'Do you Do Digital', April 2014, p.16

is not primarily about IT but about wholesale organisational change. For that reason, it must involve all council employees, from the most senior executives to the most junior of front line staff.

3. Putting cost saving before better investment in IT

There are many flaws and inefficiencies in the local government ICT market (as discussed in Chapter 2), but ICT spending accounts for just 3–6% of a typical local authority's budget.[53] Instead of focusing on making their IT *cheaper*, the priority for local authorities should be to procure the *right* technology (and the right technical advice via consultants and other external experts) that enables them to deliver savings in the other 94–97% of their budgets.[54] Once again, the goal should be for technology to enable better and more efficient ways of working.

4. Insufficient attention on data

Much digital government attention focuses on technology (websites, apps, hardware and software) when what really matters is how local authorities collect, use, process, analyse and share *data*. As Chapter 2 explained, many of the better ways of working that could deliver substantial savings (shared services, targeted and coordinated action, demand reduction) first and foremost require greater sharing and analysis of data. To illustrate the point, a council *could* attempt to address fly-tipping by building an online transaction or app for the public to report illegally-tipped rubbish. While that may speed up the process of cleaning up each incidence, it would fail to address the underlying cause. Perhaps the piece of land used for fly-tipping is owned by a private but absent landlord – knowledge that *could* be derived through better use of data. Harnessing data should be the first priority of digital government.

5. Lack of coordination with the wider public sector

Chapter 2 also emphasised how local government has to work with many other public sector organisations, and that data sharing is vital to efficiently target and coordinate their efforts. It is therefore problematic if local authorities undergo a digital transformation without regard to how it will integrate with those other organisations. It is especially troubling that the main mechanism used by local authorities to share data securely – the Public Services Network (PSN) – is different from that used by the National Health Service, N3.[55] Having separate networks creates not just technical difficulties, but also entails adhering to different compliance regimes that involve duplicated effort and cost. This is likely to become a major pressure point as local authorities take on greater responsibility for care under the provisions of the Care Act 2014.

6. Continuing reliance on bespoke IT solutions

Local authorities are continuing to build or commission their own bespoke applications and web services. This is a peculiar phenomenon: when a medium-sized business needs a booking system or a content management system for its website, it does not build it, or pay a company to design it from scratch: it buys one of the thousands of off-the-shelf solutions that are readily available or uses open source examples that have already been tried and tested. Just because a solution is open source does not solve the problem. Bespoke open source

53 Arup, 'Delivering the Smart City', November 2014, p.28

54 A point made by Richard Copley, Corporate ICT Manager at Rotherham Metropolitan Borough Council, during Policy Exchange roundtable on Local Government Digital reform: http://policybytes.org.uk/virtual-roundtable/#!/local-government

55 Methods Digital, 'Government must be a Platform Entrepreneur to deliver 'Digital 2.0', 19 September 2014, available at: http://methodsdigital.co.uk/government-must-be-a-platform-entrepreneur-to-deliver-digital-2-0/

software is just as problematic as bespoke proprietary software when it has to be maintained, updated and integrated in-house. It achieves none of the cost savings or innovation that come from standard solutions. It also forces the private sector to develop its own bespoke solutions in order to integrate with public sector software.

7. Missed opportunity for citizen engagement

Former Mayor of San Francisco, Gavin Newsom, has argued: 'We have to engage the collective wisdom of people outside of government, rather than just relying… on those who work within the monolith'.[56] The promise of digital government was to do just that: not only to make services cheaper and better, but to fundamentally rebalance the relationship between government and citizen. Yet all too often, digital government initiatives merely digitise (and thereby ossify) old ways of working. A paper form is now just a digital form. The medium may have changed; the substance of the interaction has not. Government is still something that is done *to* citizens, rather than in collaboration *with* them.

This is particularly evident from activity on open data. Individuals and businesses can receive data from local authorities, but – with the exception of initiatives such as the Leeds Data Mill – there is no official, standardised and automated mechanism to provide data *to* government. Imagine, for a moment, a group of app developers who wish to help solve a problem in their local community, such as graffiti, bike theft or noisy neighbours. Currently, they have no way of knowing what data their local council needs or what format it would need to be provided in. Furthermore, there is no automated mechanism for delivering the data in machine-readable format to connect with the council's IT system. Even if the group did manage to build a system that worked for one council, if they wanted to offer the same solution to another, they would be likely to have to create a completely bespoke system to meet each local authority's IT needs. Where Google, Wikipedia and TripAdvisor have revolutionised ways of working by sourcing information *from* people, local government has largely failed to create a model that empowers citizens, maintaining its top-down model.

8. Lack of future thinking

Too many digital government initiatives focus on addressing immediate needs with little regard for what lies just around the corner. In part this is a result of having single-year budgets, but it also misses an important insight: local government digital reform is the foundation stone on which smart cities will be built. Smart cities (and indeed, 'smart places' when rolled out across wider hinterlands) will depend heavily on data sharing over areas covered by entire city regions and not just one local authority area (imagine regulating flows of traffic, people, energy, water and so on). London alone has 32 separate boroughs plus the City of London. If local authorities cannot even share the data they already have, the UK's cities have little chance of being able to implement and manage the far greater demands of data generated from Internet of Things-enabled smart city infrastructure.

> "Local government digitisation is the foundation stone on which smart cities will be built"

56 LGiU, 'Technology and transformation in town halls', July 2014, p.18

Summary

Current approaches to digital government are unlikely to deliver meaningful reform to the local government sector. That is because they are largely fragmented and reinforce inefficient silos of people, IT and data when real value comes from joining them up and sharing. They tend to focus on technology and not on using data to enable better ways of working. They prioritise efficiency without looking to engage citizens, charities and businesses in designing and delivering public services – routes that offer potentially far greater long-term savings. They seek to address immediate problems without preparing for the far greater challenges ahead of smart city infrastructure. In short, a new, much bolder vision is needed. And that is the subject of the next chapter.

4
A New Vision for Local Digital Government

The brief

It is now clear what digital government in the local government sector needs to do. It must:

1. Support efforts to close the £12.4 billion funding gap;
2. Make services not just cheaper but *better* for citizens;
3. Prioritise getting the right (as opposed to the cheapest) technology to enable more efficient ways of working;
4. Promote local innovation (localism) while removing duplication and waste by developing common capabilities;
5. Increase data sharing and collaboration within and between local authorities;
6. Enable coordination with other public sector bodies;
7. Engage the mixed economy (individuals, volunteer organisations and businesses) in public service delivery; and
8. Increase democratic engagement and transparency.

Localism, centralisation and the principle of subsidiarity

Much of the debate on local digital government has been framed as a binary choice between localism and centralisation. The narrative has gone that the sector can have *either* local innovation and democracy, at the cost of duplication and inefficiency; *or* a Local Government Digital Service that dictates from the centre, saving money but disempowering local communities. That is a false choice.

> “Much of the debate on local digital government has been framed as a binary choice between localism and centralisation”

Instead, the sector needs to adopt the principle of subsidiarity: the idea that a central authority should perform only those tasks which cannot be performed at a more local level. The UK needs to put in place the core building blocks on which local government digital reform depends, and some of them cannot work effectively at a local level. The following recommendations are therefore broken down into those that need to be performed by central government (or the whole public sector); by local government collectively; by regions; and by local authorities.

Central government/whole public sector

The need for public sector-wide open standards

In a December 2014 publication by HM Treasury and the Cabinet Office, 'Efficiency and Reform in the next Parliament', the government outlined its intention to 'nominate a Government Chief Data Officer (CDO) to define data standards for the public sector'. It will be important that the first post-holder works with representatives from local government and other public sector organisations to define common data standards (both formats and schemas) that apply across the *entire* public sector. Compatibility with those standards should be highly recommended for 10 years, with a clear commitment that it will become mandatory in 2025. This would allow local authorities that have already signed long-term licence agreements or outsourcing contracts to update their systems to be compliant.[57] Standards should not be set arbitrarily, but with a clear focus on achieving specific outcomes, for example delivering integrated care for the elderly.

> "Without open standards, the public sector is like a group of people who all speak different languages"

Those who argue that each local authority should be entirely free to develop its own digital solutions often cite how decentralised, local initiatives lead to innovation; much like the internet's distributed model of being 'small pieces loosely joined'. The comparison misses an important point: the internet's innovation critically depends on the '*loosely joined*' part: the common TCP/IP protocol that enables the entire system to communicate and share data. It is those common standards that have created *the* internet and not *many* internets, enabling small ideas to scale with huge impact. Local government, by contrast, can better be described as 'small pieces *barely* joined'. The lesson is that decentralised innovations lead to big transformation *when they are based on a common set of standards*.

Without open standards, the public sector is like a group of people who all speak different languages: they struggle to communicate without translators and hence may not communicate at all. With open standards, a common language enables easy communication between all parties.[58] In the realm of IT, ensuring compatibility with open standards would help break down the technical barriers that keep costs high, data siloed and prevent local authorities from targeting and coordinating their resources. This activity cannot be done by an individual local authority, region, or even by the local government sector as a whole.[59] Open standards will only deliver real results if they are common across the whole public sector. They rely on the Network Effect: their utility increases the more organisations that use them.

In November 2012, the UK government introduced a set of open standards, but they apply only to 'central government departments, their agencies, non-departmental public bodies… and any other bodies for which they are responsible'.[60] Given the evident need for cooperation across the whole public sector (and as digital initiatives take place in areas such as healthcare and policing), this is not sufficient. Many words have been written about the need for joined up public services – requiring compatibility with open standards is the first step towards delivering them.

57 This would be in keeping with European Commission advice, stating that 'the change to a standards-based system will benefit the overall public procurement scenario. It should therefore be carried out on a long-term basis (5 to 10 years), replacing those systems that require new procurement with alternatives that are standards-based.' Source: http://ec.europa.eu/digital-agenda/en/open-standards

58 The author recognises that open standards in data are not the same as a 'language' in any technical sense.

59 The author is aware of various initiatives within the sector to define standards for local government, such as Localo, a pilot project by LocalGov Digital.

60 Cabinet Office, 'Open Standards Principles', available at: https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles

Making compatibility mandatory would follow the example of Portugal, which, after considerable consultation, enshrined open standards into law in 2012. Estonia too – arguably the world's most advanced practitioner of digital government – implemented open standards as the first step towards ensuring all public services could work together. Without a similar legal commitment, the UK's public sector will lack the confidence to invest in adopting the standards, and the private sector will have little motivation to develop products that are compatible with them. Open standards are also the underlying requirement for many of the recommendations that follow.

Recommendation 1

A newly appointed Government Chief Data Officer[61] should work with representatives from local government, central government departments, other public sector bodies and industry, to define – and continuously update – open standards for data for the entire public sector. Standards should be set with a clear focus on achieving specific outcomes, for example delivering integrated care for the elderly. Compatibility with open standards should be highly recommended for 10 years, with a clear commitment that it will become legally mandated from 2025, allowing each organisation to phase out non-compliant systems.

Integration of data sharing networks

A second major technical barrier to data sharing between local authorities and the wider public sector is the collection of networks used to exchange information. The main mechanism used by local authorities to share data securely, the Public Services Network (PSN), does not currently fully integrate with that used by the NHS in England and Scotland, called N3.[62] For public services to be joined up and efficiently coordinated, the whole public sector needs to have one secure mechanism for exchanging data, with a single set of compliance standards. Efforts to merge PSN and N3 to create a single public services network (SPSN) should be accelerated as a matter of priority.

Over the longer term, government should consider whether the SPSN could be replaced with secure, encrypted communication sent via the internet: a Public Services Virtual Network (PSvN), at least for all but the most critical of applications. In essence, this would provide a Secure Network as a Service (SNaaS).[63] It is worth recalling that the purpose of the Public Services Network was to save money by 'helping consolidate multiple networks, doing away with duplicate connections to other organisations.'[64] These are the exact same features that the internet offers, and which it will be able to do with increasing reliability and security with improvements in encryption, and the speed and availability of broadband connections. When organisations from international banks to large businesses can share vast quantities of highly sensitive information securely online, it will become increasingly questionable whether the UK public sector still requires a 'secure private internet for Her Majesty's Government (HMG)'.[65]

The SPSN could be the mechanism for enforcing compatibility with open standards (as per Recommendation 1), creating the fundamental building block for communication and interoperability across the public sector. By moving to a virtual

61 The government announced its intention to appoint a Government Chief Data Officer in a December 2014 publication by HM Treasury and the Cabinet Office, 'Efficiency and Reform in the next Parliament'.

62 Methods Digital, 'Government must be a Platform Entrepreneur to deliver 'Digital 2.0', 19 September 2014, available at: http://methodsdigital.co.uk/government-must-be-a-platform-entrepreneur-to-deliver-digital-2-0/

63 With thanks to Richard Copley for 'SNaaS' naming suggestion.

64 PSNGB, 'The Public Services Network (PSN)', available at: http://psngb.org/public-services-network/

65 N3, 'Public Service networks to join up delivery of public services and healthcare', available at: http://www.n3.nhs.uk/News/PublicServicenetworksto joinupdeliveryofpublic servicesandhealthcare.cfm

network in future, a PSvN would have the flexibility and instant scalability to adapt to local government's changing needs, including the development of smart city infrastructure and integration with Internet of Things sensors; compatibility with personal data stores (see Recommendation 4); and secure data sharing with third parties, including charities and businesses (see Recommendation 6).

Recommendation 2

For public services to be joined up and efficiently coordinated, the whole public sector needs to have one secure mechanism for exchanging data, with a single set of compliance standards. The Public Services Network (PSN) and N3 (used by the NHS) should be merged to create a Single Public Services Network (SPSN). Longer term, government should consider whether that combined network could be replaced with secure, encrypted communication sent via the internet: a Public Services Virtual Network (PSvN). This would offer a Secure Network as a Service (SNaaS) for all but the most critical applications.

Addressing legal barriers to data sharing

It is not just technical obstacles that hinder local authorities from sharing data to enable the more efficient ways of working and cost savings outlined in Chapter 2. There are real and perceived legal limits, too. A key step to support local authorities in responsible data sharing would be to create an Office of Data Responsibility (ODR): an independent body that audits – and provides common advice on – data sharing in the public sector. This could be formed as an extension to the Information Commissioner's Office (ICO). The ODR would serve three key purposes:

- **Provide common legal guidance on data sharing across the public sector.** Data Protection regulations exist for good reason, but many councils interviewed for this report indicated that they were unsure about what the law does and does not allow. (This is not surprising. In a foreword to a guide for the judiciary on the Data Protection Act 1998, Igor Judge QC (Lord Judge) wrote: 'This legislation is virtually impenetrable.')[66] Consequently, many local authorities are very cautious about sharing any data at all. This is a problem for the wider public sector as well – including central government departments such as DWP, a point noted in an October 2013 report by Localis, 'Changing Places'.[67] The default position of not sharing is reinforced by the fact that the most senior data professionals in public sector organisations tend to be data *protection* officers.

  The challenge is that the public sector needs a paradigm shift to data sharing *with appropriate protections*. The current practice of each council independently securing its own legal advice is ineffectual as data needs to be shared between different organisations, requiring a common understanding of the law. The ODR could proactively provide that advice for the whole public sector.

- **Independently review novel ideas for using data.** If local authorities wish to emulate the most advanced digital innovations of the private sector, they cannot ignore the fact that many involve using personal data in new

66 Quoted in: 'Making Digital Government Work for Everyone', an independent review to the Labour Party commissioned by Chi Onwurah MP – the Labour Shadow Minister for Digital Government, Cybersecurity and Social Enterprise, 25 November 2014, p.37

67 Localis quote the Communities and Local Government Select Committee which highlighted an 'ignorance and misunderstanding of the current information-sharing arrangements.' Eighth Report of Session 2012–13: The Role of Local Authorities in Health Issues (The Stationary Office, London, 2013), p.78-9

and more ambitious ways. (Think of Tesco's Clubcard and its personalised vouchers, or the way Amazon suggests products a customer might wish to add to their basket.) Yet there is considerable nervousness among politicians and local government officials about how the public will react to their personal data being used in new ways. Many recall the negative backlash against ID Cards (with the scheme's accompanying national database) and the recent debacle of Care.Data. They worry about the 'creepiness factor' of using data from social media, even if it is done in the same way that thousands of private sector organisations already regard as common practice.

> "The future of the public sector will depend on more ambitious uses of personal data"

The truth is that the future of the public sector will depend on more ambitious uses of personal data. That will be the key to providing personalised, joined-up services that support citizens' actual needs rather than delivering one-size-fits-all services with the inefficiency they entail. *But they must be done in the right way*. The question is: what is that right way? Technology continuously accelerates past society's ability to develop new social norms to respond. The furore over the Samaritans' Radar app in November 2014 demonstrated how even the most well-intentioned of schemes can go badly wrong.[68]

To encourage local authorities to engage in responsible new data initiatives and provide public confidence, the ODR would independently review ideas for more ambitious data initiatives, determine what was acceptable and promote examples of best practice so they could be scaled across the public sector. This would follow the approach taken by Google and the panel of independent experts it established to assess how to respond to the novel challenges of the EU's Right to be Forgotten ruling.[69]

- **Provide third party accreditation of local authority data privacy and ethics policies.** Research by IpsosMORI found that 55% of people would support the statement 'We should share all the data we can because it benefits the services and me' *as long as* '…data is anonymised and I can't be identified'.[70] In short, support for greater sharing of personal data can be won in circumstances that are appropriate, proportional and done with proper protections in place. To build citizen trust in public sector use of personal data, the ODR would provide independent accreditation of local government data privacy and ethics policies.

Alongside the creation of the ODR, there is an urgent need for politicians to make a much stronger case to the public about how sharing data can benefit citizens. It could, for example, help find cures for existing diseases or reduce tax and benefits fraud. Early interventions for troubled families could save vulnerable children from harm as well as saving taxpayers money.

68 BBC News online, 'Samaritans pulls 'suicide watch' Radar app', 7 November 2014, available at: http://www.bbc.co.uk/news/technology-29962199

69 TechCrunch, 'Google Seeks To Shape Public Debate On Europe's Right To Be Forgotten Ruling', 11 July 2014, available at: http://techcrunch.com/2014/07/11/google-agitates-for-public-debate-on-europes-right-to-be-forgotten-ruling/

70 Research for the Royal Statistical Society by Ipsos MORI, 'Public attitudes to the use and sharing of their data', July 2014, available at: http://www.statslife.org.uk/files/perceptions_of_data_privacy_charts_slides.pdf

Recommendation 3

An Office of Data Responsibility (ODR) should be established as an extension to the work of the Information Commissioner's Office. The ODR would be an independent body that: A) Provides common legal guidance on data sharing across the public sector based on current legislation; B) Independently reviews novel ideas for using data and helps share examples of best practice; and C) Gives independent auditing and accreditation of public sector data privacy and data ethics policies.

Empowering citizens with their own data

Ultimately, government must trust individuals to manage their own data. It should commit to public sector-wide compatibility with personal data stores (PDS) that allow individuals to choose which public sector organisations see their data and for how long.[71] The market is currently embryonic, but with a strong commitment from the public sector to embrace the model, it could be expanded rapidly. This would be the logical extension of the GOV.UK Verify programme, which allows citizens to prove their identity via a trusted third party, such as Verizon or Experian.[72] There would be considerable benefits for both the public sector and citizens from adopting PDS.

- **Reducing error and fraud:** The Department for Work and Pensions estimates that £2.3 billion was overpaid in benefits in 2012/2013 due to information errors.[73] The problem is echoed on the Electoral Roll. As of 1 April 2012, 29% of qualified electors (about 400,000 people) were not registered at their current address and 22% were included on the register for addresses where they did not live.[74] If the public sector used personal data stores, citizens could update their address once and automatically notify all relevant agencies, helping to remove these errors and making identity fraud harder. Currently, the only time the public sector has a consistent view of the citizen is when they die – through the 'Tell us Once' platform.[75] During interviews for this report, one local authority employee dryly noted: "There is a need for a 'tell us once before you're dead' system." Personal data stores would serve that purpose. This functionality would also have benefits for citizens in their engagements with the private sector. For example, by updating their PSD, individuals could automatically notify the Royal Mail Redirection Service, banks, utility companies and mobile phone companies about a change of address through one interface.

- **Giving citizens choice:** In 2011, the government launched 'midata', an initiative to encourage businesses (such as energy companies, mobile operators and banks) to give consumers access to the personal data those companies hold about them in a portable, electronic format.[76] The idea is that customers can use that data to make more informed decisions (such as when to switch energy provider), or share it with third parties (such as price comparison sites) that can build useful applications and services on the back of it.[77] Using personal data stores, the public sector – and the organisations it pays to deliver services – should do the same for citizens. Public sector

71 Personal data stores are highly-secure online accounts where individuals can upload and manage their data. Instead of entering their personal details every time they fill in an online form, individuals can instead grant specific organisations access to certain parts of their information. This ensures citizens remain in complete control of their personal data, and can give and withdraw consent for its use. For further details, see example at: https://mydex.org/understand-pds/

72 Cabinet Office, 'Introducing GOV.UK Verify', available at: https://www.gov.uk/government/publications/introducing-govuk-verify/introducing-govuk-verify

73 Guardian, 'Welfare fraud and error: how much is the UK losing?', 13 May 2013, available at: http://www.theguardian.com/news/datablog/2013/may/13/welfare-fraud-error-universal-credit

74 Policy Exchange, 'Electoral Omission', October 2014, p.13

75 GOV.UK, 'What to do after someone dies', available at: https://www.gov.uk/after-a-death/organisations-you-need-to-contact-and-tell-us-once

76 See https://www.gov.uk/government/news/the-midata-vision-of-consumer-empowerment

77 BBC News online, 'Midata: Will the public share government's enthusiasm?', 3 November 2011

organisations, local authorities and central government departments should commit to making citizens' data available by set dates, enabling them to use and share their own information. (For some citizens who depend heavily on local authority services, their local council may even be best placed to verify their identity to other parties.)

- **Making possible more ambitious data sharing initiatives.** One of the key lessons from Care.Data was that government cannot embark on ambitious data sharing projects while giving no immediate, personal, direct and tangible benefit (or mechanism for giving and withdrawing consent) to citizens. It should have been done in conjunction with efforts to give people access to their own personal health records online. The principle applies to the wider public sector. Until citizens are given control of their own data, government will come unstuck time and time again when it tries more ambitious data-sharing initiatives. Personal data stores could put citizens in control of which organisations share their data with each other.

For the sake of clarity, this report does not propose that central government should build or commission personal data stores. Instead, government should establish a framework and set of standards for private and third-sector providers to develop them.

Recommendation 4

The public sector should commit to compatibility with personal data stores, based on open standards. Except in cases of extreme sensitivity, citizens should have access to the data that the public sector holds about them. Government should set dates by when citizens can access their records from each public sector organisation via their personal data store. Where public services hold verified attributes about people (e.g. qualifications, licences, proof of residency or status) it should be ready to hand digital versions back to individuals for reuse.

Adopting the platform

Advances in technology have not just changed the nature of digital products but the *business model* on which they are based. Think about the most successful digital businesses today and – by and large – they have one thing in common: they have all adopted the platform business model. A few examples explain the point. Ebay created a platform *on which* anyone could sell their own wares. Google and Apple have created operating systems (Android and iOS) *on which* anyone can build apps. iTunes has created a platform *on which* anyone can sell music. In all these cases, the companies in question have not tried to build all the products they sell. Instead they have created an ecosystem, based on a clear set of rules, that is open to those outside the company to use and build upon.

This produces some remarkable results.

Take, for example, Google's Play store. The apps listed there perform hundreds of different functions, but all of them adhere to some basic rules and standards that mean they can work with other apps using the Android operating system. As

a result, customers can pick and choose any combination of apps they like to meet their own specific needs. And if they do not like an app, they can simply swap it for a different one – sure in the knowledge that it will still be compatible with their address book and camera. This flexibility encourages consumers to flock to the store and buy products en masse. As a result, the price of new products falls as developers can build once and sell many times – the digital equivalent of mass production.

Contrast that with the current model of IT procurement in the public sector. Different systems do not adhere to any common standards. They are closed, speak different languages and record data in different ways. It is incredibly hard to swap and change between them or make them interact with other systems. That is the old business model that keeps costs high and innovation low. It is the equivalent of a developer building an app that ran on its own unique operating system. Nobody would want to use it as it would not communicate with anything else. It would be expensive to maintain. It would require a bespoke phone. And since so few people would buy the app, to make any money the developer would have to charge a fortune for it. But this is precisely what the UK public sector continues to do. The model is broken. The model must change.

A new iteration of the Digital Marketplace (formerly the CloudStore), based on open standards should be created. G-Cloud has helped local authorities to access cloud services, but they need to be compatible with open standards (Recommendation 1) and able to communicate with the SPSN (Recommendation 2) to ensure interoperability. All closed propriety (i.e. non-open source) systems should be required to provide APIs that enable data to be shared with other systems. For the first time, suppliers could build a product once and sell it many times, driving down costs for the sector by making technology a commodity. As Mark Thompson has put it:

> *'If government is able to move away from its traditional, department-based, siloed design and cluster similar components together, it will be able to take massive commercial advantage of its unique scale as a volume purchaser to create platforms around which suppliers of many different kinds will innovate, much more cheaply.'*[78]

The platform model entails central government setting the framework but letting the private sector build on top of it to innovate. This means that local authorities remain completely independent in choosing the systems they need to serve their local areas, while also allowing the private sector to compete to provide new and better solutions.

Recommendation 5

To ensure interoperability of IT across the public sector, a new iteration of the Digital Marketplace (formerly the CloudStore) should be created, listing only systems that are compatible with open standards and can communicate with the Single Public Services Network (SPSN). Suppliers of proprietary systems should be required to provide open APIs so that all systems can share data.

78 ComputerWeekly.com, 'Open standards are about the business model, not the technology', available at: http://www.computerweekly.com/opinion/Open-standards-are-about-the-business-model-not-the-technology

Local government collectively

A very different kind of Local Government Digital Service

The app-store model described above should also be the founding principle on which a Local Government Digital Service (Local GDS) is based, making it fundamentally different to its central government namesake. To be clear: local authorities do not need a version of GDS to build their online transactions or apps. That would entail government becoming a monopoly supplier of IT to itself, the very antithesis of innovation. Instead, a Local GDS should build the equivalent of an app store. That app store is the Local Government Data Marketplace (LGDM).

The LGDM would be a website that brought together local authorities that needed particular online services (transactions, apps or data) with individuals, businesses and other organisations that could provide them. It would operate strictly in accordance with open standards and integrate with the Single Public Services Network.

How would it work? Imagine a local authority that wanted an online transaction to enable citizens to report noisy neighbours. The council would create an account on the LGDM and publish a new request, outlining the transaction it required (not dissimilar to someone posting a job on a site like Freelancer).[79] Citizens, businesses and other organisations would be able to view that request on the LGDM and bid to offer it. Supportive local civic hacker groups could even offer to design the transaction for free. Either way, the council would get the product it needed without having to build it for itself, while also ensuring it paid the best price from a number of competing providers.

> “Local Government does not need a version of GDS to build transactions or apps”

Since LGDM would be a public marketplace, other local authorities would be able to see that a particular company had designed a noise-reporting transaction for one council, and could ask for the service to be offered for their own boroughs. This would be quick and easy for the developer, as instead of having to create a bespoke solution to work with each council's IT system, they could connect to all of them using one common API interface via the LGDM. That would be good for the company, as they could sell to a much larger market (the same solution would work for one council or all), and good for the councils, as they would benefit from cheaper prices generated from economies of scale. And since the LGDM would use open standards, if a council was unhappy with the service provided by one supplier, it could simply look to another company to provide the same transaction.

The potential cost savings of this approach would be considerable. At the very least, by creating a marketplace, the public sector would be able to source its front-end digital services at a competitive price. If several public sector bodies needed the same service via the LGDM, companies would be able to offer much cheaper prices for all, as instead of having to deal with hundreds of different organisations (and different interfaces) they could create one solution that worked for all of them. As prices became cheaper for standard solutions, this would in turn encourage more local authorities to converge on common platforms, ways of working and capabilities, driving down costs still further. Their choice would be driven by the market and not by central government forcing them to choose specific solutions. This would be the mechanism for helping local authorities

79 www.freelancer.co.uk

phase out their bespoke legacy software and make technology a commodity, addressing the failings described in Chapter 2.

The bigger picture

The transformative potential of this approach comes from realising that online transactions and apps are simply mechanisms for exchanging data. In reality, though councils naturally want to be able to brand online services under their own banner, they themselves do not need a noise-reporting app – *they need data on where instances of noise pollution are*. Understood like this, there is no limit to the potential applications to which the LGDM could be put. As well as building online transactions and apps, it could be used to crowd source facts, figures, images, map coordinates, text – anything that can be collected as data. By focusing attention on their data needs, local authorities could let the market innovate to find the best solutions for meeting them. That might be via an app, perhaps via a website, social media, or Internet of Things sensors. It will not matter – the right information would be provided in a common format via the LGDM. Councils could request information on areas on which they previously had none, helping shape policies, assign their resources and money in a more targeted way, while also providing a serious mechanism for civic engagement. In this way, the LGDM would blur the boundaries between public services, policymaking and local democracy.[80]

For the private sector, the LGDM would stimulate the growth of innovative new companies offering online transactions and community data, making it easier for them to sell their solutions across the whole sector. They could pioneer new data methods, and potentially even take over the provision of entire services that the public sector currently has to provide itself. For citizens, it would offer a means to genuinely get involved in solving issues that matter to their local communities, either by using apps made by businesses, or working to provide the data themselves. And for local authorities that have great expertise in developing transactions, they could sell their solutions at scale on the LGDM, rewarding their efforts with a new income stream.

> “The LGDM would blur the distinction between public services, policymaking and local democracy”

Finally, since the Local GDS would not be building apps, but instead maintaining the app store, it would require far fewer people to run than would be the case with a copy of central government’s 300-strong GDS. As a result, it could be developed and maintained by volunteer organisations such as LocalGov Digital, membership bodies such as Socitm, or companies such as FutureGov. By taking a small commission on services, the Local GDS could even be self-funding.

Recommendation 6

A Local Government Digital Service, owned by the sector, should be established that creates and manages a Local Government Data Marketplace (LGDM). The LGDM would be a competitive online marketplace that brought together local authorities that needed particular online services (transactions, apps or data) with individuals, businesses and other organisations that could provide them. It would operate strictly in accordance with open standards and integrate with the SPSN to create solutions that could be scaled across the sector.

80 For further discussion on how the LGDM could be used to crowdsource information to aid policymaking and democratic engagement, see: http://policybytes.org.uk/information-nation-harness-wisdom-crowds-improve-public-service-delivery-policymaking/

Regional

Open Data, Data Analytics and Smart Cities

To reduce demand on their own resources, local authorities need to move away from a model where they provide all public services, to one in which they act as facilitator for making things happen, a concept described as 'synaptic public services'.[81] One means of doing this is by opening up their non-personal data to third parties to create new products and services. Yet – as was outlined in Chapter 2 – the current approach of each local authority building its own open data portal will condemn the movement to defeat. Few serious developers will build products or services if the data available to them only covers one district or borough. Citizens, likewise, do not conveniently live out their lives within one local authority area and will demand services that operate beyond their council boundaries. Put simply, if open data is to become a major driver of demand reduction, it needs to be available at least at a city scale.

The problem is that providing open data requires time, effort and investment from local authorities. Many are sceptical that they will realise much value in return.[82] To address that, councils need to work from the principle that *they* are the primary customers of their open data and put in place a mechanism to benefit.

With this in mind, each of the UK's major urban areas should establish an Office of Data Analytics (ODA) along the model of the New York City MODA team (see case study on page 18). Each ODA would collect, combine and analyse datasets from the local authorities and other public sector organisations in their region, and then provide their insights back to those bodies. As in New York City, this would enable local authorities to see how the issues they address feature beyond their boundaries, enabling them to identify potential for more shared services, coordinate the activities of different teams using real-time data, and target their resources by predicting where future issues were most likely to occur. As in New York, each ODA would then be responsible for releasing a subset of the information they collect on a city-wide open data portal to the wider public. In this way, open data for the public becomes a side benefit of the data local authorities use for themselves.

> "If open data is to become a major driver of demand reduction, it needs to be available at a city scale"

The creation of ODAs does not need to be expensive. New York's started with just three data science graduates using little more than Excel spreadsheets. They proved their value by addressing the highest priority problems for the city, such as predicting future building fires, and it was only later that investment was made in more expensive equipment to accelerate and automate the pace of data collection. What the team *did* have was considerable data expertise. In the UK, data scientists are in demand right across the public and private sectors (see graph) and can therefore command salaries averaging £55,000. By working together to fund an ODA, local authorities can jointly benefit from expertise they may struggle to afford in-house.[83]

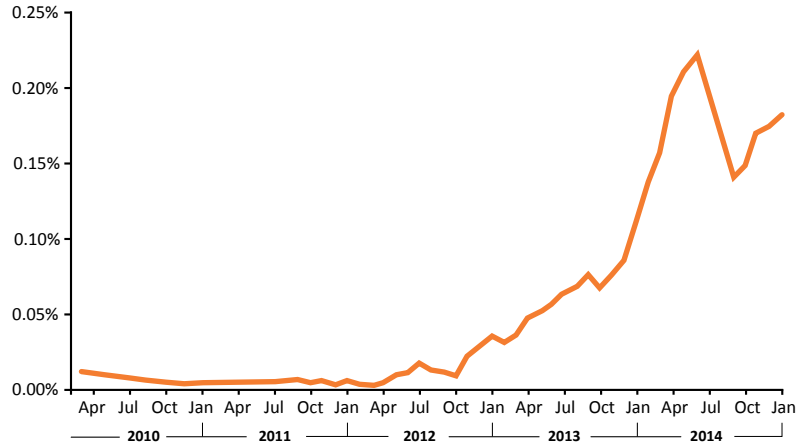
Finally, the establishment of Offices of Data Analytics would prepare the way for the development of smart cities in the UK. Putting in place mechanisms for sharing and analysing data across local authorities will be vital to manage the exponentially greater amounts of data that will arrive with smart city sensors.

81 LGiU, 'Technology and transformation in town halls', p.6

82 Computer Weekly, 'Using public sector open data to benefit local communities', available at: http://www.computerweekly.com/feature/Using-public-sector-open-data-to-benefit-local-communities

83 Salary level and graph taken from: IT Jobs Watch: http://www.itjobswatch.co.uk/jobs/uk/data%20scientist.do, 5 December 2014

Figure 4.1: IT Jobs Watch: Percentage increase in UK demand for permanent IT jobs citing Data Scientist in the job title



Source: IT Jobs Watch, December 2014

Recommendation 7

Each of the UK's cities should establish an Office of Data Analytics (ODA) to emulate the New York City Mayor's Office of Data Analytics. Each ODA should be tasked with helping increase the efficiency of public sector operations by targeting resources at areas of greatest need, and identifying areas for significant expansion of shared services. The ODA would also release a subset of non-sensitive data on a city-wide open data portal, enabling third parties to create apps and products. Once established in cities, the remit of ODAs should be expanded to cover their wider regions, including rural areas.

Local

Rolling out Whole Place Community Budgets

There will be little point in establishing Offices of Data Analytics in each city if the insights they derive cannot be used to deliver real efficiencies. As in New York City, a major part of their work would be to help predict where instances of particular problems may occur in future so that preventative action can be taken. As one report has put it, for local authorities to be able to work in a way 'that's financially and socially sustainable means tackling failure before it happens and so driving down demand for services before it's created.'[84] This will only be possible if local authorities have the budget flexibility to reassign their resources to focus on preventative action, and can do so in conjunction with the many other public sector organisations with which they have to work. This has traditionally not been possible due to ring-fenced budget allocations. But a new model has recently been trialled that offers to change that.

Since 2012, pilots for Whole Place Community Budgets have taken place in Essex, Greater Manchester, the Tri-borough and West Cheshire. The idea is that public sector organisations based in each area work together, redesigning services

84 HM Government/LGA, 'Local Public Service Transformation A Guide to Whole Place Community Budgets', March 2013, p.5

from the ground up and sharing budgets to tackle problems jointly. Currently, many public sector bodies are not incentivised to invest in preventative action as the savings that would result from doing so would be felt only by other organisations. For example, a council could invest in more youth centres, which over the long term may save money in local police budgets. By sharing budgets, there is an incentive for all participating bodies to work in the most joined up and efficient manner, designing local solutions for local people. The LGA is supportive of this kind of devolved budgetary power and argues that there is a need to 'drive local public service effectiveness and end waste and red tape at all levels by bringing local services together in one place'.[85] Independent analysis by Ernst & Young suggests that savings of between £9.4 billion to £20.6 billion could be achieved over 5 years were the pilots' proposals for reform adopted across the country.[86]

> "Whole place community budgets have the potential to become the gold standard for how digital government should work"

Whole Place Community Budgets have the potential to become the gold standard for how digital government works. They start by designing better ways of working, and those ways of working can be *enabled* by smarter use of technology and data. Ernst and Young's report found that greater data sharing and analysis was needed in order to spot potential areas for efficiency. As a result, the roll out of Whole Place Community Budgets should be accelerated for local authorities that agree to share data with their regional Office of Data Analytics. This would be a powerful way to strengthen localism – giving local authorities the freedom, data and budgetary flexibility to design local services that respond to local needs.

Recommendation 8

The roll out of Whole Place Community Budgets should be accelerated for Local Authorities that commit to sharing data with their region's Office of Data Analytics. Redesigning public services and delivering value from data insights are mutually dependent and need to be delivered hand-in-hand.

Summary

The measures described above are not quick fixes. They are about putting in place the fundamental building blocks on which successful and genuinely transformative digital reform will depend: compatibility with open standards, a common data network, clear legal advice on data sharing, citizen control of personal data, interoperability of IT systems, a dynamic and flexible marketplace for online services, data analytics capabilities that cross public sector boundaries, budget flexibility and freedom to design local services to meet local needs. Their goal is not only to save money – though that is a major priority for the sector – but also to deliver better, more coordinated and personalised services for citizens. They offer a means for local authorities to work in partnership with citizens, third sector organisations and companies to support their local communities. They prepare the way for smart cites and smart places.

85 LGA, 'Rewiring Public Services', July 2014, p.15

86 http://communitybudgets.org.uk/

Quantifying how much could be saved from these reforms is extremely challenging. It will depend on the speed and scale at which they are implemented and how initiatives such as ODAs, shared services and open data are used. However, the examples given indicate that together they could make a substantial contribution towards meeting – or exceeding – the sector's £12.4 billion funding gap. Shared capabilities such as the NHS jobs site (mentioned in Chapter 3) have been shown to save £1 billion over ten years. Implementing a New York-style data team in each city offers to increase the efficiency of some public services fivefold and help predict and prevent fraud, such as the £1.3 billion lost each year to housing tenancy, benefit and Council Tax fraud. Expanding shared services could plausibly increase savings to more than £500 million each year. Putting in place data-sharing arrangements to make a success of Whole Place Community Budgets across the country could save the public sector between £9.4 billion and £20.6 billion over 5 years. Hundreds of millions more stand to be saved by removing bespoke IT and replacing it with commoditised platform components based on open standards. The local government sector should set a target to use these measures to achieve at least £10 billion of savings by 2020.

Yet the central message of this report has been that for digital government to deliver results, councils should not start with the technology. Instead, they must use their deep local knowledge to design new ways of working that are both more efficient and that better serve the specific needs of their communities. Some of those new ways of working will be made possible through better use of technology and data. By applying the principle of subsidiarity, this report has shown that it is possible to use IT in a way that preserves local innovation and localism while removing the inefficiencies of local authorities' current fragmentation. That is how smarter use of technology and data can help deliver real and lasting reform of the local government sector.

Applying the principle of subsidiarity to Local Government Digitisation

Central government/whole public sector

- Designing open standards for data and for the whole public sector and making compatibility mandatory in 2025.
- Creation of the Single Public Services Network to integrate PSN and N3.
- Establishment of an Office of Data Responsibility to provide common legal advice on data sharing.
- Public-sector wide compatibility with personal data stores.
- New iteration of the Digital Marketplace, compatible with open standards and with APIs for proprietary systems.

Local government collectively

- Establishment of a local GDS that manages a Local Government Data Marketplace.

Regional

- Offices of Data Analytics (ODAs) established in each city (and then rural areas).

Local Authorities

- Use data insights from ODAs to expand shared services, target and coordinate their activities.
- Use Whole Place Community Budget model to redesign local services in conjunction with public sector partners to focus on preventing rather than addressing failure.
- Create transactions and technology solutions to sell into the Local Government Data Marketplace.

The era of austerity has had a major impact on the UK's public finances. In few areas has this been felt more acutely than in the local government sector. Local authorities in England face a funding shortfall of £12.4 billion by 2020. At the same time, councils provide 80% of all public services and demand for many of them is rising fast. £10 billion of savings have already been made through cutting back on discretionary services and finding internal efficiencies, but the low-hanging fruit is almost gone. The sector therefore has a choice: either it must stop providing some services altogether or fundamentally reinvent the way it works. This report is about how it can achieve the latter by harnessing the principles of digital government: doing more and better with less, through smarter use of technology and data.

To date, much of the debate on local digital government has been framed as a binary choice between localism and centralisation. The dominant narrative has been that the sector can have either local innovation and democracy, at the cost of duplication and inefficiency, or a Local Government Digital Service that dictates from the centre, saving money but disempowering local communities.

That is a false choice.

Instead, this report outlines a new vision for digital government. It entails putting in place the core building blocks on which digital reform depends: compatibility with open standards, a common data network, clear legal advice on data sharing, citizen control of personal data, interoperability of IT systems, a dynamic and flexible marketplace for online services, data analytics capabilities that cross public sector boundaries, budget flexibility and freedom to design local services to meet local needs. Offering eight key recommendations, the report outlines measures that could help the local government sector save in the region of £10 billion by 2020.

£10.00
ISBN: 978-1-907689-90-1

Policy Exchange
Clutha House
10 Storey's Gate
London SW1P 3AY

www.policyexchange.org.uk