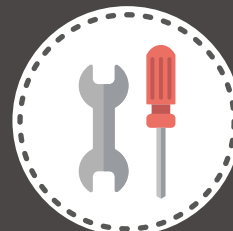


Archwilydd Cyffredinol Cymru  
Auditor General for Wales

# The maturity of local government in use of data



WALES AUDIT OFFICE  
SWYDDFA ARCHWILIO CYMRU





This report has been prepared for presentation  
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**Mae'r ddogfen hon hefyd ar gael yn Gymraeg.**

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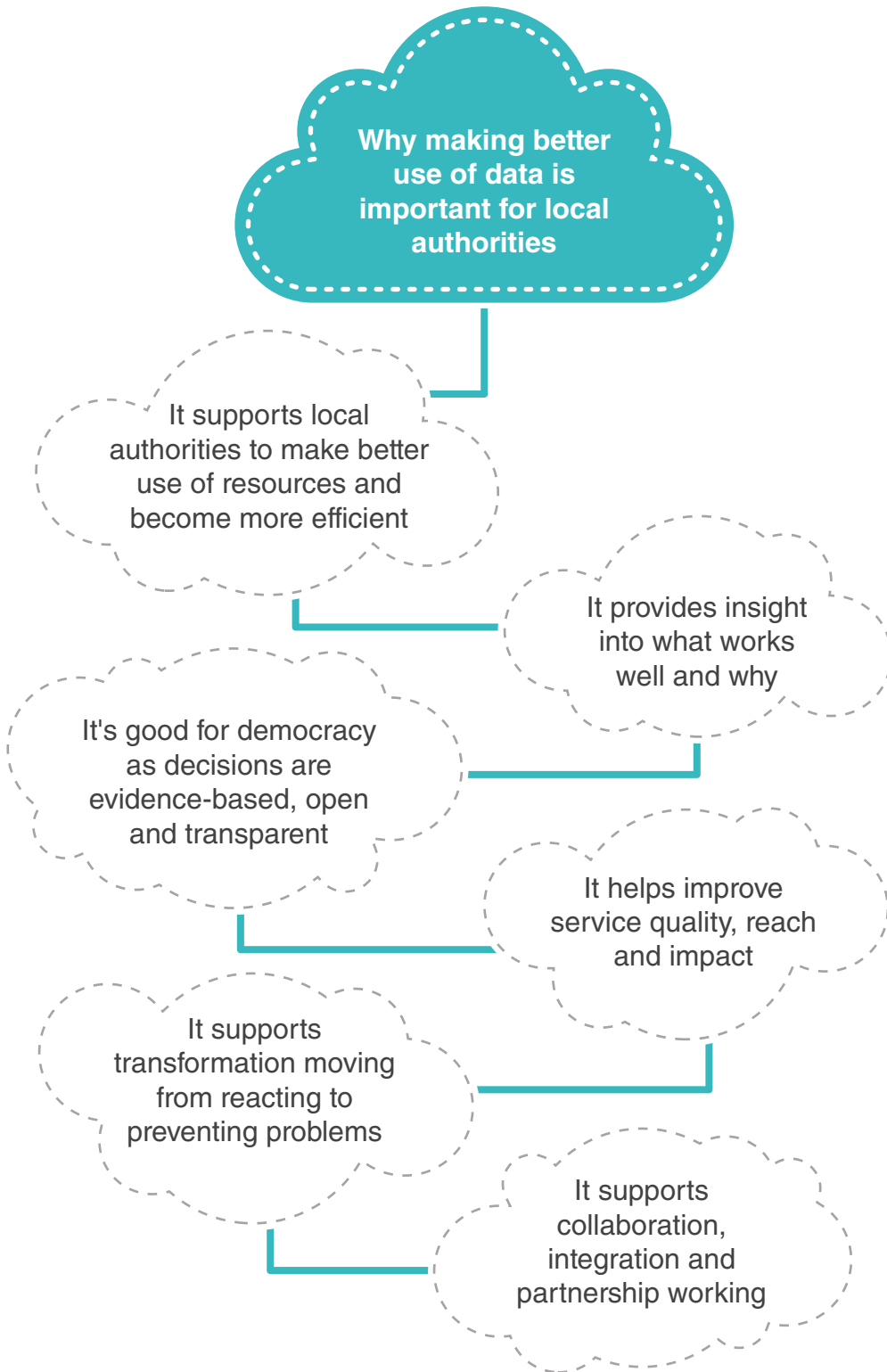
# Introduction

## Local authorities are slowly developing a culture that values and uses data to its full potential to help improve services and outcomes

- 1 The growth of 'big data'<sup>1</sup> strategies in the private sector and the availability of 'open data'<sup>2</sup> has been unprecedented in recent times, and has revolutionised the way organisations make decisions. With the technology available today, and the rate of technological change, data-driven decision making is becoming the norm rather than the exception. However, is this approach extending to local authorities in Wales?
- 2 Being smart and strategic in using data brings many benefits for local authorities, their partners, the communities they work in and the citizens they serve. Making better use of data supports authorities to take better and quicker decisions. It also allows authorities to make best use of resources by identifying waste and inefficiency, and thus increasing productivity. Most importantly, maximising use of data is good for democracy because it strengthens governance and accountability.

- 1 Big data requires making sense of the vast amounts of data a local authority collects – processing, analysing and exploiting it for local authority, partner and community gain. Big data refers to digital information that is massive and varied, and that requires technology and best practices to sort, process, store and analyse.
- 2 Open data is the idea that some data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control. One of the most important forms of open data is open government data because making government and local authority information available to the public can facilitate transparency, accountability and public participation.

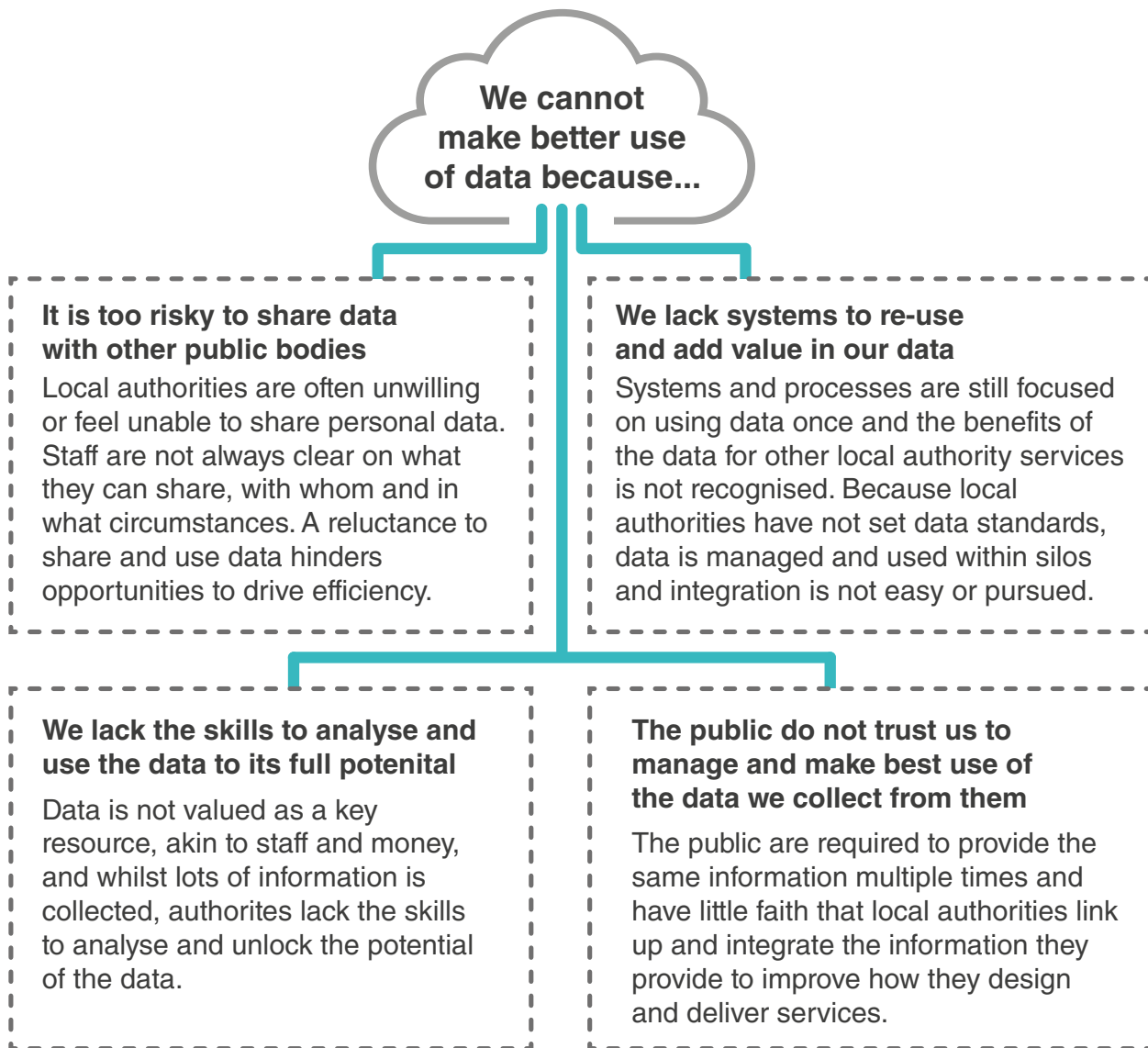
Exhibit 1 – Why making better use of data is important for local authorities



Source: Wales Audit Office

3 Local authorities are sitting on a ‘rich vein’ of personal, financial and community level data that could help them deliver more efficient and effective services. To do this, local authorities need to ensure they have the right building blocks in place to unleash this data potential, specifically; agreed management standards, common coding, and the right culture, leadership and skills. The benefits of linking and using data, both within local authorities and with partners, is challenging and authorities need to overcome some significant barriers if they are to maximise their use of data – **Exhibit 2**.

**Exhibit 2: The barriers to why local authorities are not making better use of data**



Source: Wales Audit Office

- 4 Given these challenges, this study assesses whether local government has the right building blocks and culture in place to capitalise on the data<sup>3</sup> that it holds. Our methods are set out in [Appendix 1](#).

3 This study is not about technology, software or hardware. Rather, it is a study of the key characteristics of a mature organisation that uses and values data to plan and deliver services

# Summary report


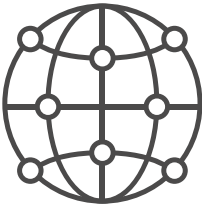
## Summary





- 5 In **Part 1** of the report, we study the strategic approach taken by local authorities to making better use of data. We found that local authorities are not taking advantage of the massive amounts of data they collect to operate as efficiently and as effectively as possible. Too often services and teams hold information in silos and use it for a single purpose. Because authorities lack corporate data standards, duplication of information is common and integration of data often poor. Consequently, the potential for reusing data can be overlooked. In the age of big data, breaking down organisational silos to drive a culture change is a priority. Authorities generally lack a clear vision for use of data and the leadership needed to help create the right strategic environment to maximise the benefits of data is not consistently present.
- 6 In **Part 2** we summarise local authorities' data protection work and how they are progressing sharing data with other public bodies. Local authorities can collect and hold very personal and sensitive data to help them deliver their services. This data can assist their partners but using and sharing data is a delicate balancing act. We found that authorities have generally good arrangements for data protection but are often risk-averse and not prepared to share information, despite the availability of national approaches like the Wales Accord on the Sharing of Personal Information (WASPI). Public sector partners need to do more to unlock the full potential of the data that they hold.
- 7 In **Part 3** we examine whether local authorities have the skills and capacity to gather, share and analyse data. A key component of maturity in using data is ensuring staff are equipped in data analytics, to use the data that they, and partners, hold to understand events, predict future scenarios and model potential demand. We found local authorities recognise they do not always have the right skills nor the capacity to make the best use of data.
- 8 In **Part 4** we consider how effectively local authorities use available data to agree future priorities and allocate resources. Authorities with high levels of data maturity use data to trial approaches to learn what works and make available open data in real time to support a wide range of organisations to develop new services and approaches. We found local authorities are using data to review performance, but gaps and weaknesses in the data they use mean that decisions are not always based on the full range of evidence. In general, local authorities can understand past performance but are not so adept at using data to help anticipate the future or model possible scenarios.


- 9 Based on these findings, the Auditor General has concluded that **local authorities are slowly developing a culture that values and uses data to its full potential to help improve services and outcomes**. From our work, we have identified what we consider to be the key aspects of data maturity in local government, and these are set out in **Exhibit 3**.

### Exhibit 3 – Data Maturity in local government

The Exhibit sets out the key aspects of data maturity. Level 1 describes an organisation with low levels of data maturity, and level 3 an organisation with high levels of data maturity. **Overall, we conclude that most authorities are characterised by the descriptors at level 1 and level 2.**

Key Characteristic	Level 1	Level 2	Level 3
<p>Leadership</p> 	<p>Leadership on data and organisational culture encourages a risk-averse approach, which does not value or seek to maximise data usage.</p>	<p>Leaders recognise the value of streamlining and improving use of data, both within the local authority and with partners. The culture in most of the authority has not progressed from ‘identifying’ the opportunities of integrating and sharing data to actually ‘doing’ it.</p>	<p>The organisation has a strong leadership culture based on transparency and valuing and using data to underpin decisions. The authority openly shares data and insights with citizens, partners and stakeholders setting out the rationale for choices. Data is valued and used across the authority.</p>
<p>Corporate standards</p> 	<p>Services operate independently in silos, and define their own data requirements. The local authority lacks corporate standards for how services should capture and use data and little integration or sharing of data takes place internally or externally.</p>	<p>The local authority knows what data is collected by services and has some linked databases, but data networking has developed organically. The local authority lacks data standards and whilst data sharing and integration takes place, it is in narrowly defined areas.</p>	<p>The local authority has corporate data standards and coding structures. The local authority has identified its long-term data requirements and is streamlining systems to reduce duplication and improve accessibility. Data is integrated and coding gaps when identified are addressed.</p>

Key Characteristic	Level 1	Level 2	Level 3
<p>Integrated customer data</p> 	<p>Service users often apply multiple times for services or assistance. Duplication of data is common and some services rely on paper-based manual systems.</p>	<p>Duplication is known, but not always addressed. Some standardisation takes place, usually around established parameters such as property gazetteers, but is limited. Most data is digitised but not linked.</p>	<p>Citizens apply once, and services are configured to meet their needs. Data is entirely digitised and regularly cleansed to ensure it is accurate. Data sharing and integration is well advanced. Duplication is kept to a minimum.</p>
<p>Data protection</p> 	<p>Data protection legislation is understood and complied with, but is a block to sharing data.</p>	<p>Data protection legislation is understood and complied with and is not seen as a block to making better use of data.</p>	<p>Data protection legislation is complied with and implementation is supporting the local authority to appropriately share data internally and with other bodies.</p>
<p>Data analytics</p> 	<p>Investment in data analytics – segmentation analysis, forecasting and predictive analysis – is limited. There is little capacity and a deficit in skills to improve use of data. There is no or little investment in upskilling staff.</p>	<p>The need to build skills and capacity and invest in making better use of data is recognised, but not always addressed. Improving capacity and upskilling staff is a known risk but progress to address this is slow or limited.</p>	<p>Staff have been equipped in data analytics, and services regularly use data from a range of sources to understand events, predict future scenarios and model potential demand. Data analytics is recognised and valued as a core function and is resourced sufficiently.</p>
<p>Data-driven decisions</p> 	<p>Data is reported and performance is analysed. The focus of performance reporting is limited to local authority service information, is mostly historical and backward looking, and not reported in real time. Data analytics is rarely used.</p>	<p>Data is reported and performance is analysed. The local authority is focusing on monitoring and measuring impact. The importance of data analytics is growing but not embedded or sufficiently developed in most services.</p>	<p>Data is reported and through performance evaluation, corrective action is taken when the data shows a change in direction is needed. The local authority has a record of accomplishment of using data analytics to manage services and is focused on understanding future demand.</p>

Key Characteristic	Level 1	Level 2	Level 3
<p>Open data</p> 	<p>The local authority is not using data to effectively support decision making. Open data and public reporting is very limited.</p>	<p>The local authority uses data to underpin decisions but limitations in its coverage and analysis weakens 'real time' choices. Open data is produced but coverage is limited.</p>	<p>Data-driven decision making is well established and accepted as the 'way to do things'. Open data is made available in real time and a wide range of organisations use the information to develop new service and business opportunities.</p>

Source: Wales Audit Office

## Recommendations

10 Through our study, we have made the following recommendations to support improvement.

### Recommendations

**R1 Part 1 of the report highlights the importance of creating a strong data culture and clear leadership to make better use of data. We recommend that local authorities:**

- have a clear vision that treats data as a key resource;
- establish corporate data standards and coding that all services use for their core data;
- undertake an audit to determine what data is held by services and identify any duplicated records and information requests; and
- create a central integrated customer account as a gateway to services.

**R2 Part 2 of the report notes that whilst it is important that authorities comply with relevant data protection legislation, they also need to share data with partners to ensure citizens receive efficient and effective services. Whilst these two things are not mutually exclusive, uncertainty on data protection responsibilities is resulting in some officers not sharing data, even where there is agreement to provide partners with information. We recommend that authorities:**

- provide refresher training to service managers to ensure they know when and what data they can and cannot share; and
- review and update data sharing protocols to ensure they support services to deliver their data sharing responsibilities.

**R3 In Part 3 of our report, we conclude that adequate resources and sufficient capacity are ongoing challenges. However, without upskilling staff to make better use of data, authorities are missing opportunities to improve their efficiency and effectiveness. We recommend that authorities:**

- identify staff who have a role in analysing and managing data to remove duplication and free up resources to build and develop capacity in data usage; and
- invest and support the development of staff data analytical, mining and segmentation skills.

## Recommendations

**R4** Part 4 of our report highlights that authorities have more to do to create a data-driven decision-making culture and to unlock the potential of the data they hold. We recommend that local authorities:

- set data reporting standards to ensure minimum data standards underpin decision making; and
- make more open data available.

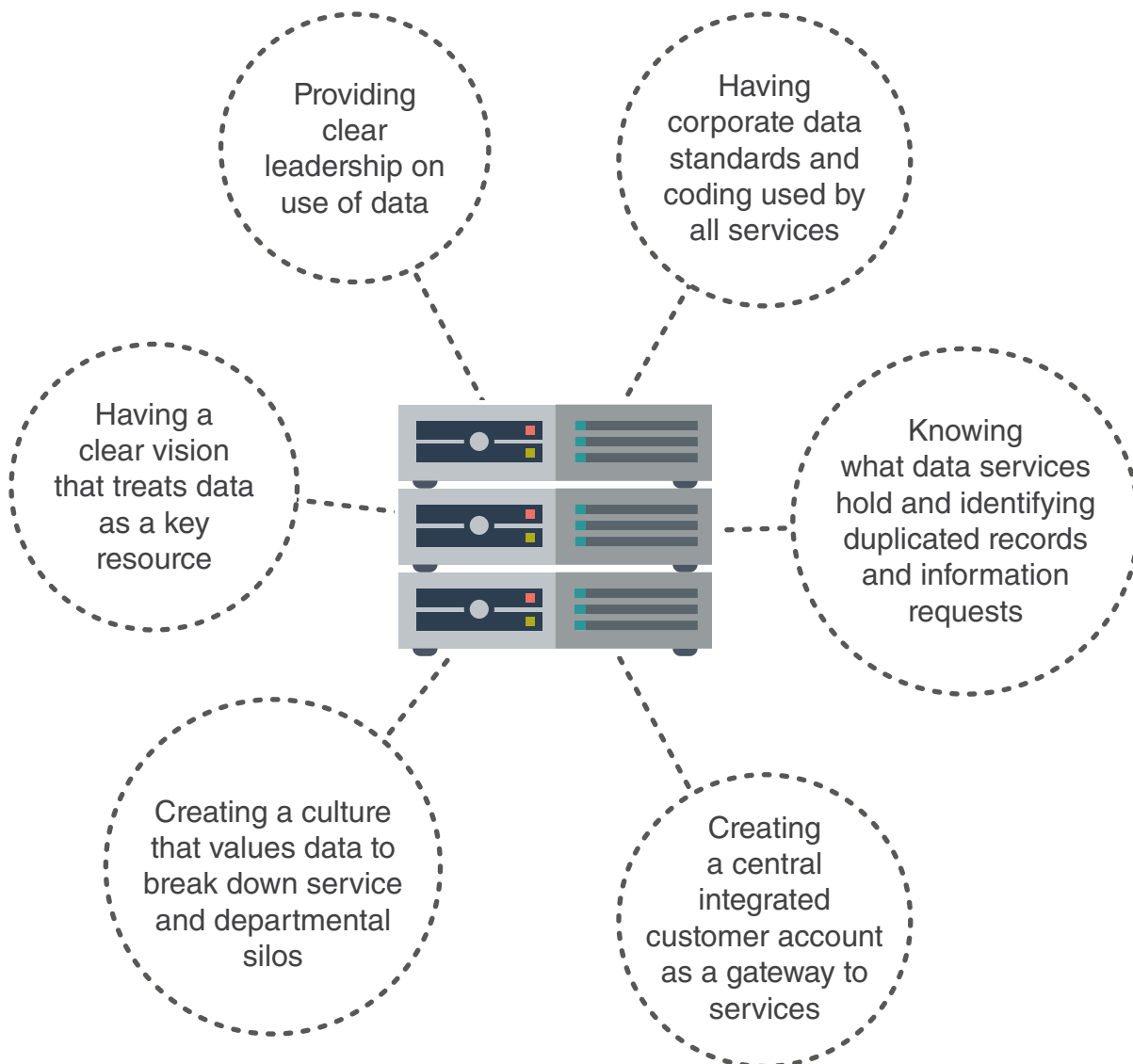
## Part 1

A clear vision and effective leadership help create the culture needed to maximise the use of data, but few local authorities have focused on building an environment to get the most from the data they hold



1.1 A strong data culture and making good use of data are intertwined, and authorities cannot have one without the other. Creating a culture where Elected Members, senior officers and front-line staff think about and use data differently is the key challenge facing authorities in making better use of data. Summarised in **Exhibit 4** are some of the key steps we have identified from our study that help local authorities create a data-driven environment.

### Exhibit 4 – Creating a data-driven environment



Source: Wales Audit Office

## Authority leaders need to do more to create a strong data culture

- 1.2 Local authorities collect a lot of data that supports them to plan and deliver a wide range of services. However, much of the data collected is not capable of being shared or re-used because it is held in silos. Research suggests that 90% of unstructured data is never analysed, remaining 'dark' and unexplored; and this is despite organisations investing significant resources in collecting this data<sup>4</sup>. Joining up and integrating data has been a problem since databases have existed, but the amount of potentially relevant data available now is thousands of times larger. A mature local authority will move from identifying the potential benefits of data, to using all of the data in making choices, decisions and determining service delivery changes.
- 1.3 Linking up authority data can be difficult because it requires departments, services and teams to replace long-standing processes with new ways of working. It also requires staff to be less risk-averse and more accepting of the benefits data can provide for colleagues, partners and citizens. The culture of an organisation has a great effect on maximising the potential held in data and can be a major barrier to a local authority fully utilising it. The way an authority is set up, how services and staff work and how senior leaders recognise and value data, influence culture. Despite some passionate authority leaders who recognise the potential benefits of unlocking data, more needs to be done.
- 1.4 People we interviewed highlighted that breaking down barriers and silos in the established, and often risk-averse culture of an authority, is challenging and requires support from key decision-makers. In particular, interviewees noted that frontline staff are critical to success and need to understand the importance of their role in collecting customer data. If there is no will or leadership setting the right 'tone at the top', then it is difficult for authorities to maximise their use of data.



### The biggest challenge to making better use of data is...

“A culture of silo management, a reluctance to innovate and a lack of awareness of how data can be used”

**Operational Manager**

“Culture change and the reluctance to share information across services”

**Head of ICT**

“Leadership and culture and formal recognition of the role of data in and across the organisation to support every facet of operational, tactical and strategic decision making”

**Information Compliance Officer**

## 4 Unlocking the Hidden Value of Information

- 1.5 We found that no local authority has a designated senior officer who purely leads on data, and who has no other responsibilities. From our fieldwork, we found that some authorities see leadership on data as technical in nature giving responsibilities to the Head of ICT, or shaped by compliance with data protection legislation with the Senior Information Risk Officer taking the lead. These posts provide important technical and specialist views, but are often not ‘advocates’ who can influence and create change at different levels and in different areas of activity, especially breaking down silos on re-using data within customer-facing services.
- 1.6 Effective leadership is also about ambition and having a clear vision for data underpinned by specific outcomes that recognises data as a key resource, like finance and staff. Our research found that despite highlighting that making better use of data is a weakness, most authorities lack a vision, strategy or plan for improving data and are not clearly articulating what they need to do to improve. A number of interviewees felt that this was a particularly pressing challenge because without a vision and plan, it was unlikely that any concrete actions could be developed and implemented, and even less likely that there would be improvements.
- 1.7 Local authority officers noted that in the absence of a clear and consistent corporate focus on data, improvement actions are generally left to individual services to take forward, thus making it difficult to determine who is (or should be) taking the lead and is accountable for coordinating efforts to improve data usage. In addition, the absence of targets and goals for improving data usage, vital for signalling what an authority hopes to achieve with improved data, makes it difficult to measure progress and improvement. This creates a risk that services will view data-related issues differently, which can lead to duplication of action, no action at all, and/or reinforcement of inconsistencies and weaknesses when collecting, managing and using data.



**The biggest challenge to making better use of data is...**

“Culture, moving to a use of insight from a data-driven rather than experience perspective”  
**Head of Policy**

“Cultural issues surrounding data use”  
**Corporate Management Team Member**

## Managing data as a corporate asset helps support integration, but few authorities have adopted standards that help unlock this potential

1.8 Whilst authorities are mostly clear on the data they need to deliver services, many authorities have not carried out a data audit to determine future data requirements. In particular, ICT Managers and Information Compliance Officers flagged issues of concern that operational managers are not considering their future data needs, nor identifying which information they collect is common across services. Many responding to our data tool noted that within their authorities, it is not commonplace to integrate data across services, and this is despite authorities having the ability to join up data to offer greater insight, which helps them to deliver earlier and less expensive interventions.

1.9 Local authority Heads of ICT services in particular, highlighted a continuing risk that local authorities are doing too little to standardise their data, and still do not use common data coding across services to make integration easier. Too often the data collected by a service is determined by professionals who are clear on what they need to deliver their functions, but are less aware of (or do not consider) the wider corporate/ community benefits of the data they collect and its potential re-use. The way data systems are developed, how information is coded, and the lack of standardisation in commonly used data fields (eg personal names, addresses, ethnicity, etc) can therefore make connecting and joining up data much harder than it needs to be.



### The biggest challenge to making better use of data is...

“ Different data collection systems that don't talk to each other and the lack of understanding of how data collected for one service area can impact on the delivery of services elsewhere”

**Operational Manager**

“ Different service areas within the Council use different systems which makes it difficult to provide coherent joined up provision for the public”

**Operational Manager**

“ There are so many bespoke and separate systems it is difficult to know what is held where and by whom”

**Operational Manager**



1.10 For instance, property data collected by authority departments is often referenced differently. Some services use bespoke reference numbers created as part of the system implementation, some use street gazetteer addresses (which can often be incomplete or partial), and others use northings/eastings<sup>5</sup>. Within each of these, the way information is recorded can vary. To bring information held in disparate systems together can, therefore, be expensive and time consuming. Local authorities that do not have the ability to join up and match records held in the different ICT systems within their own organisation will also find it difficult to collaborate with partners to integrate data.

1.11 Nevertheless, we identified some positive examples of how local authorities are seeking to standardise data to improve integration and insight. Newport City Council's central property identification code has enabled the authority to link service data. Although this does not cover all departments and all areas of work, it is nonetheless helping the authority to draw together information from a variety of different databases to support officers delivering frontline services. Similarly, Denbighshire County Council use their local land and property gazetteer (LLPG) for addresses, which is helping the authority to map service provision and coverage. Likewise, both the Vale of Glamorgan Council and Rhondda Cynon Taf County Borough Council integrate some service data to help identify vulnerable households who need support but to also target action for anti-social behaviour.

1.12 Overall, however, we found limited evidence of authorities using corporate data standards, and current approaches to integration of data are mostly one-off initiatives and pilots developed within services. Corporate data standards describe and specify how to 'record data', and can help breakdown departmental silos and make integration and analysis easier. We concluded that not developing and using common coding is a missed opportunity that makes integration more difficult and costly.

**The biggest challenge to making better use of data is...**

“Whilst the Council is good at holding a significant amount of data ... often it is held in systems that are difficult to interrogate and, therefore, a lot of the data held is not used effectively”

**Operational Manager**

“Consistent standards in the collection and use of data”

**Corporate Management Team Member**

5 The terms 'easting' and 'northing' are geographic Cartesian coordinates for a point. Easting refers to the eastward-measured distance (or the x-coordinate), while northing refers to the northward-measured distance (or the y-coordinate).

## With the growth in ‘big data’ it is important that local authorities ensure the accuracy of their information, but data quality remains an ongoing challenge for some

- 1.13 The concept of data quality, and having robust management processes to record reliable and accurate data (service specific, financial and performance) is not a new one. Having quality data gives you better insight and is an important part of a mature approach to governance and decision making. Conversely, poor quality data can lead to flawed decision making, wasted resources, and can leave vulnerable people at risk.
- 1.14 Quality control and data accuracy is an integral part of data management and should take place at various stages: during data collection, data entry, data checking and use of data. Checking data to ensure accuracy can typically involve both automated and manual procedures, including checking the completeness of records, verifying a random sample of information for accuracy, and checking for double entries. Documenting in detail the data controls at each of these stages, can help maintain quality.
- 1.15 Despite recognising the importance of data quality, it can be challenging to get right. Whilst local authorities consider data quality is improving, data accuracy<sup>6</sup> remains a challenge for some organisations. Problems with systems not being efficient or effective to hold and use data, double counting, duplicated records and incomplete and partial information were all highlighted as ongoing difficulties in raising and maintaining data standards. There are also still too many inconsistencies between systems, which is having a huge impact on quality and reporting which can result in decisions being based on incomplete or inaccurate data. A number of third sector and national organisations we interviewed raised concerns that from their experience the quality of local authority data varies widely.



### The biggest challenge to making better use of data is...

“Need to ensure adequate capacity to undertake enough quality assurance and quality control of data sets”

**Operational Manager**

“Ensuring quality and not just having data for data’s sake, we should only have what we need and not waste any valuable resources capturing the unnecessary”

**Operational Manager**

6 Accuracy – data should be sufficiently accurate for its intended purposes. Accuracy is most likely to be secured if data is captured as close to the point of activity as possible. Data should be captured once only, although it may have multiple uses.

## Citizens are required to provide the same information multiple times when applying for services, but authorities are not integrating management systems to improve data efficiency



- 1.16 Reducing duplication and linking up data can help save on content management systems<sup>7</sup> and hosting costs<sup>8</sup>. It also produces better quality intelligence and supports integrated service delivery and decision making. ‘Collect once, use numerous times’ is a valuable principle. We found that whilst local authorities recognise that duplication is present, the extent of duplication is often unknown.
- 1.17 All groups of officers responding to our data tool noted that their local authority had not removed duplicated data collection processes, and that work to streamline information demands is at best progressing slowly. A number noted that linking data held on old ICT technology, and the continued reliance on paper-based databases to collect and manage data, are not helping to identify nor reduce duplication.
- 1.18 Advocacy groups we spoke to think public services repeatedly, and unnecessarily, ask for personal data, requesting the same information multiple times, for instance; address, age and family make up – creating ‘data fatigue’ and putting people off from applying for services, especially as it is not always clear to citizens why local authorities collect the data. For example, our survey of citizens found that 82% of respondents did not know why their local authority collects so much information on them, and what the authority does with the data they hold about them.

### The biggest challenge to making better use of data is...

“Removal of duplicate data and ensuring future effective management of information”

**Operational Manager**

“Making efficient use of data will be ensuring that we only collect what is necessary once and use effectively across the Authority. Traditionally all service areas have their own data systems that are difficult to share across each other”

**Head of ICT**

“Developing smart systems that integrate data holding between departments, reduce duplication and allow effective analysis of data”

**Operational Manager**

- 7 A content management system manages the creation and modification of digital content and typically supports multiple users in a collaborative environment.
- 8 A hosting service provides shared or dedicated hosting of a service or services to customers, most often websites, data files, images and similar content. Hosting is often outsourced on basis to reduce cost and to ensure there is a disaster recovery coverage in case of core system failure.

1.19 The needs of professionals and services, not citizens and service users, mostly determines how data is collected. We found that no Welsh local authority operates a central single customer account that links all services to individuals. Some authorities have online portals for services – Gwynedd Council for example – but no authority has created a comprehensive single account that places the service user at the centre of the services they receive. For instance, the London Borough of Camden through its Camden Resident Index is integrating data and matching information from multiple sources to provide a comprehensive and linked overview of residents, properties and businesses – see [Appendix 3](#).

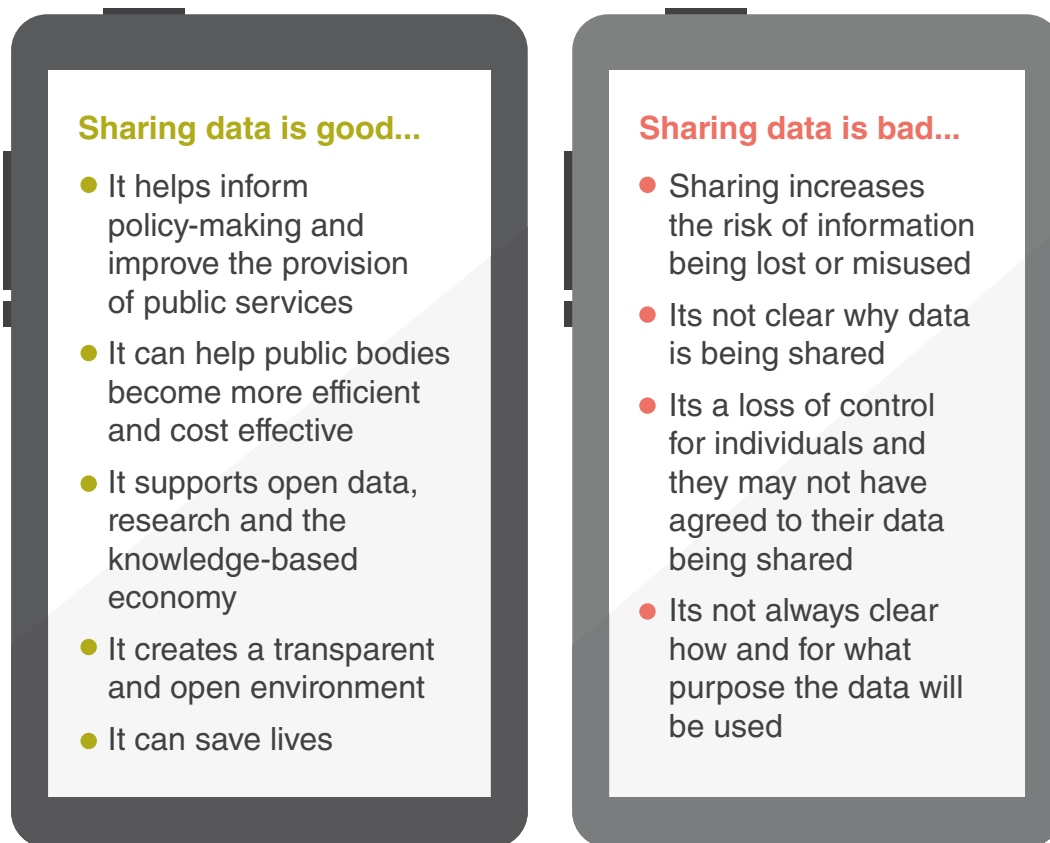
## Part 2

Local authorities are generally good at complying with data protection regulations, but do not always share the personal data they collect with partners



2.1 Local authorities are often the gatekeepers of very personal and very sensitive information. They handle all sorts of data on a daily basis, covering everything from income to detailed health and care records. Technological advancements present authorities with opportunities to exploit the wealth of information they possess, by mining, sharing and integrating data with partners. However, using data in the public sector is a delicate balancing act. Local authorities need to protect personal information from data misuse, but in a way that does not suffocate innovation. As a result, many public sector organisations wrestle with the benefits and risks of sharing information with other organisations – **Exhibit 5.**

**Exhibit 5 – The benefits and risks of sharing data with other public bodies**



Source: Wales Audit Office

2.2 Authorities are making some progress in discussing the need to share data, but too often potential partners are not prepared to participate because of data protection concerns. The introduction of the General Data Protection Regulation (GDPR) in May 2018 has brought these tensions into even greater focus.

2.3 The GDPR requires all public sector organisations to understand how they manage the privacy of data about anyone classed as an EU citizen. This covers citizens, customers, contractors, agency staff, volunteers and employees – anybody that is an EU citizen and where a local authority holds privacy-related data about them. The new regulation means that citizens have significantly more rights and powers on how their data is used and consumed, with large fines available for breaches of the regulation. Citizens also have the ability to request that a local authority provide the details of all the information held about them (called a ‘Subject Access Request’ or SAR).

2.4 Many of the changes introduced by GDPR are enhancements to existing data privacy regulations<sup>9</sup>, but they still present significant challenges. Authorities need to find all the data on ‘persons’, not just most of it. As noted above, this is challenging given data is held in silos, in different systems and in different formats, including data left by citizens using electronic channels and social media. Authorities also need to ‘enact consent’, defining what they will do with data, by whom and what data elements can or cannot be used. They will also need to ensure they have a clear understanding of the ‘right to be forgotten’<sup>10</sup> requirements and constraints.



**The biggest challenge to making better use of data is...**

“GDPR, the UK Data Protection Bill and the Digital Economy Act all need to be aligned and used as opportunities rather than barriers”

**Information Compliance Officer**

“The new GDPR requirements and public willingness to allow data to be shared”

**Corporate Management Team member**

“New regulations (GDPR) coming into force... will be a challenge and current arrangements will require complete review”

**Operational Manager**

“GDPR... just at the time that we are looking to join data together to help us predict demand and intervene early, residents have the right to tell us to forget what we know about them!”

**Corporate Management Team member**

9 Personal data is also governed by the requirements of the Data Protection Act 2018 and is defined in the Act as information relating to the racial or ethnic origin; political opinions, religious or other beliefs; membership or otherwise of a trade union; physical or mental condition; sexual life of a person and the commission or alleged commission of any offence or the disposal or sentence in any such proceedings by a court.

10 Under Article 17 of the GDPR, data subjects have an important right to erasure, which is sometimes referred to as ‘the right to be forgotten’.

2.5 From our research, we found that local authorities are confident that they are fulfilling their responsibilities under the 2018 Data Protection Act and making steady progress implementing GDPR. We found that officers:

- a are broadly clear on when and in what circumstances they can share data with other bodies or individuals;
- b know their responsibilities to ensure that the data is processed in accordance with data protection legislation, and know what controls their authority has over personal data;
- c are clear on what they should do if something goes wrong in managing and controlling data; and
- d know where to obtain help and guidance within their organisation on sharing personal data with another public body.

2.6 We also identified a number of continuing challenges, especially an enduring cultural resistance to sharing information in some authorities. Heads of Policy and Operational Managers responsible for frontline services raised concerns about data protection legislation stopping them undertaking projects that involve the use of personal and sensitive data. A number also commented that data protection and GDPR stops them sharing information with partners. Others noted that the legislation is burdensome to comply with, has too many standards and requirements, and is out of kilter with the current policy drive to develop 'big data' capabilities and make available greater amounts of 'open data' online.

2.7 Most importantly, concerns over data protection is encouraging risk-aversion and stifling innovation in using data, because local authority staff fear being penalised. The legal implications of a data error can be severely damaging, not only to the reputation of the organisation but can also mean large civil penalties, criminal prosecution or litigation against individuals for compensation.



**The biggest challenge to making better use of data is...**

“Convincing business areas that it is possible to share data with appropriate safeguards put in place to erode misconceptions that ‘their’ data cannot be shared”

**Information Compliance Officer**

“ICT security and data protection constraints can prevent data sharing”

**Operational Manager**

“Data protection... limits data sharing”

**Elected Member**

2.8 The **Wales Accord on the Sharing of Personal Information (WASPI)** is a tool to help public bodies share personal information between agencies. WASPI covers public bodies and organisations directly dealing with health, education, safety, crime prevention and social well-being, and can help an organisation meet its data protection responsibilities and support the collaboration and integration of services. We found that there are mixed views on the benefits of WASPI. Although Information Compliance Officers are generally positive about its benefits, members of Corporate Management Teams and Heads of Policy saw it as less helpful.

2.9 We also identified several issues of concern. WASPI has been in place for several years, but the size of agreements can be off-putting and need updating. Furthermore, whilst all major public bodies in Wales are signatories, a number commented that from their experience not all partners act in accordance with, or in the ‘spirit’ of, WASPI. Like much of the data protection legislation, some officers treat WASPI as another reason to block the sharing of data, rather than an enabler for sharing information, mainly because frontline staff are not always confident of their legal responsibilities and when to share data with others.

2.10 The nature of WASPI agreements are not in themselves particularly conducive to sharing because you have to be clear on what you want to access/ share, and how the data will be used, prior to setting up a data sharing agreement. Often, however, the benefits of sharing are not apparent until the agreement is in operation. Finally, ICT issues, including secure methods of data transfer and system compatibility, remain an ongoing challenge to sharing information for some and influence how well, or not, WASPI works.



**The biggest challenge to making better use of data is...**

“Possible infringement of data protection legislation”

**Operational Manager**

“Data protection – used as an excuse to prevent data being shared”

**Operational Manager**

“As staff are more aware of data protection they become scared of it and see it as a barrier to sharing – we need to promote data protection more as a means of sharing information within a legal framework and not as a barrier”

**Information Compliance Officer**

- 2.11 Even authorities who are using WASPI, and consider it to be working well, such as Denbighshire County Council, have taken the time to clearly set out and specify the personal information they can share, and this can take a long time to get right. It is clear, however, that some individuals will not share information if they do not feel supported to do so. There is no doubt that a strong message from leaders can make a difference. Problems with data sharing between public bodies has therefore practical, legal and cultural risks. Moreover, local authority staff have varying appetites for sharing their data, even in cases where mostly non-personal and non-sensitive data is involved.
- 2.12 With all of this in mind, do the benefits of sharing data with partners outweigh the risks? As one interviewee summarised the challenge, 'no one ever died by sharing too much data, but plenty of people have died by not sharing.' The consequences of not sharing information can be extreme, as judged by the findings of a number of high profile Child Practice and Serious Case Reviews<sup>11</sup> and Domestic Homicide Reviews<sup>12</sup>, which have identified weaknesses in information sharing that resulted in missed opportunities for intervention<sup>13</sup>. The findings of these reviews provide a persuasive case for sharing information in a balanced, reasonable and permissible way. Local authorities and their partners, who are on top of the legislation, can seek to mitigate potential risks and start to reap the benefits of using, integrating and sharing their data.

11 These are held after a child or vulnerable adult dies or is seriously injured under circumstances where abuse or neglect are thought to have been involved.

12 Domestic Homicide Reviews (DHR) are carried out when someone aged 16 or over dies as a result of violence, abuse or neglect by a relative, household member or someone they've been in an intimate relationship with. The DHR looks at the circumstances that led to the death to enable professionals to understand what happened and what needs to change to reduce the risk of something like this happening again.

13 For example, the February 2015 findings of the South East Wales Safeguarding Children Board Overview Report of children who died in a house fire in 2012.

## Part 3

Local authorities are not investing sufficiently in developing their data management capacity and analytics skills



- 3.1 Local authorities hold a vast resource of insight, intelligence and data that has the potential to drive efficiency, direct resource allocation and fundamentally improve the delivery of services. A mature local authority will use data to improve services and transform their organisation, and will have staff and Elected Members who are skilled and confident data users. Having good data analytical skills to inform and direct resource decisions is therefore a key component of a mature approach to using data.

Data analytics refers to the process of crosschecking, cleaning, reorganising and modelling data for decision making. Data analysts gather, arrange, process and model data from different sources to arrive at a conclusion. Analysts are capable of evaluating large volumes of data, be it structured or unstructured, and prepare and present data in the right form for decision-makers and to help solve problems. In the era of big data, data analytics plays a business critical role.

- 3.2 Local authorities, in general, do not have the right skills and capacity to manage data effectively. The weakest area and most significant challenge we identified is reducing resources and a lack of skills, especially in data management and analytics. Despite recognising that good quality and timely data is business critical for authorities, data is not consistently valued as a key resource similar to money, people and buildings.
- 3.3 Local authorities recognise that recruiting and retaining people with the right skills is an ongoing challenge. A number of interviewees noted that budget cuts are stretching resources and capacity, and authorities can sometimes struggle to maintain ICT skills. Local authority Heads of ICT and Policy are generally more negative about the adequacy of resources for data management projects, highlighting in particular insufficient capacity to maintain the integrity and accuracy of databases. Similarly, local authorities recognise they need to do more to identify their specific long-term future data and intelligence needs, and map resource requirements against these.



**The biggest challenge to making better use of data is...**

“Resources! More resources are required in terms of staff and technology to make the most efficient and effective use of data”

**Corporate Management Team Member**

“Resources – poor systems and inadequate resilience within staff group”

**Operational Manager**

“Lack of resources to manage and analyse data properly”

**Head of ICT**

3.4 Good practice in developing staff in this area does exist. Local authorities who exhibit greater levels of maturity in data management such as Newport City Council have integrated critical corporate functions such as information governance, business improvement and policy development. Newport City Council gauged existing data analysis capacity and identified roughly 50 employees who undertook data analysis as part of their day-to-day duties. As a result, the local authority is creating a central resource to develop and enhance staff skills and capacity to help embed data-driven decision making and generate greater insights into customer demand for services. Another example is the well-considered information management strategy produced by Conwy and Denbighshire Public Services Board (PSB) that focuses on building data skills and capacity – see [Appendix 3](#) for more details.

3.5 Documentation reviewed as part of our study work often highlights that data and information management policies are focused on ICT technology – computer hardware and software, cloud storage and integrated telecommunications – but not enough on improving data usage and analytics skills amongst staff. Whilst ICT infrastructure and the architecture that connects systems and data is important for data to be shared and interrogated, the capabilities and data literacy of local authority staff also need to be developed and improved. Too often, however, local authority staff are not being equipped to match the scale and pace of technological change and the demand for data analytics.

3.6 For example, we found little evidence of local authorities embedding data skills into their work force strategies, and poor levels of data literacy is a reoccurring theme from our data tool. Staff and elected members are often not confident in using the data that they have, in particular information from third parties. Some local authorities also see analytics as the function of data specialists and outside the core business of managing and delivering services.



**The biggest challenge to making better use of data is...**

“Reductions in staffing levels and skill gaps – specifically staff with good knowledge and understanding of different software systems used for data management”  
**Operational Manager**

“Having the resources to capture and then analyse data to create information needed to secure sustainable quality services”  
**Corporate Management Team Member**

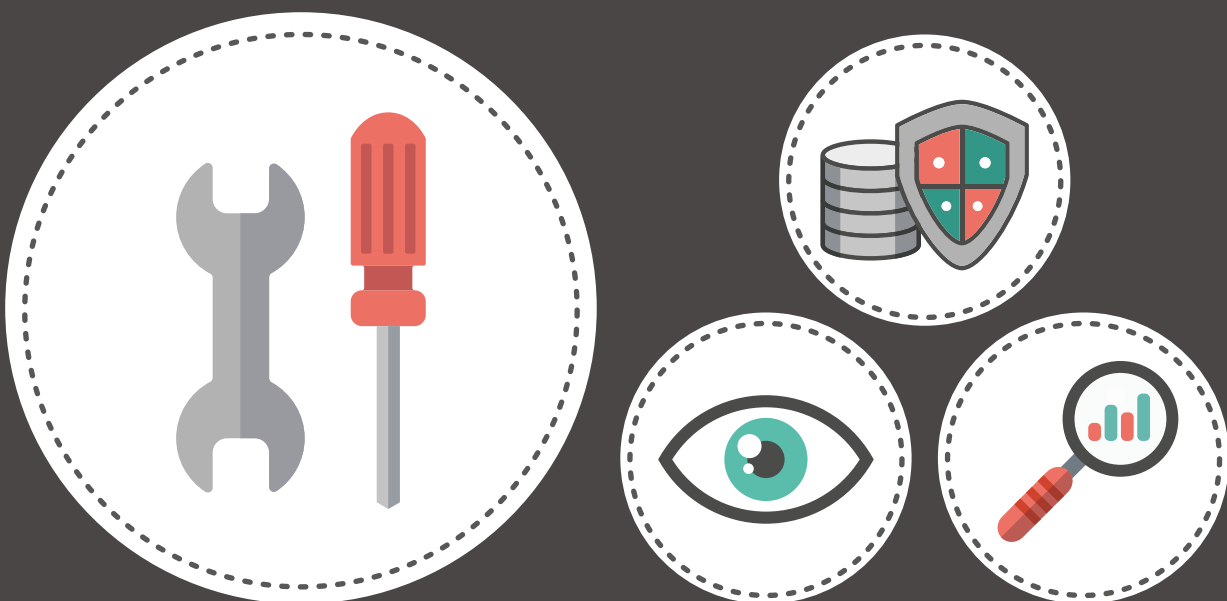
“Understanding of the power of data, the skills to make good use of data”  
**Elected Member**

“Resources and skills shortage in data analytics”  
**Head of Policy**

“Resource to maintain data to appropriate levels of accuracy and updating to reflect those elements that have changed”  
**Operational Manager**

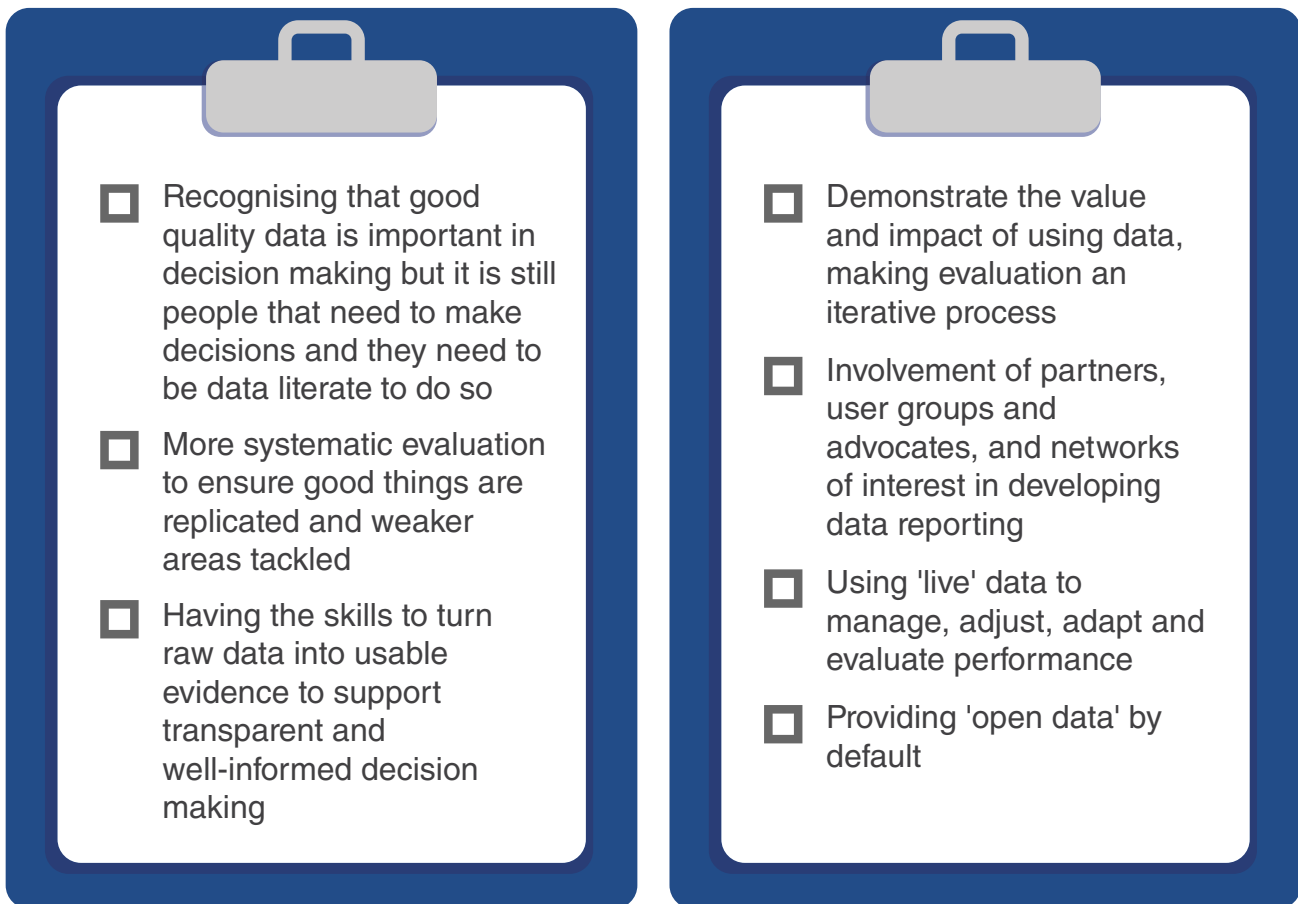
## Part 4

Local authorities use data to manage performance, but gaps and weaknesses mean that decisions are not always based on a full range of evidence



4.1 Data-driven decision making is an approach to governance that values decisions that are underpinned by verifiable data. However, the success of the data-driven approach is reliant upon the quality of the data gathered, the effectiveness of its analysis and interpretation, and the processes established to judge impact and performance. **Exhibit 6** summarises the key conditions of a mature local authority with data-driven decision-making culture that we have identified from our study.

#### Exhibit 6 – Creating a 'data-driven decision-making' culture



Source: Wales Audit Office

## Analysing performance is often limited

4.2 The fundamentals of good and mature approaches to scrutinising local authority performance have not changed, and reviewing the wide range of available data to judge how well services are performing is critical. The findings of our study highlights some long-standing weaknesses in the effectiveness of local authority scrutiny arrangements remain. The quality and trustworthiness of data remains a concern, especially linking up and drawing evidence from multiple sources. Stakeholders such as research bodies and service user groups we interviewed have generally negative views about the quality and accessibility of local authority performance reporting. Interviewees noted poor use of benchmarking, and a focus on internal rather than external audiences in reporting, which makes it hard for service users and citizens to judge how local authorities are performing.

4.3 Some Elected Members noted that the information they receive is often limited in coverage and does not provide sufficient insight for them to be able to challenge performance. Others noted that repeatedly officers overburden scrutiny committees, providing lots of information but little useful evaluation and analysis of the salient issues. We also found a minority of Elected Members raising concerns that the information they receive is ‘manipulated’ or only partial in coverage to avoid bad news and further scrutiny.

4.4 Stakeholders we interviewed echo these views, commenting that they have concerns that the data used to justify decisions is not robust nor reliable. For example, the limitations in the data used in equality impact assessments, an issue we have repeatedly flagged in our most recent national audit work<sup>14</sup>. Accurate reporting and effective balanced scrutiny are fundamentals of good governance. To build public trust in data, it is essential that local authorities report transparently and accurately, and Elected Members ensure they act responsibly in challenging services and scrutinising performance.



### The biggest challenge to making better use of data is...

“Getting members to understand the data. As a Cabinet member I come before Overview & Scrutiny and I do not get questioned as I should be because members either have not read the reports or do not understand them”

**Elected Member**

“The authority is very selective in the data it shares with members and can be evasive when more detail is sought”

**Elected Member**

“Knowing how to distinguish between useful and less useful data and knowing what to do with it to measure performance and drive change”

**Elected Member**

14 See the Auditor General’s reports on **How Local Government manages Demand – Homelessness and Housing Adaptations**.

## Local authorities are increasing the amount of open data they publish

- 4.5 Open data is an important characteristic of data maturity, and making information available in real time can assist a wide range of organisations to develop new businesses and services. Open data can enable better data sharing across organisations and geographical areas. However, whilst open data supports transparent decision making, we found there is still a way to go to convince some that open data is an opportunity and not a threat. For instance, some Elected Members and local authority officers raised concern that open data can make some aspects of their professional judgement redundant.
- 4.6 The perception by some user and advocacy groups we interviewed is that local authorities are taking small steps in the right direction to use open data to encourage the development of new products or services to meet customers' needs. Stakeholders think that open data only works where local authorities can create demand for it and there is local pool of educated/skilled applicators. Third sector and representative bodies that we interviewed think there is a major skills deficit in maximising open data at this time in many areas of Wales.
- 4.7 Notwithstanding this, the availability of open data is increasing. Examples include customer-facing work in Newport such as the **My Newport**<sup>15</sup> information portal containing detailed ward profiles. Torfaen County Borough Council make open data available through their website and **MyCouncilServices**<sup>16</sup> portal, covering food hygiene ratings, locations and condition of ancient monuments, locations of authority assets such as grit bins, and school catchment areas. South Wales Police are using a neighbourhood **YourArea** section to inform people about crime and events in their area, and to gain feedback. Each page includes future meeting details, local priorities, details for every local officer and PCSO, and a link to the Police.uk page which provides crime statistics published by the Home Office. Camden's **Open Data portal**<sup>17</sup> and **Open Data Charter** is particularly innovative. See **Appendix 3** below for more details of good practice.



### The biggest challenge to making better use of data is...

“I think open data is a big opportunity for all Councils to improve engagement with their residents, & to minimise the increasing trend of FOIs. Data is a resource & could be an income generator too”

**Elected Member**

15 See [newport.gov.uk/iShare/mynewport](http://newport.gov.uk/iShare/mynewport)

16 See [torfaen.gov.uk/MyCouncilServices](http://torfaen.gov.uk/MyCouncilServices)

17 See [opendata.camden.gov.uk](http://opendata.camden.gov.uk)

## Decision making is not always driven by effective analysis or evaluation of data

- 4.8 Data-driven decision making is a key element in the maturity of local government in use of data. Our criteria for a local authority with high levels of data maturity are set out in [Exhibit 3 \(Paragraph 9](#) on pages 9, 10 and 11), and suggests the highest level of maturity exists where data-driven decision making is well established and accepted as the ‘way to do things’. An organisation that embodies a mature approach to data-driven decision making has some important characteristics. It is derived from, and built on:
- clear leadership;
  - robust policies, systems and processes;
  - adequate resources and evolving skills; and
  - good analysis, reporting and evaluation.

Our work shows that all of these conditions are required, and are linked and mutually supportive.



### The biggest challenge to making better use of data is...

“Any performance indicators which are described as good seem to be because the Council is doing a great job, while those which show them not doing well we are told other local authorities submit information in a different way or because of a lack of finance”

**Elected Member**

“The data, especially that relating to schools’ performance, is often unreliable and is frequently presented to members without being subject to any statistical tests”

**Elected Member**

- 4.9 From our fieldwork, we found that, universally, Elected Members, officers and stakeholders, recognise that data can help local authorities set priorities and make better choices when planning initiatives to deliver desired outcomes. However, most authorities are only just starting to get to grips with all the data they have, and all the ways they could use it to improve decisions and outcomes. Overall, we conclude that local authorities still have some way to go in creating a data-driven decision-making culture.
- 4.10 We found that authorities are not always taking the opportunity to link data sets to build up analysis and deliver more focused insight, especially linking cost and performance data to understand the cost of core activities, such as determining a planning application or collecting a rubbish bin.
- 4.11 Our examination of all 22 local authority corporate plans finds some common shortcomings. Overall, benchmarking, comparative data analysis, and forecasting is weak. Comparative information and data is limited with few comparisons with other areas and with comparable organisations outside of Wales. For example, there is limited predictive analysis<sup>18</sup>, which encompasses a variety of statistical techniques to model current and historical facts to make predictions about future scenarios. Likewise, few authorities noted the use of data mining<sup>19</sup> or segmentation analysis<sup>20</sup>.
- 4.12 Generally, local authorities continue to focus on historical management information, and agree that not enough analysis is undertaken on projecting demands or estimating longer-term trends in performance. The ability to compare with others and to look ahead are important management tools, but local authorities' limited capacity and insufficient skills in data analytics limits the potential for using data to model and transform services.

18 Predictive modelling helps to capture relationships among many factors to allow an assessment of risk or potential associated with a particular set of conditions. Predictive models uncover patterns in historical and transactional data to identify opportunities for decision makers

19 Data mining is the process of discovering patterns in big data to extract information into a comprehensible structure for further use.

20 Segmentation is the activity of dividing a market, normally consisting of existing and potential customers or service users, into sub-groups (segments) based on shared or common characteristics such as needs, common interests, similar lifestyles or even similar demographic profiles to identify potential growth to be able to plan for change and better target responses.

- 4.13 We found some examples of local authorities analysing data to improve services and make better-informed decisions. For example, Swansea City and County Council has analysed the coordination of employment services, and as a result has rationalised and refocused its efforts to support job creation. Likewise, Denbighshire County Council is using data to provide insight on citizens' needs when considering library opening times and in designing efficient waste collection routes. Likewise, Torfaen County Borough Council analysed its data on blockages in foster caring, and used social media and recruitment campaigns to increase the numbers of foster carers.
- 4.14 A consistent message from our fieldwork is that one of the biggest challenges is to make better use of 'live' data to both manage services but also evaluate performance. Unlike emergency services, such as the Police and Fire and Rescue services, who increasingly rely on live data to direct resources and quickly respond to emergencies, local authorities only occasionally use 'live' information (for example, social media feedback) to adjust service delivery and optimise performance. Similarly, whilst authorities use data to manage and decide on resources, financial reporting is often not agile enough to make real time decisions because of the time lag in producing budget data for decision makers. National policy makers echo these conclusions noting that there are some significant challenges in how local government can improve how it uses data<sup>21</sup>. We conclude that there is more for local authorities to do to create a data-driven decision-making environment which supports service improvement and transformation.

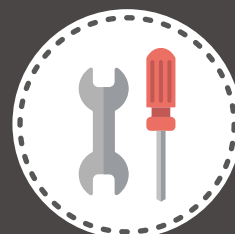
21 For example, the Welsh Government's [Digital Baseline of local authorities in Wales 2017](#)

# Appendices

Appendix 1 – Study Methodology

Appendix 2 – Glossary

Appendix 3 – Good practice in use of data



# Appendix 1 – Study Methodology

Data Tool – completed by all 22 local authorities covering Corporate Management Team, Operational Managers, Heads of ICT and Policy, Information Compliance Officer and Elected Members. The responses to our Data Tool are set out below:

<b>Respondent Groups</b>	<b>Number invited</b>	<b>Number responding</b>	<b>% responded</b>
Corporate Management Team Members	203	94	46%
Elected Members	1,259	295	23%
Operational Managers	851	434	51%
Information Compliance Officer	22	13	59%
Head of Policy	22	14	64%
Head of ICT	23	14	61%
<b>Total</b>	<b>2,380</b>	<b>864</b>	<b>36%</b>

National interviews with leaders in use of data: Nesta UK, Nesta Wales, Information Commissioner's Office (ICO), Welsh Government Chief Statistician, WLGA, Ofcom, Google UK, Satori Lab, Pinacl Solutions, Alliance for Useful Evidence, UCL Centre for Data Science, StatsWales, Office for National Statistics, Greater London Authority, London Fire Brigade and Camden Council.

Interviews with user and advocate groups including: CVS Cymru, Carers Wales, Gypsies and Travellers Wales, Welsh Third Sector Statistics User Panel and Cardiff Citizens Panel.

Fieldwork at Denbighshire County Council, Newport City Council, Torfaen County Borough Council and the Vale of Glamorgan Council.


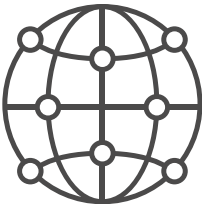
Review of use of data in Public Service Board Well Being Plans.



Sample survey of 750 members of the public across all of Wales about awareness of local authorities' use of information held about them.


## Appendix 2 – Glossary


- **Data** is factual information such as measurements or statistics used as a basis for reasoning, discussion or calculation that can be transmitted or processed.
- **Statistics** are numbers, data and information which are the underlying basis and evidence for decisions.
- **Information** is practical insight generated by practitioners to help make the best use of available data and knowledge for improving the execution of the organisation's mandate.
- **Intelligence** comprises the strategies and technologies used by organisations for the data analysis of information. The term is often used by the Police to track and predict crime with a view to preventing or curbing it.
- **Evidence** is often analysed data that can help decision makers understand what works, where, why and for whom. It can also point to what does not work, and can avoid repeating the failures of others by learning from evaluations of unsuccessful programmes.
- **Digitisation** means the facility for citizens and business to engage with a local authority over the internet, as well as for staff and elected members to carry out their responsibilities with new and emerging computer-based resources. It also means the ability for businesses and citizens to engage in online life with and beyond the local authority.
- **Data protection.** Personal data is information relating to an identifiable living individual. Whenever personal data is processed, collected, recorded, stored or disposed of it must be done within the terms of the Data Protection Act (DPA). The General Data Protection Regulation aims to give control to citizens and residents over their personal data and applies to data 'controllers'/'processors'
- **Sharing data.** The disclosure of data from one or more organisations to a third party organisation, or the sharing of data between different parts of an organisation see [ICO data sharing code of practice.pdf](#).
- **Big data** can give enhanced insight and aid decision making but can be difficult to analyse using traditional data analysis methods.
- **Open data.** Public services in Wales are putting more and more valuable data into the public domain, allowing citizens to find out more than ever about the performance of public services and hold public bodies to account.
- **Data analytics.** The process of crosschecking, cleaning, reorganising and modelling data for decision making.
- **Personal data.** Information relating to the racial or ethnic origin; political opinions, religious or other beliefs; membership or otherwise of a trade union; physical or mental condition; sexual life of a person and the commission or alleged commission of any offence or the disposal or sentence in any such proceedings by a court.


## Appendix 3 – Good practice in use of data

Key Characteristic	Good practice examples
<p>Leadership</p> 	<p><b>National data leadership</b></p> <p>Welsh Government’s Digital Action Plan 2017-2020 promotes data as a valuable resource and aims to provide leadership and more support to digital leaders across Welsh Government. The plan identifies the need to improve the way the Welsh Government operates by: Being where citizens are; Empowering Welsh citizens; and use resources efficiently by using digital to a provide step-change in its ability to achieve these goals. The plan provides a framework for achieving this and is based on having inspiring and confident digital leaders at all levels, new skills, and by involving people in the development of policymaking and legislation, and making data open by default.</p> <p><b>Developing data leadership into organisational transformation</b></p> <p>Carmarthenshire County Council’s Digital Transformation Strategy 2017-2020 recognises appropriate digital technology is needed for the council to save money and improve services by collaborating with partners and seamlessly sharing and using good quality data. The Council recognises that central to improving access to services and supporting the move towards the generation of more open data is building public confidence in robust information security that protects citizen and business data from misuse and cyber threats.</p>
<p>Corporate standards</p> 	<p><b>Capacity building to drive a more collaborative culture</b></p> <p>Digital Flintshire 2017-2022 outlines how Digital Information and Technology will be used to support the County Council’s Improvement Priorities and strategic plans over the next five years. What makes Digital Flintshire different from other strategies is the focus on improving the local digital infrastructure, and in ensuring customers have the digital skills to access services and information online. This includes working with local training providers, partners and the third sector to identify and deliver effective customer training to ensure take up of digital services and support inclusion.</p>

Key Characteristic	Good practice examples
<p>Integrated customer data</p> 	<p><b>Single ‘Gateway’ to local authority services</b></p> <p>In 2013, the London Borough of Camden developed a Residents Index (CRI) uniting information from multiple council data sources to create a single, consistent view of residents across the borough and the council services that they are accessing. Camden, like all local authorities, was under pressure to deliver cost savings, whilst at the same time delivering continuous improvement to its service levels and meeting its social objectives. To address these challenges, Camden decided to unite previously siloed information into a 360-degree view of residents’ service engagement.</p> <p>Camden realized that adopting a ‘systems thinking’ approach could help it ensure that residents who registered their details with one service – for example, housing – would not need to give the same information again to other services. Similarly, the council wanted to empower its own staff to work more efficiently by automatically gathering information from other departments.</p> <p>There have been several positive outcomes from the creation of the CRI, including:</p> <ul style="list-style-type: none"> <li>• helping to identify cases of illegal subletting of council housing and in identifying cases of school admissions fraud, thus ensuring that valuable resources go to the residents eligible for them;</li> <li>• enabling the Electoral Services team to maintain an accurate register of electors in the borough. The CRI could validate 80% of data from the electoral roll (which is higher than the 50% rate of the Department for Work and Pensions, which usually validates the council’s electoral data); and</li> <li>• providing critical information to support the council’s Multi Agency Safeguarding hub to identify changes in the composition of households of vulnerable children.</li> </ul>
<p>Data protection</p> 	<p><b>Safe and secure data sharing</b></p> <p>The Conwy and Denbighshire Local Service Board (LSB) has developed a range of information and policies to encourage safe and secure data sharing amongst constituent partners. The PSB has built on the previous work of the Local Services Board and an Information Strategy and Information Sharing Toolkit will be updated. Training material focuses on lawful data sharing including the Wales Accord on the Sharing of Personal Information (WASPI) and the development of a range of information sharing protocols and products. The PSB is more able to demonstrate how it has used good quality data to derive its strategic priorities for Good Mental Well-being for All Ages; Community Empowerment; and Environmental Resilience. A realistic discussion about the PSB’s role was agreed which is to provide leadership and scrutiny within existing structures, rather than manage projects and integrate services delivery.</p>

Key Characteristic	Good practice examples
<p data-bbox="135 501 304 533">Data analytics</p> 	<p data-bbox="408 501 874 533"><b>Using data to target prevention work</b></p> <p data-bbox="408 551 1321 927">Mid and West Wales Fire and Rescue Authority (FRA) is preventing arson fires and anti-social behaviour by gathering, sharing and using data and intelligence to target their work in priority areas and locations. The FRA collaborates with partners such as the police and council social services to share data to ensure effective targeting of efforts. Data on the cause of fire is captured through the national Information Recording System (IRS). This data is analysed to ensure that intervention activity and future safety messages reflects the risks of fires occurring. For example, with written guidance on hoarding and on giving tailored safety advice to the Gypsy and Traveller Communities. Information from the FRA's Data Portal is analysed at monthly management and station meetings to monitor the number of incidents, injuries and fatalities and to plan resource accordingly.</p> <p data-bbox="408 945 1145 976"><b>Using data to build shared capacity and make efficiencies</b></p> <p data-bbox="408 994 1321 1276">Dyfed Powys Police is improving the way it uses data to improve asset management. A wide range of incident and demand data is used to pinpoint optimum locations for police stations. Police officers can look at crime and performance data on a county, ward and beat level. Data sets are also increasingly being combined, for example in integrating cost and performance information to understand performance and re-direct resources. As a result, investment is directed towards the most suitable assets and opportunities are pursued in collocating police stations with fire stations, and to create specialist hubs of police expertise.</p> <p data-bbox="408 1294 724 1326"><b>Improving data analytics</b></p> <p data-bbox="408 1344 1321 1787">Dyfed Powys Police is increasing its capacity and capabilities to understand and analyse data more effectively. Examples include analysing data to close some outdated police stations, to co-locate police stations with fire stations, and to create specialist hubs of police expertise. Senior managers look for the peaks, trends, and forecasts in demand to allocate resources. Data sets are increasingly being combined, for example in integrating cost and performance information to understand performance and re-direct resources. Data mining is improving and for an increasing number of data sets, police officers can look at crime and performance data on a county, ward and beat level. Analytical data is now aligned to operational matters, such as safeguarding and domestic abuse. Using data to profile organised crime and fraud is helping direct specialist resources such as scientific support and cybercrime. Dyfed Powys Police see themselves as a data hungry organisation and recognise where they need to do better.</p>

Key Characteristic	Good practice examples
<p>Data-driven decisions</p> 	<p><b>Data driven decision making to mobilise resources</b></p> <p>London Fire Brigade (LFB) operates from more than 100 fire stations across London, and is the busiest fire and rescue service in the UK. LFB developed a Dynamic Cover Tool (DCT) with a private sector provider to assist decision making in emergency service control rooms. The DCT helps to improve incident and risk coverage and ensures resources are used as efficiently as possible. Dynamic cover is the process of relocating available resources to maintain appropriate standards of risk and response cover across an area. DCT software provides a real-time visual aid to support the emergency control officer in moving emergency response vehicles.</p> <p><b>Integrating data to improve insight and plan strategic responses</b></p> <p>The Greater London Authority GLA is promoting the development and use of open data. The GLA see the greatest opportunities for open data are in modelling of extreme weather, predicting demand for natural resources, improving air quality monitoring, parking space utilisation, improving information on public transport connections, and on the availability of housing and community assets. Early GLA data open projects included tackling the problems of unlicensed housing in multiple occupations (HMOs), and in reducing the numbers of gambling premises in parts of London with particularly vulnerable people. The GLA is now moving away from its Borough Data Partnership to a data hub based on San Francisco's Data Academy See <b>Data Academy</b> aimed at improving consistency and quality of data sharing, data management, visualisation, analysis and data skills.</p>

Key Characteristic	Good practice examples
<p>Open data</p> 	<p><b>Using open data to build community capacity and drive economic wellbeing</b></p> <p>Data Mill North is a collaborative project originally set up to tackle the challenge of increasing demands and decreasing resources in Leeds. The aim is to enable people and organisations to explore the different complex relationships between the city’s services and businesses, by collecting open data from multiple sources in a single hub, offering a greater insight into the workings of the city than ever before. The project’s three top priorities are to visibly improve health &amp; wellbeing, drive more housing growth &amp; standards and improve travel &amp; transport infrastructure. Data Mill North is now the single repository in the region for all public services to share data, insight and intelligence on a wide range of topics including local public services, detailed business and economic performance, adult education, and a high number of datasets and sources of housing information.</p> <p>The project founders are supporters of the Open Data Institute HQ which was established in November 2013. ODI Leeds works to bring social, environmental, and economic value in Leeds by improving data literacy and skills development. To date the project has hosted 668 events, raised an additional £883k in funding and helped 228 people find better paid jobs. All data sources in Yorkshire are currently being mapped – including the private, public and voluntary sector.</p>



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