



Data Management and Insight Strategy

2021 | 2023

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1. Introduction

Foreword by The Assistant Director for IT and Digital

Data is now the driving force of the world's modern economies. It fuels innovation and has been a lifeline during the coronavirus pandemic. The fact that the Council has been able to share vital information quickly, efficiently and lawfully during the pandemic has not only saved countless lives, but has enabled us to work from home, keep the economy running and stay connected during a period of unprecedented disruption.

We recognise the value of data, both our own and that held by other parties and partners: government departments, public authorities, schools, local businesses and industry, academia, social media and much more. We recognise the power and the promise of data to improve outcomes for the County's citizens and society in general in many areas by increasing efficiency, transparency and access to information. We recognise that data can help us safeguard the public and provide them with the best available information about services the Council has to offer.

We consider data to be the fundamental enabler of our ability to deliver our key strategic outcomes and public information.

The Council therefore commits to using data to its fullest potential by attaining the highest possible standard in information and data management, by becoming data driven in its decision making, making best use of data in order to fulfil our key business intelligence objective to create wisdom and knowledge, and by promoting innovative approaches to data usage.

The Data Management and Insight Strategy states our ambition to improve data use in the Council, seeking to use data to innovate, boost productivity and improve services to deliver the wider strategic outcomes of our organisation. Data management is a key enabler for the successful operation of the Council (potential to link to new Corporate Plan and performance framework).





Purpose

Information comes in many forms; policy documents, minutes, statistics, operational data, case files, personal data, and research papers. It is held in a variety of physical and electronic formats, it can be structured or unstructured. Across the Council we use this information in our daily working lives as we work to achieve our objectives, whether it be delivering services, formulating policy, managing projects, holding meetings, or managing staff.

We recognise the importance of data for our organisation and will embark on a journey to increase our understanding of how to best use data to achieve our strategic goals and needs. We will develop a process for building an advanced and sustainable capability for information and data management.

Over the coming months we will significantly advance our awareness of data issues and build strong foundations for information management and governance. This will generally improve our data capability. However, we are already aware of the many issues that we currently have with our data which persist due to the legacy of old technologies, processes, and approaches.

Many areas of our data ecosystem are in need of significant improvement. At times, the poor quality of data on collection creates unnecessary challenges and problems throughout its lifecycle. This reduces the use of data as people do not trust

it, which translates into higher costs of data processing and more effort being needed for data collection and management. Subsequently the value of data is lost: data does not yield much return on investment; it is difficult and time consuming to produce meaningful business intelligence; we are not aligned with good practice; and places the Council at risk of regulatory enforcement e.g. in terms of Personal Data with the Information Commissioner.

Inconsistent, incomplete and duplicated data sources are used for decision making – potentially negatively impacting the quality of these decisions and introducing business and reputational risk.

As well as risks, poor data quality also creates missed opportunities (e.g. with respect to supporting business and growth or income generation from services). We are less effective than we otherwise could be, as we find ourselves prevented from using existing data to its full capacity and from taking advantage of exploiting new data sources (e.g. the Internet of Things) and new analytical approaches (such as Artificial Intelligence, Machine Learning, Predictive Analytics etc) to their full power.

There are also cases where an abundance of data is not correctly managed or disseminated; sometimes due to technical limitations or the result of an over-cautious approach (through a lack of understanding) to data sharing and protection.

Teams dealing with data are also fragmented and not necessarily communicating and sharing efficiently. Clarity over which tools should be used also contributes to the inefficient use of data and information.

It is important to recognise that the work described in the Data Management and Insight Strategy will need to be undertaken in alignment and in collaboration with the Digital Strategy, the ICT Strategy and the Information Governance Strategy, and Business Intelligence Strategy. Some of the effort will have to focus on designing and building the right technical infrastructure to support development of the overall data capability within the Council.

This has implications for the ICT Strategy in terms of the technology platforms and tools which will need to be built or procured and then supported. Therefore a close and on-going dialogue with the IT and Digital function is required to align the work on the data infrastructure and to consider all the related dependencies, opportunities and risks.

For these reasons the Council needs an ambitious and game changing Data Management and Insight Strategy. It must identify its needs and goals, focus minds on outcomes it wishes to achieve using data and provide clear guidance. Data principles need to be agreed

to inform priorities and decisions taken around actions and plans. The Data Strategy needs to reiterate commitments, re-state goals and map out a clear path and action plan to achievement.

The Data Management and Insight Strategy will help everyone in the organisation understand the value of data and their part in making the Council data driven – making them more aware about the value of data and enriching their own work.

This document has been drawn up in consultation with senior managers across the service, under guidance from the Strategic Director of Commercial and Change and informed by the Corporate Plan. This has determined what currently works well, where there are problems, and what data and information systems are required for the future. The consultation identified areas of strength in what we already do as a Council and a data ambition to develop the Council's data management in ways that match customer expectation.

The delivery of this Strategy will fall under the overall control of the Assistant Director for IT and Digital who is responsible for ICT activity across the Council. Progress on the implementation of the strategy will be overseen by the IT and Digital Leadership Team.



Executive Summary

Better use of data has an important role in enabling the Council to succeed. It can support the delivery of existing services, and it can be used to create entirely new services. It is a driver of innovation, and central to the delivery of a whole range of vital public services and societal goals, from tackling climate change to supporting the national health service. Robust data sources are vital to the creation of meaningful and reliable business intelligence, which aims to inform and influence decision making.

On an individual level, the use of data benefits us every day – from the lives saved due to data-driven medical discoveries, to personal budgeting, understanding how much we have exercised and identifying better transport routes.

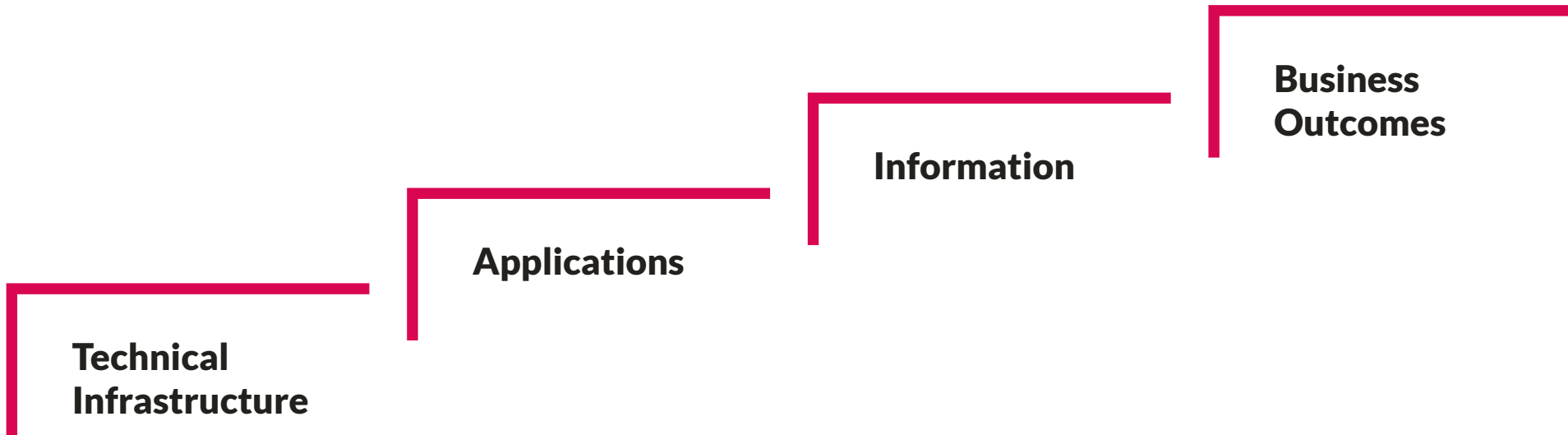
The last five years has seen huge technological changes, and the Council needs to respond accordingly. It needs a data strategy that reflects the opportunities and challenges of our new digital world, one that ensures it understands the priorities and potential trade-offs of data in a deliberate and evidence-based way, and, above all, one that drives growth in the economy and powers our recovery from the coronavirus pandemic.

This strategy looks at how we can leverage existing strengths to boost the better use of data across the Council, specifying how we will value our data and manage it to support the Council's business outcomes and to create value for the public and for ourselves.

The Data Management and Insight Strategy expresses our intent to create a strong organisational data culture and to make the Council data driven.

We will put data on the organisational agenda and promote data literacy, data driven decision making and positive attitudes towards data. We will be advocating to senior management that data utilisation targets must be a part of our overall performance measurement. Visual methods and story-telling should be used to promote data success stories and to highlight further opportunities for positive outcomes and the impact which can be enabled by data.





It is understood that in order to achieve these goals we need to build a modern data capability within the Council and to support and encourage data analysts to create even more powerful insights from data. We need to develop further our data science expertise and find opportunities to deploy advanced analytics and to increase its impact. We also need to increase the overall data literacy across the Council and equip the workforce with the skills to engage with data and use it more effectively in their work.

We need to guarantee that our data and information continues to be effectively governed and protected by ensuring our policies, processes and skills remain current and fit for purpose. But we also need to innovate with data and collaborate with our partners to create better insights and information.

We need to expand our pro-active and automated publishing of data as Open Data, striving to achieve our ambition of most of our data being openly and regularly published – promoting re-use of our data by external organisations and ourselves in a reusable format. Furthermore, we must join this up to wider Council services to realise efficiencies and savings – including in the processing of Freedom of Information requests etc.

To make sure that we attend to all these needs, our Implementation Plan will create a list of foundational tasks and show how we will work with our colleagues across the Council to improve the understanding of our data needs and how we will architect and build a modern data infrastructure to meet current and future needs. This will join all strands of our data work and links them into a coherent programme. The Implementation Plan will specify how we will enrich our data estate through development of our own datasets and the reuse of trusted data from external sources. It reiterates our commitment to the proportionate and appropriate data processing in line with data protection principles, the law and our own strong stance on data ethics.

This will enable us to build a strong platform for the execution of our ambitious data strategy and achieve wider organisational outcomes.

The Data Management and Insight Strategy shows how we will strengthen our data practice – enhancing our capability in data science, data architecture, data governance and other relevant data disciplines and ensuring that we have the technology, tools, processes and skills to deliver relevant data for our organisation, our partners and the public.

We will continue to champion Privacy by Design, transparency, advocating Open Data and promoting strong communities of data consumers interested in working with us to create value from our data and using it to increase positive outcomes for everybody.

The levels of technology required to support the corporate business strategies are: the underlying ICT infrastructures (computers, servers, network and other hardware); use of corporate and line-of-business software solutions; together with robust information governance management, security and the optimum use of Business Intelligence tools. Together these layers provide an ICT infrastructure that enables location independent working, gives staff and partners ready access to the tools and information necessary to do their jobs, efficiently exploits information as a corporate asset and will facilitate self-service by staff and customers to drive down our operating costs.

This strategy will focus on key priorities for action across all layers of the technical infrastructure to support the Council in its continued drive for efficiency and transformation.



Linked Strategies & programmes

The Data Management and Insight Strategy has been written to align with and complement our national, organisational and partner strategies to deliver a whole Council approach, as listed below:

- ◆ UK Digital Strategy
- ◆ National Data Strategy
- ◆ Building Digital UK (BDUK)
- ◆ Corporate Plan - Shaping Worcestershire's Future
- ◆ Strategic Economic Plan / Local Industrial Strategy
- ◆ WCC Digital Strategy 2021-2023
- ◆ WCC IT Strategy 2021-2023
- ◆ WCC Information Governance Strategy 2021-2023
- ◆ Adults Digital Strategy
- ◆ Highways & Transport Strategy
- ◆ Worcestershire Library Strategy
- ◆ Hereford & Worcestershire Sustainability Transformation Partnership Digital Strategy
- ◆ Integrated Care for Older People in Worcestershire Strategy
- ◆ Smart and Green - Green Alliance

The Council has several cross-cutting transformation programmes currently in progress or in the early stages of development:

- ◆ Digital Transformation Programme
- ◆ Re-Imagined Front Doors & Customer Management Strategy
- ◆ Organisation Transformation Programme
- ◆ Social Care Case Management Phase 2
- ◆ Economy and Infrastructure Technology Programme
- ◆ People Technology Programme
- ◆ Worcestershire Children's First Technology Programme
- ◆ Digital Skills Programme (Public Health)
- ◆ Sustainable Transformation Partnership
- ◆ Business Intelligence Strategy



Legal & regulatory requirements

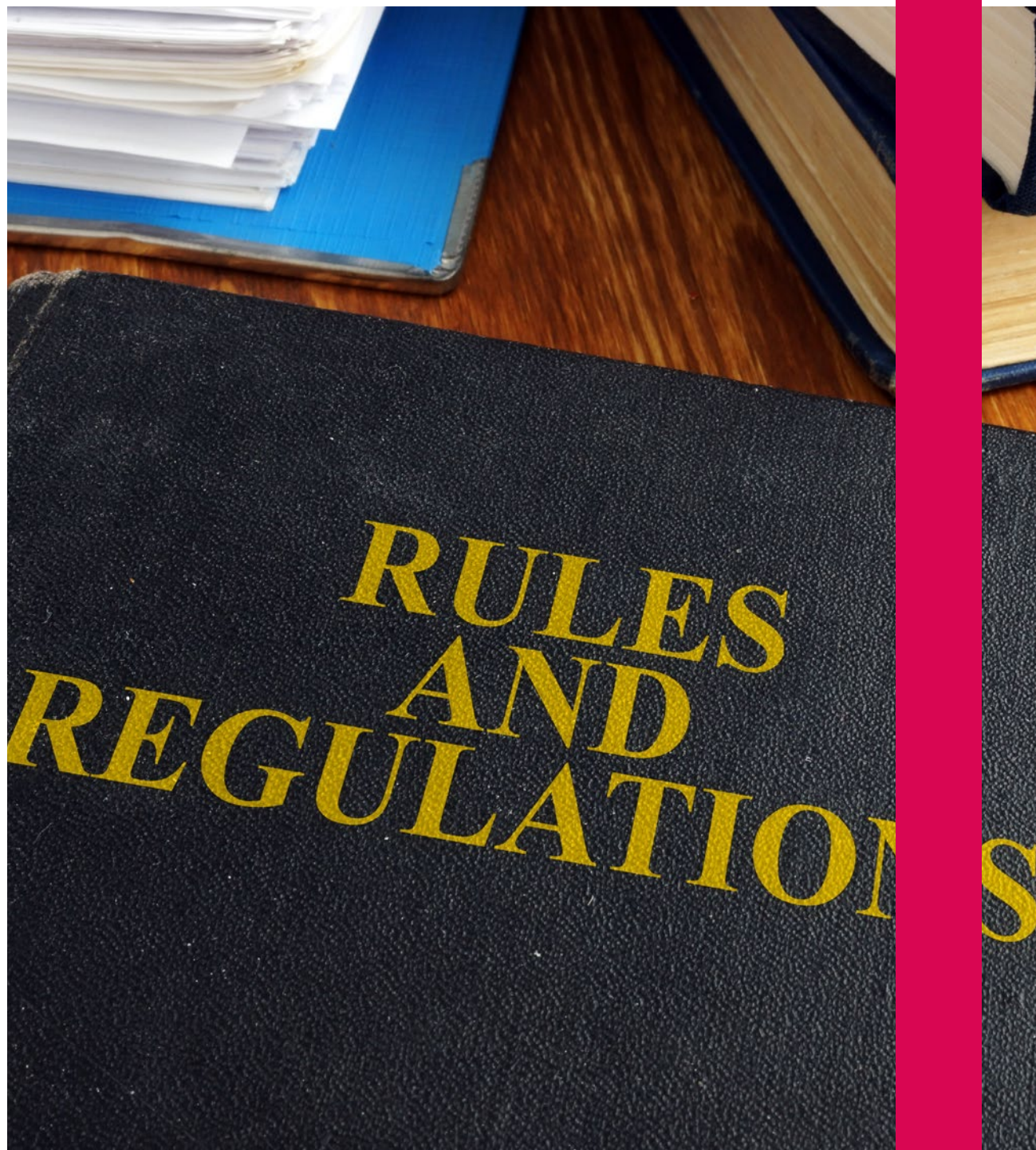
There is a legal framework under which we must manage the information we are responsible for. This includes, but is not limited to, the following:

- ◆ UK General Data Protection Regulations
- ◆ Data Protection Act 2018
- ◆ Digital Economy Act 2017
- ◆ Freedom of Information Act 2000
- ◆ Environmental Information Regulations 2005
- ◆ Re-use of Public Sector Information Regulations 2015
- ◆ INSPIRE Regulations, 2009
- ◆ Local Government Acts 1972, 1985, 1988 and 1992
- ◆ Public Records Acts 1958 and 1967
- ◆ Regulation of Investigatory Powers Act 2016
- ◆ Copyright, Designs and Patents Act 1988 and the Copyright and Rights in Databases Regulations 1997

In addition, there are many information requirements specified in legislation governing the provision of services to children, adults, and other council services.

National Data Strategy

This national strategy aims to build on the Government's manifesto pledge to improve data use in government and further. It seeks to maintain the high watermark of data use set during the pandemic, and to free up businesses and organisations to keep using data to innovate, experiment and drive a new era of growth. It seeks to harness the power of data to boost productivity, create new businesses and jobs, improve public services and position the UK as the forerunner of the next wave of innovation.





Opportunities

- ◆ Growth
- ◆ Jobs
- ◆ Public services
- ◆ Research
- ◆ Society

Pillars of effective data use

- ◆ Foundations
- ◆ Skills
- ◆ Availability
- ◆ Responsibility

Actions

- ◆ Unlocking the value of data across the economy
- ◆ Maintaining a pro-growth and trusted data regime
- ◆ Transforming government's use of data
- ◆ Ensuring the security and resilience of data infrastructure
- ◆ Championing the international flow of data

2. Where are we now

The Journey So Far

Worcestershire County Council has a mature approach to information governance with a dedicated team, the Corporate Information Governance Team (CIGT), to support the whole Council to manage and govern information effectively. There are developed systems and processes in place across the Council to manage access to information requests. Ownership responsibilities for information are designated to a network of Information Asset Owners and Data Owners so that information risks can be managed.

There are many areas of our data ecosystem which can be improved. Where poor quality data is collected we start from a low baseline and this persists through the data and information lifecycle. As a result, people do not trust the data they are given, and more effort is put into data collection and management. Value is then lost, data does not yield much return on investment, and does not provide accurate business intelligence. We are not aligned with good practice and at risk of regulatory enforcement e.g. in terms of Personal Data with the Information Commissioner.

Our organisation holds thousands of records that have accumulated over time and are not easy to search for or find. As a result, staff may have little knowledge about what useful data is held by other teams. In other cases, the existence of the data is known, but is too hard to use as records are in the form of free-text fields, old emails, and meeting minutes. Common quality issues include:

- ◆ Some of our records are only recorded on paper
- ◆ Some records are digitised, but in hard-to-analyse formats like PDF
- ◆ Data is recorded inconsistently, such “Smith Street” and “Smith Str”
- ◆ Data is inconsistently inputted into the correct data fields on systems
- ◆ Not all records about the same person or thing have a common unique identifier
- ◆ Lack of standardised naming conventions for records and files
- ◆ Data is often misspelt or misnumbered
- ◆ Some records are unknowingly duplicated
- ◆ Staff may not know where to store data

As well as risks, our poor data quality also leads to missed business opportunities (e.g. with respect to Supporting Business and Growth or Income Generation from Services). We are prevented from utilising existing data to its full capacity and are unable to take advantage of new data sources, (e.g. the Internet of Things) and new data methods (such as the Artificial Intelligence and Machine Learning) to their full power.

As a result, we are less effective than we otherwise could be. There are also lost opportunities from inefficient recording and transmission and use of data. Data is often handled manually; automation would save time and money.



Current Organisational Data Maturity

The Digital Team has substantial experience of handling and combining data and skills in extracting, transforming and loading data. Reports and datasets are produced for many areas of the organisation, and there is a correspondingly broad range of knowledge of Council business. Most reporting is done with SSRS, but other areas are increasingly using Power BI, although without much standardisation or control. Information is mostly provided using these tools by specialised teams; self service by managers is limited and mostly based on Excel. We do not have a data strategy. Currently, several interconnected issues prevent the best use of data in the Council. These are reflected in four key areas that we would like to focus on, which have been drawn from the **National Data Strategy**.

Priority 1 – Data Foundations

The true value of data can only be fully realised when it is fit for purpose, recorded in standardised formats on modern, future-proof systems and held in a condition that means it is findable, accessible, interoperable, and reusable. By improving the quality of the data, we can use it more effectively, and drive better insights and outcomes from its use.

- ◆ We have too many disparate data sets and do not have a consolidated single version of the truth. This can lead to poor outcomes for customers, poor decision making, difficulty, delays or additional costs in providing on-going services.
- ◆ We lack consistency in the way data is recorded within systems & across systems, leading to poor data quality (i.e. no data standards).
- ◆ We need to further increase our ability to share data internally and with key strategic partners.
- ◆ We do not have central records that are easily accessible that show what data exists within our services for example a master data management solution. The Information Asset Register holds some of the information required.
- ◆ We do not have a strong functional structure and clear division of responsibilities for the varied teams that control and process data.
- ◆ We do not always seek the opportunity to pseudonymise personal datasets at creation where it is reasonable and possible to do so.





Priority 2 – Data Skills

To make the best use of data, we must have a wealth of data skills to draw on. That means delivering the right skills through our e-learning system, but also ensuring that people can continue to develop the data skills they need throughout their career.

- ◆ Our community and businesses are not yet empowered to control how their data is used or supported to have the necessary skills and confidence to take active decisions around the use of their data.
- ◆ Our community does not always understand about data security and the legislation surrounding it, for example UK GDPR, which leads to an unwillingness to share any data.
- ◆ We do not always know how to collect data in the best way, making it harder to analyse to inform the best decision making, a lot of data is held within spreadsheets. The use (or potential) of data is not always fully understood or defined at the point of collection, meaning that opportunities to innovate, link, or analyse the data to create meaningful business intelligence are lost.
- ◆ We have suitably qualified staff in place to advise the Council.
- ◆ The Digital Team has substantial experience of handling and combining data and skills in extracting, transforming and loading data. Reports and datasets are produced for many areas of the organisation, and there is a correspondingly broad range of knowledge of Council business.
- ◆ Most reporting is done with SSRS, but other areas are increasingly using Power BI, although without much standardisation or control.
- ◆ Information is mostly provided using these tools by specialised teams; self-service by managers is limited and mostly based on Excel.

Priority 3 – Data Availability

For data to have the most effective impact, it needs to be appropriately accessible, mobile and re-usable. That means encouraging better coordination, access to and sharing of data of appropriate quality between organisations in the public, private and third sectors, and ensuring appropriate protections for the flow of data internationally.

- ◆ We do not always have access to real-time data to make informed decisions and do not have the culture of using real time data.
- ◆ We do not maximise use of our Information assets.
- ◆ There are further opportunities to share and reuse data with our public sector and private sector partners, whilst remaining sensitive to Data Protection requirements.
- ◆ We could further improve the quality of services and information that we are providing with more effective use of data.
- ◆ Staff are not always aware of the data that we hold.
- ◆ Staff need secure access to the data they need, at any time, from anywhere.
- ◆ We rarely initiate a service review or redesign with data considerations from the start.

Priority 4 – Responsible Data

As we drive increased use of data, we must ensure that it is used responsibly, in a way that is lawful, secure, fair, ethical, sustainable and accountable, while also supporting innovation and research.

- ◆ We do not always use data to deliver effective Council services.
- ◆ We are not fully aware of all the data that we hold and where it is stored therefore, we cannot be sure that we are using it lawfully, securely or responsibly.



3. Where we want to be

Our Vision

“We will provide accurate, relevant, timely and consistent data to anyone who needs it, who has authorisation to access it, in a cost-effective and efficient manner.”

For the public:

- ◆ Processing of personal data will be driven by Privacy by Design approach, pseudonymised data
- ◆ The public can easily find information on services they require online.
- ◆ We are open and transparent, and customers can make informed decisions on service choice, influence future services and hold the Council to account.
- ◆ When customers inform us of a change of circumstances, we automatically update our systems and share with other relevant public sector systems to avoid repeating the changes.
- ◆ We have integrated our services with personal data stores that put the control of key personal data where it should be – with the customer.
- ◆ Customers can access their own personal data and see the progress and outcome of service requests.
- ◆ Yet, we are conscious that not everyone is digitally enabled and digitally literate. We will support people who may struggle with digital access (e.g. through library services) to find the information and data that they need.

For staff:

- ◆ Data management principles and practices have been embedded in the organisation through training, culture and effective system design.
- ◆ We value customer data and protect it, so that personal data breaches are extremely rare.
- ◆ It is much easier to find the information we are looking for in our electronic filing systems because we describe our information effectively and have good tools for retrieving it.



- ◆ Management information is easy to access, through dashboards and through common reporting tools to inform policy and service planning. This should be as automated as possible / appropriate.
- ◆ Our automated business processes routinely collect performance information to support continuous process improvement and to help us manage our services more effectively.
- ◆ We use summarised and consolidated data to redesign, target and streamline our services.
- ◆ We have established a single source of truth for all our information assets, key staff and customer information is held in one place.

For our partners

- ◆ We share data to deliver a more streamlined service to the public and improve their outcomes.
- ◆ Data is regularly published for transparency to allow partners to plan services and organisations to deliver new services.
- ◆ The Council understands the data it holds and monitors and uses appropriate statistical methods where appropriate to identify e.g. common cause variation and special cause variation.
- ◆ Better coordination, re-use and sharing of data between organisations can also lead to better understanding of community and social issues, and of what interventions are effective in supporting those most at need.
- ◆ We connect to data sets collected by our partners to provide a 'whole' picture.
- ◆ When working with third parties, ensuring that a contract properly details what the rights and obligations of the data processor are, and what happens to the data at the end of the contract.



4. Delivering Our Priorities

Priority 1 – Data Foundations

- ◆ We will build strong data foundations with team responsibilities set out clearly, data sets joined up and data held and exchanged securely, as described by the relevant legislation and guided by our Information Governance.
- ◆ We will improve our understanding of data and its quality, ensuring we comply with legislation, and have strong processes for evolving our data.
- ◆ We will improve our use of data by ensuring we have the appropriate tools for using and sharing it and create Key Performance Indicators to ensure our data is being used and the quality is being improved.

Priority 2 – Data Skills

- ◆ We will ensure that staff fully understand the principles of data security and the legislation underpinning it.
- ◆ We will ensure our staff are trained and qualified in data collection and information dissemination to make the best use of data.

Priority 3 – Data Availability

- ◆ We will ensure that the right data is available to the right people, and only them, using a Privacy by Design approach.
- ◆ We will be as open as possible with our data, to encourage sharing, collaboration and wider use.
- ◆ We will work to ensure we make the best use of our data and information assets.

Priority 4 – Responsible Data

- ◆ We will ensure compliance with all relevant data protection legislation.
- ◆ We will use our data efficiently to improve services.
- ◆ We will ensure our data is accurate and that our use of it is transparent.





5. Delivering Change, Monitoring Progress and Measuring Success

Resourcing the Delivery

Funding for the Data management and Insight Strategy 2021-2023 will be incorporated within the existing IT and Digital revenue budget and capital programme, where possible, and drawn down based on costed business cases.

For specific business projects associated with the strategy, detailed financial analysis will be undertaken as part of the development of the implementation plan, which will include identification of funding and resources as appropriate.

Monitoring and Reporting Progress

It is essential we monitor progress and ensure that the work we are doing is delivering a tangible difference to our staff, members, residents, visitors, communities and businesses of Worcestershire. Therefore, this strategy will be supported by a robust implementation plan which will evidence the delivery of our priorities and will set out key milestones and achievements.

Progress in implementing the strategy and delivery plan will be reported to the Digital Transformation programme board on a bi-monthly basis. Progress will be reported to the Cabinet Lead for Commissioning, Finance and Transformation on a periodic basis, with the opportunity for ad-hoc progress reports as required.

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