

**Information
vision and strategy**
Connecting ourselves and
building trust



Foreword

At Highways England, we believe that better journeys connect people and build communities; that connecting families with places creates memories; that connecting workers with jobs creates opportunities; and that connecting businesses helps our nation thrive.

The strategic road network (SRN) is what makes these connections happen by providing safe, reliable journeys for our customers. Information is an important factor in helping the SRN to operate reliably. It is central to how we build trust and connect better with one another, our customers, stakeholders and suppliers.

The world is changing at pace. Emerging digital technologies and business innovations will affect the way we work now and in the future. These advances mean that data is everywhere, and our customers can consume information about our network that is out of our control. Companies like Google can create their own data about our network through their own technology. This means that their products such as Google Maps are displaying roadworks and incident information that is not created or governed by Highways England. Our reputation and right to exist depends on our ability to provide trusted information and services to the public, and by protecting and treating their information ethically every day.

Our aspiration is to become a great company, and we will only achieve this by doing things differently. We need to transform the way we handle, govern, secure and use data and information to build trust with our customers, stakeholders and communities.

Our directorates and suppliers hold lots of data, but it's not always as accessible or as useful as it could be because it is managed and contained in different systems. The consequences of this include additional costs, re-work and delays that creeps into almost every part of our business. You've told us that poor data and incompatible systems are very frustrating. So, we need to work together to remove the frustrations that affect your work, our people, their engagement and their well-being.

We have talked to hundreds of our colleagues to develop this information vision. You've told us that you want the company to be bolder and more innovative in its ambitions.

The information vision and strategy reflects this ambition and captures our excitement around a connected future; delivering our strategic priorities— that benefits our people, customers, stakeholders, society and the economy. And all of this enabled by information.

Our information strategy

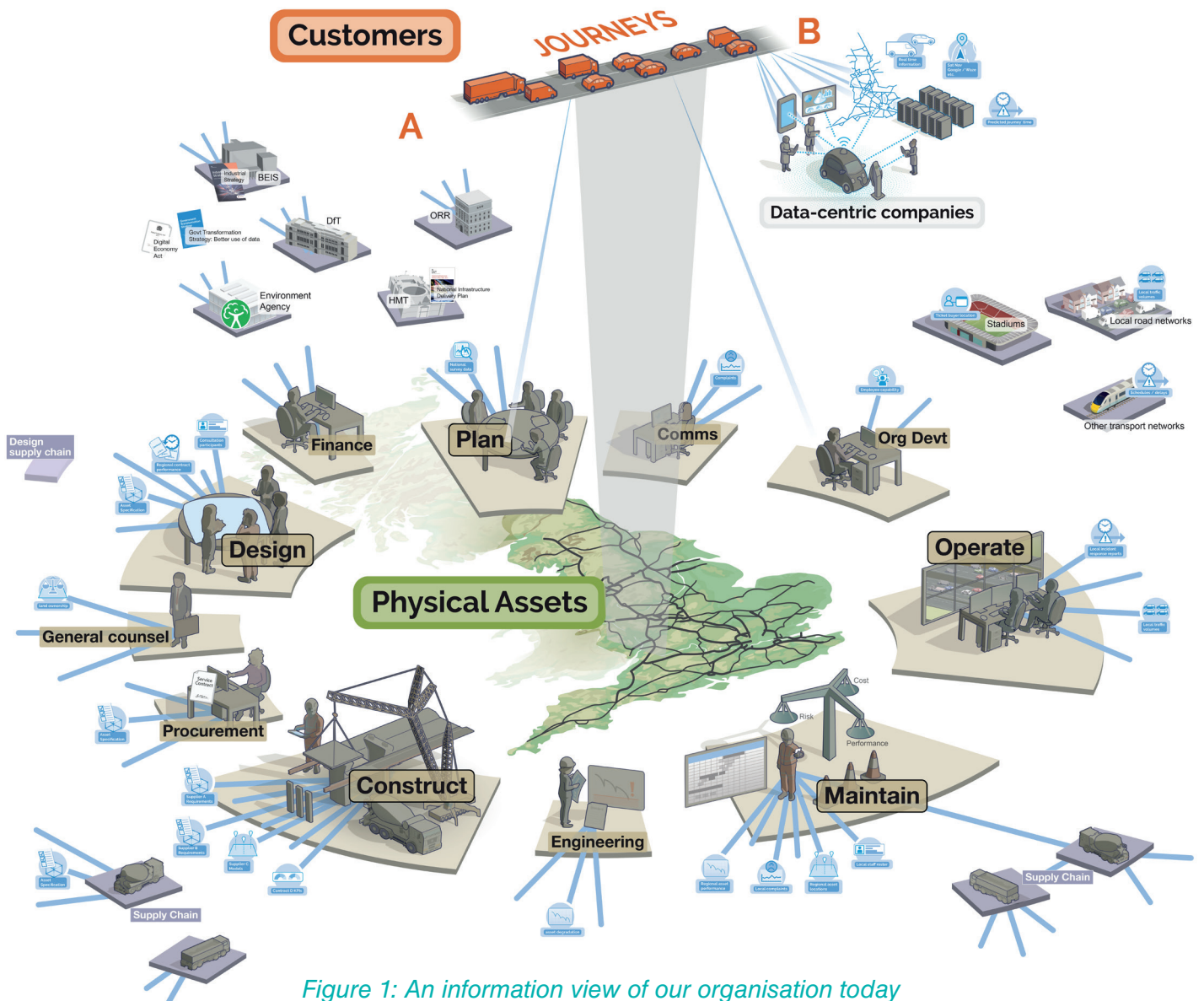


Figure 1: An information view of our organisation today

Our information strategy provides a framework for managing information to enable and deliver on our strategic imperatives. It describes how our information vision will be achieved to deliver value and realise the best possible return on investment.

Looking to the future, our 2050 ambition is to revolutionise the strategic road network to create a modern road network that supports a modern Britain.

To deliver our strategy, we will need to increase our data maturity; moving from where we were in RIS1, 'data-aware', to becoming 'data-proficient' as we deliver on our strategic business plan during RIS2, to 'data-driven' as we enter RIS 3. A maturity model has been developed to help us monitor our progress.

This change is being delivered through three activities:

1. Inspiring a data-driven culture
2. Providing data-to-intelligence services
3. Investing in data-driven capabilities

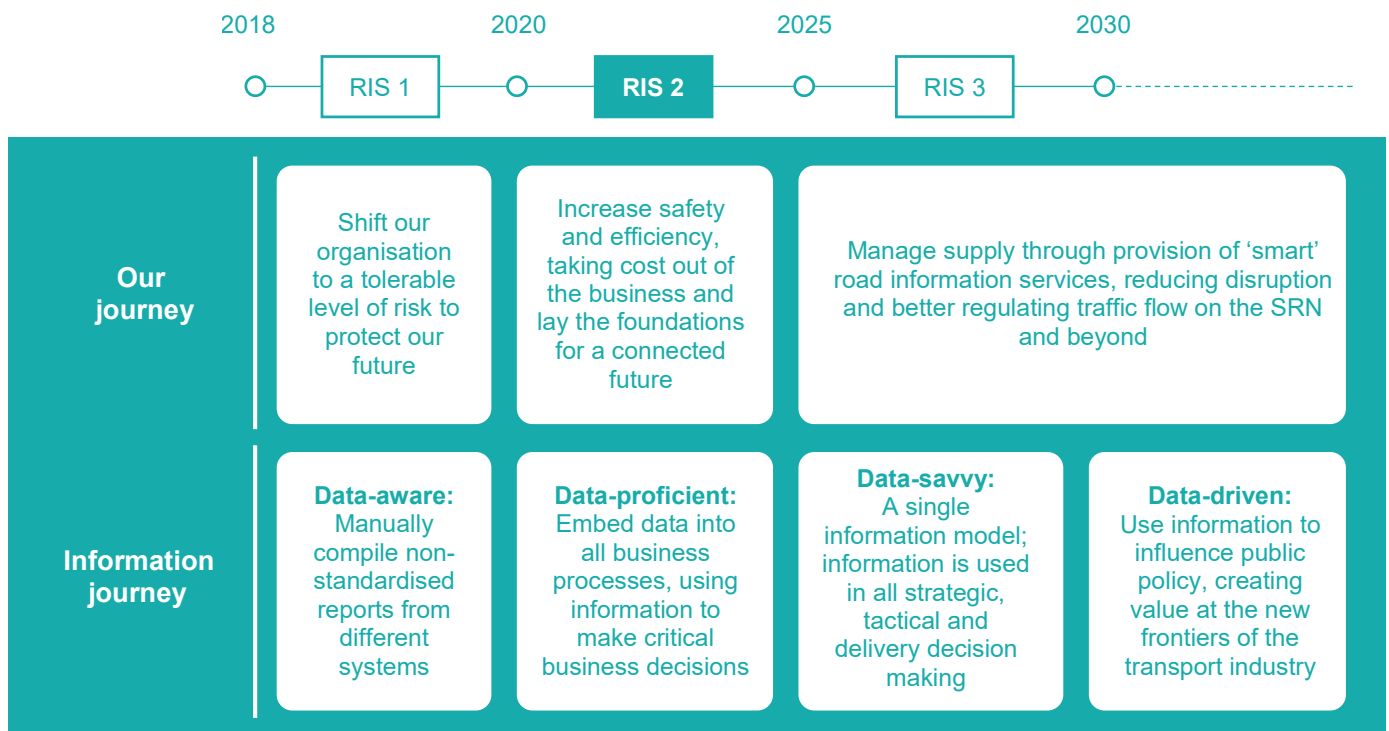


Figure 2: The Highways England information journey

Our information vision

Vision Statement

Our vision is to fully realise the value of information to enable our people to make better decisions based on better data; connecting ourselves and building trust with our suppliers, stakeholders and customers.

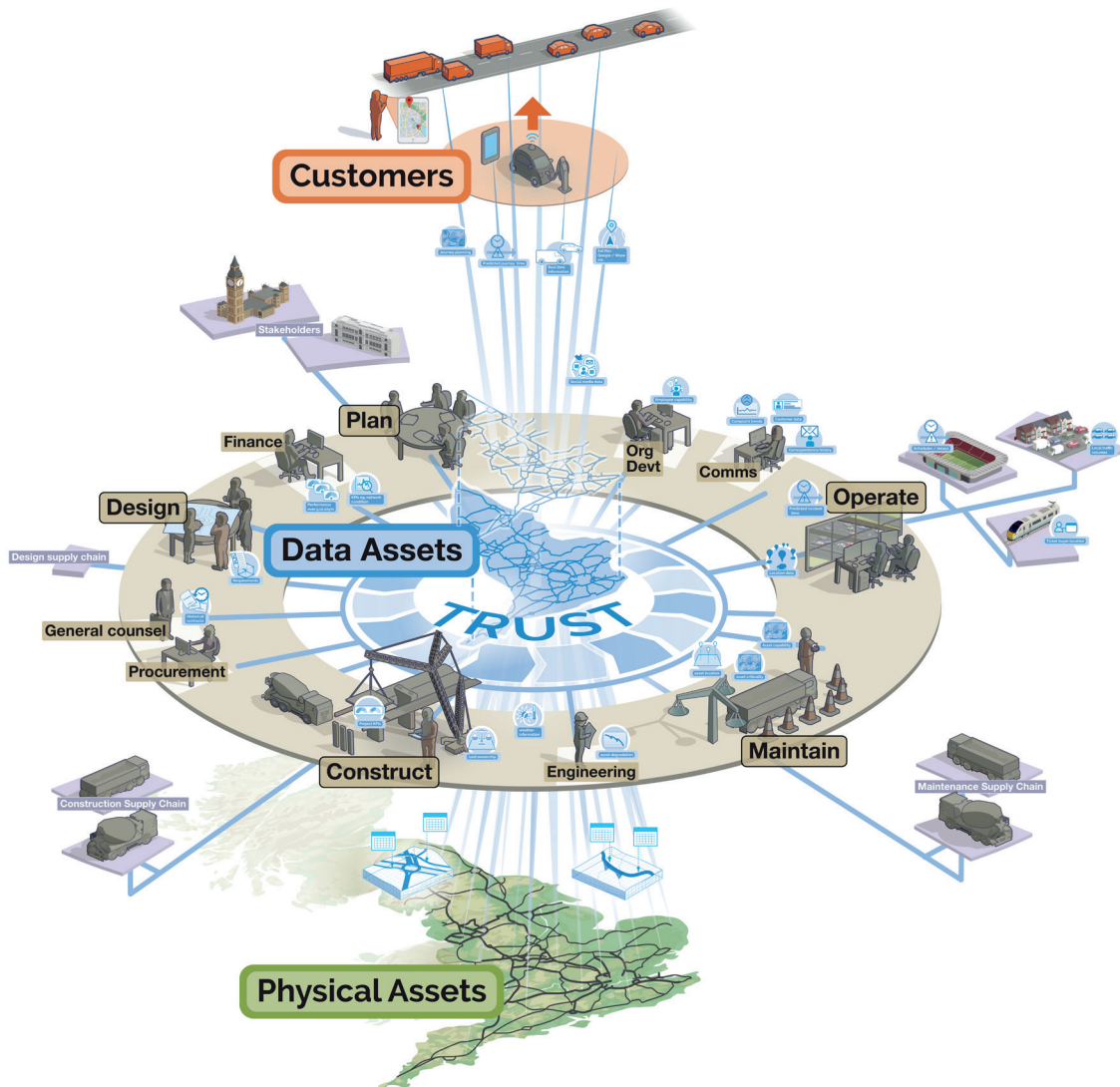


Figure 3: An information view of our organisation tomorrow

Providing information that can be trusted and valued by all, means we can fulfil our purpose of connecting the country through better journeys.

The future belongs to the connected.
What connects England is us.
What connects us is the power of information.

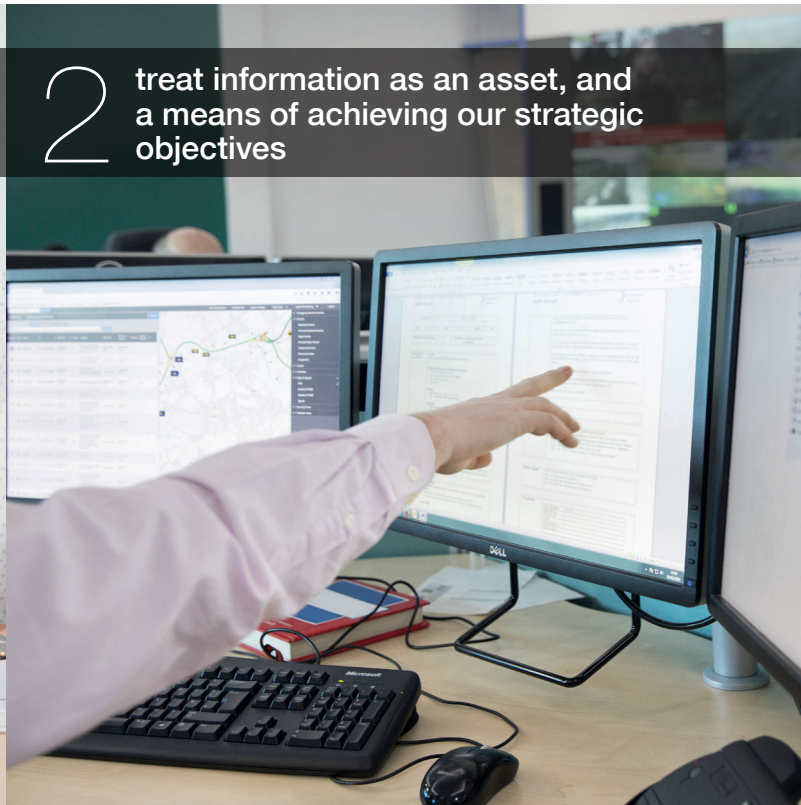
Our objectives

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Our information principles explain why we believe information is critical to our success. Our four primary objectives describe what we want to achieve:



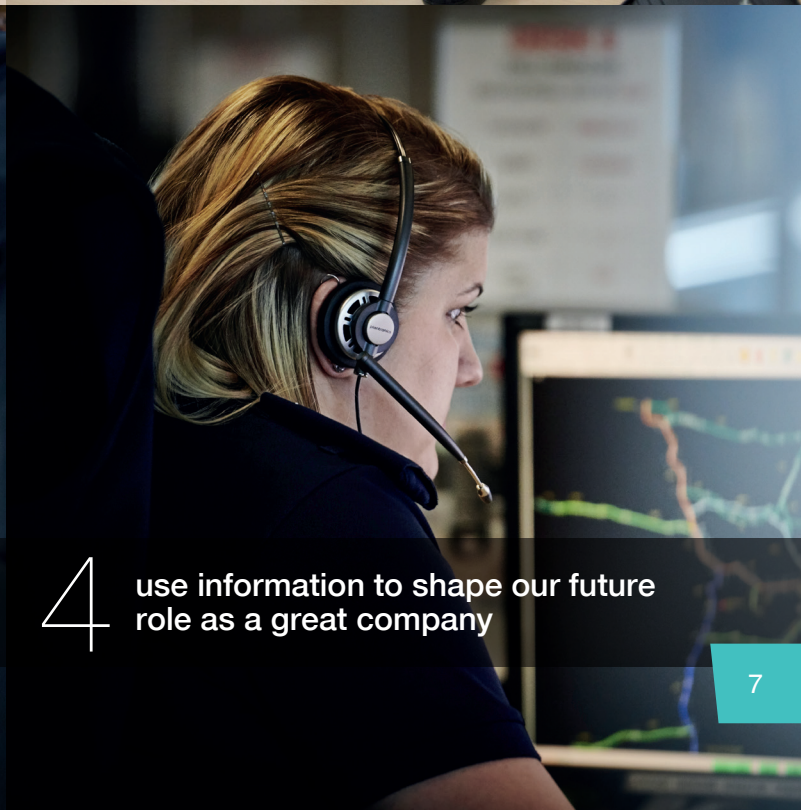
1 harness the passion of our people to innovate and realise value from information



2 treat information as an asset, and a means of achieving our strategic objectives



3 build advocacy with our suppliers, stakeholders and customers by sharing trusted information



4 use information to shape our future role as a great company

Applying our values



At the highest level our information strategy is simple. We apply our company values to how we improve our information so that we make better decisions in how we deliver our three imperatives.

Our challenge is that our data maturity is low and therefore we don't realise the full potential data can bring to help us deliver. For our people to confidently navigate from low to high maturity we have an information policy that translates our values

into a set of information principles. Our information policy will act as governance to set direction and clarity where there is ambiguity and provides flexible rules that do not stifle our ability to move at pace and innovate.

Our information policy

Our ten principles are driven by our values and will guide all our information management activities:

Safety

- Information can affect people's lives and we will use it transparently and ethically.
- Information is a valuable resource that will be kept safe and secure from accidents and attacks.

Integrity

- Decisions made with information create better outcomes for our customers, stakeholders and ourselves.
- We will increase the trust people have in our information by assuring its fitness for purpose.

Passion

- The value of information is only realised when it's used to help make decisions.
- We must continually earn the right to look after our customers data.

Ownership

- Looking after information has a cost we should understand and account for.
- We will use information as best we can, even if it's not perfect.

Teamwork

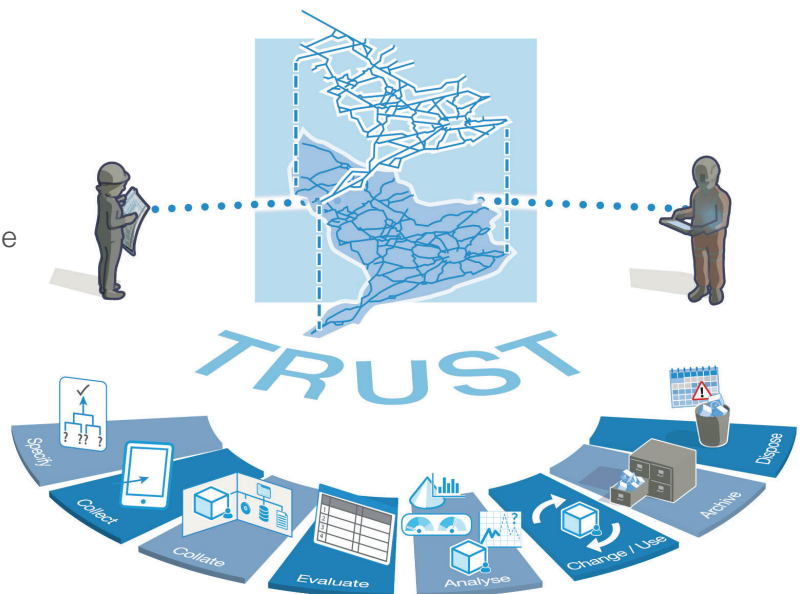
- We need to understand how the information we collect is used by others to make sure it is good enough for everyone.
- We all have a responsibility to look after our information so that it is fit for purpose.

The information management lifecycle

Information has a lifecycle which, if managed effectively, can create value for our customers, stakeholders and ourselves. The information lifecycle is shaped by our values and information principles.

This involves the process of:

- specifying what we need and what good looks like
- collecting data to the standards we set
- collating it together and making it available
- evaluating if it's fit for purpose or needs improvement
- analysing in ways that give us new insights and opportunities
- using it to help us make decisions
- archiving and disposing when it's served its purpose



Our opportunity

We want to become a data-driven organisation, with the capability to make decisions using data we can trust helping us to better achieve our strategic imperatives. To highlight the size of this opportunity, we looked at how effective information management could support us, our customers and society.

Valuing information

To achieve our vision, we need to get better at managing information as an asset; it must be measured, valued, maintained and monitored. By valuing our information, we can better understand our risk, the full value we create, the full benefits of investment and provide a powerful incentive for its responsible management. We then begin to transform a business problem into a sustainable advantage, which will benefit our future, customers and UK PLC.

Intangible assets are increasingly becoming more valuable; in 1975 they made up only 17% of recognised company assets. Today, the value of companies is recognised as being made up of 87% of intangible assets which includes data and information. Leading companies such as Google and Facebook own fewer physical assets but have harnessed the power of information to drive competitive advantage – and so will we.



This is not about selling our information – it's about getting us all to understand that information is one of our most valuable assets. In doing so we can understand its true value to us as a company.

Value for Highways England

Our information vision sets out where we want to be and our guiding principles. Achieving this vision; where our people are connected, and data is embedded in all decision-making processes – will enable safety, customer and delivery benefits.

Value for society

Our information vision will enable us to deliver against our purpose of connecting the country. It will enable us to show how better use of data and information can contribute tangible value to our customers and society.

For example, can we better use our data to plan our roadworks? If we had a single view of all roadworks on the network, we could reduce the number of unnecessary closures and clashes.

The benefits to our customers are fewer delays, smoother more predictable journeys and less frustration.

The benefit to the freight and logistics industry are reduced costs, more timely deliveries and fewer penalties for missed targets.

Inspiring a data-driven culture

In life and at work we are required to make decisions. Making decisions can be complex and when we don't have the correct facts, we use our gut feeling, beliefs or don't decide at all. Our beliefs tend to be based on the assumptions we hold. These are generally formed by what we think we know and the experiences we have had throughout our lives.

Fact based decisions will outperform decisions made with assumptions. We therefore need a culture that values the use of information in the decision-making process.

We need a culture that champions the use of information to prove or disprove our assumptions.

And we need a culture that welcomes the use of information to learn from others' experiences and offer different perspectives in how we solve problems and seize opportunities.

When information forms the basis of our assumptions, we can have open, honest and challenging conversations based on facts. Our people will feel empowered, and our suppliers will trust us.

In addition to investment in information management capabilities, we will accelerate this change in culture through:

- events to share and discuss our information vision and strategy
- industry leadership, supporting others in the transport sector to increase their data maturity
- our personal stories and experiences shared through videos, blogs and communications
- knowledge sharing across directorates
- secondments and placements, where we can work in different directorates and teams

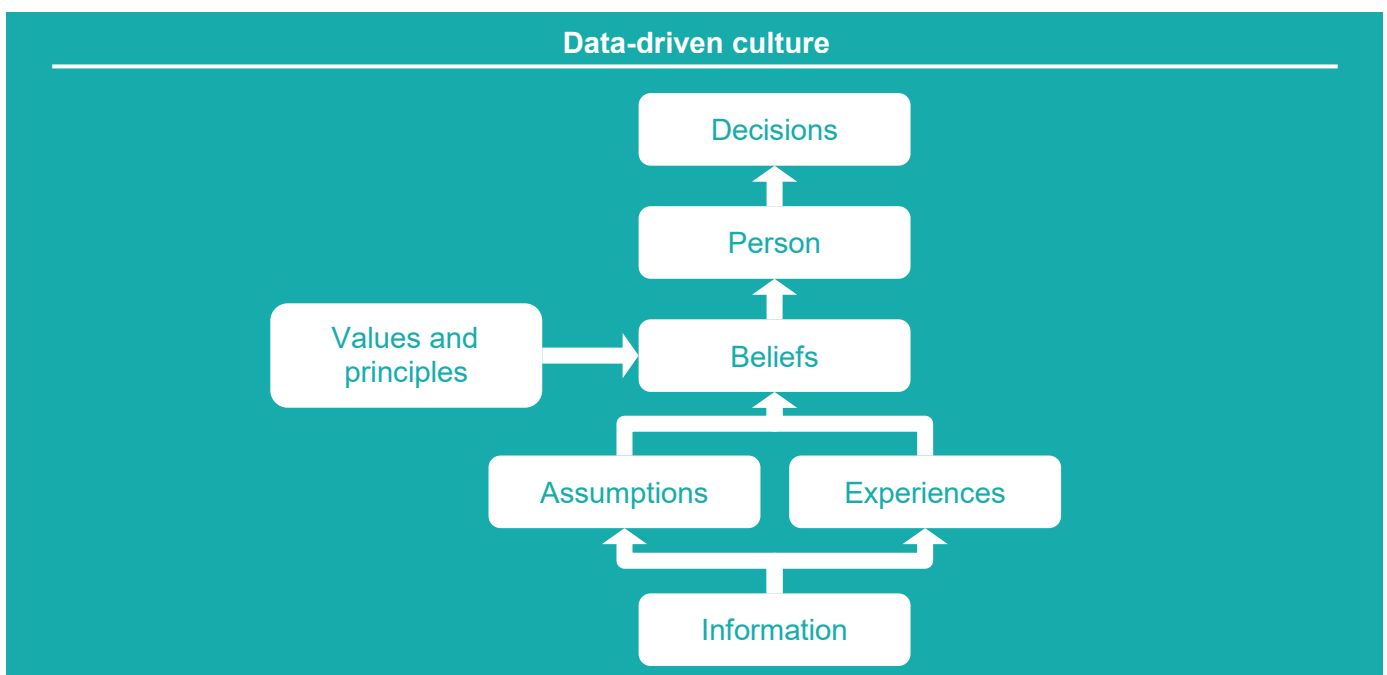


Figure 4: Data driven culture

Providing data-to-intelligence services

Like many organisations we are information rich. We hoard it all over the place 'just-in-case' we might need it. But we don't often use what we have, or create value by connecting information to provide better insight and intelligence.

Our information is often siloed. We miss important relationships, dependencies and context. By connecting these, we will create a rich picture which helps us build our intelligence and make the best decisions. By connecting our data, we will better understand our risk, our liability and where we can improve our safety, customer service and delivery.

Our data-to-intelligence services will support the delivery of our strategic imperatives and will be supported by developing our information and technology architecture and implementing an information management system.

There are four key enablers to providing these services:



1

Information leadership

The Information and Technology directorate will act as our centre of excellence and provide a range of data-to-intelligence services that enable our people, suppliers and customers to get the best out of our information.

Building our data-to-intelligence services requires new skill sets that we don't currently have, which means we need to upskill our people, recruit new talent and create partnerships with our suppliers to develop and deliver efficient and innovative solutions.

The Chief Data Office has expanded, recruiting industry leading talent, to lead Highways England's information journey. This includes the creation of a Data Architecture and a Data Science function as well as increased capacity in the fields of Data Governance and Information Rights and Security.



2 A single view of our information and architecture

Many decisions require information from multiple places. It is critical to have a single view of all the types of information that exist; and be able to describe how they relate to each other. To enable the data-to-intelligence services we must develop and maintain these information models describing all the types of information required for decision-making, regardless of where it resides.

We have invested heavily in our data architecture creating inventories of our data, mapping out how data is described, defined and relates to other data sets. We have also created a Data as a Service platform which will open up access to data across the company creating a single source of the truth for colleagues to use.



3 Governance

To support our continued drive to become data-to-intelligence leaders, we will implement information governance to drive consistency and confidence in our information; with the risk-based controls and requisite competencies for our data to deliver trusted information. To do this we have developed an information governance framework which will provide:

- a policy that describes the principles of how we work and direction we are going
- requirements that describe what risks we need to control and why, but do not constrain us and create autonomy for developing new and innovate ways of working
- pre-determined ways of implementing requirements to speed up decision making without increasing our risk exposure

We have worked with Information Asset Owners to help them understand their accountabilities and responsibilities for managing data. Good governance will make sure our data is treated as an asset in its own right, enabling a secure data-driven future, and provide a structure for prioritising our needs, decision-making and awareness around the value of data.



4 Technology

To become a data-driven company it is critical that we have the correct digital infrastructure, IT systems and architecture in place. Our ability to provide customer-centric information services is greatly enhanced by a complete view of our IT estate to understand our capability.

We will also be able to exploit existing information solutions more effectively. This will allow us to meet needs, overcome frustrations and make informed decisions about whether we should invest in new capabilities.

We have made investments into some key systems such as geographical information systems (GIS) and customer relationship management (CRM) to make sure the data we collect in these systems is fit for purpose, accessible and can be exploited to create value and drive decision making.

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