A large, light-orange graphic element resembling a stylized arrow or a series of nested, overlapping lines that point towards the right, serving as a background for the title text.

Open data roadmap for the UK 2015



The Open Data Institute would like to acknowledge and thank all of those who have contributed their time and expertise to the evolution of this roadmap, including the ODI team, its members, startups and a range of people across the open data community. If you haven't contributed yet, you still can. Over the first half of 2015, we'll continue to expand on its themes, in open discussion and workshops. Follow @ODIHQ on Twitter to keep up-to-date.



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The Open Data Institute's roadmap for open data in the UK

Around the world, governments, businesses and communities are drawing on data and digital technologies to help respond to challenges that surround us.

Open data: an essential part of modern policy-making

Open data has emerged as a core component of the UK's commitment to open policy-making. It is key to the digital transformation of government, which will only continue to increase in pace with the next parliament.

The UK has already taken steps to harness the benefits of open data for improved policy-making, and social, environmental and economic benefit. The Open Data Institute's open data roadmap sets out steps the government can take to continue to drive progress.



What is open data?

Open data is data that is made available by government, businesses and individuals for anyone to access, use and share. Open data is:

- helping government to make public services more efficient;
- driving innovation and economic growth by revealing opportunities for businesses and startups to build new services;
- offering citizens insights into how central and local government works, improving public trust and boosting political engagement; and
- helping government and communities to keep track of local spending and performance.

Not all data is open data

Data can be freely accessible but that does not mean it is 'open data'. For example, we can access Twitter feeds any time, but we cannot reuse the data without buying a licence with strict conditions. Open data is data that is published under a licence with express permission to reuse, share and modify.

Some data will be closed for reasons like privacy, commerciality and security. Open data should not compromise privacy: in any circumstances where personal data is being dealt with, there need to be meaningful privacy safeguards and ways for people to access their own data.

Using 21st century methods to solve 21st century challenges

Preparing UK cities for the next 7 million people

With the UK population expected to increase by 10% over the next 15 years, to around 70.7 million people,¹ space in UK cities is at a premium. Cities across the UK have started opening up their data for new apps to help plan and scale their infrastructure. For example, University College London researcher Oliver O'Brien used data from the London Datastore to map how many people enter and exit tube stations, and how this changes over time. His research has helped inform tube planning around service delivery and staffing.

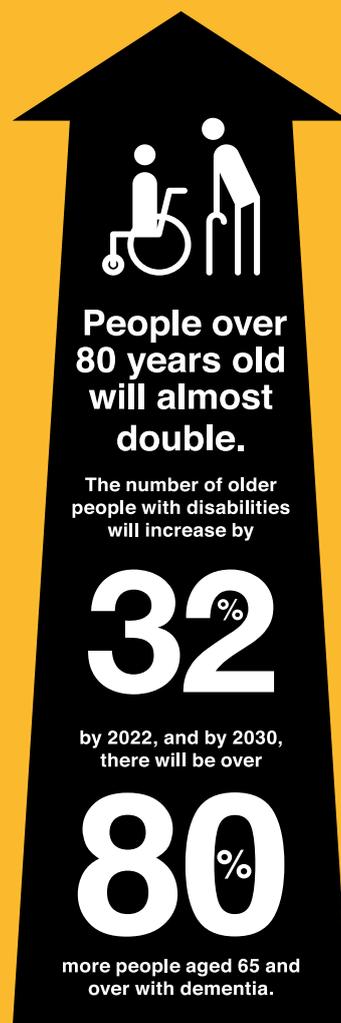
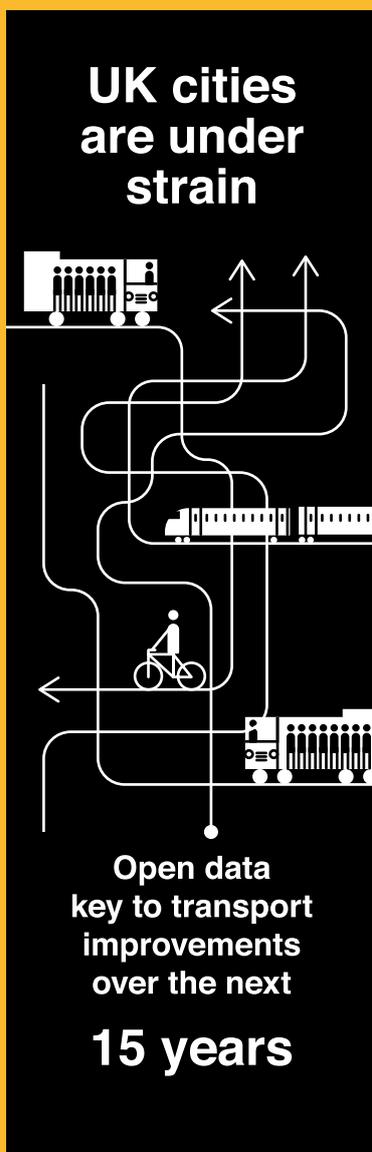
Making UK public services more efficient

The UK's aging and increasing population will put new pressures on its healthcare system and economy over the next 15 years. Over £200m per year in potential NHS savings have been found using open data, which showed where general practitioners throughout the country could be prescribing generic drugs instead of branded versions. These savings were revealed in 2012 by ODI startup Mastodon C, in collaboration with Open Health Care UK and science writer Ben Goldacre, by analysing the prescription records of every family doctor in the UK, without releasing their patients' identities.

Adjusting services to an unpredictable climate

Rising temperatures will mean more extreme weather for the UK. In 2014, floods in the UK highlighted the need for better communication in emergency prevention and response. Open data is being used around the world to help target responses to natural disasters. In the aftermath of the 2010 Haiti earthquake, OpenStreetMap collated open mapping data, and became the authoritative source of information about roads, buildings and camps of displaced people. Open data was also at the centre of relief efforts after the 2013 Typhoon Haiyan in the Philippines.

Open data is helping policy-makers and politicians respond to complex questions



The UK is leading the world in open data

The UK is ranked number one in the world for its leadership in open data by the Open Data Barometer (2013). For more than a decade, UK governments of various political parties have built on the open data initiatives of their predecessors to encourage open data to be released and reused across government: from the launch of the Power of Information Review by the Blair government in 2007, to the implementation of the data.gov.uk open data portal under the Brown government in 2009, to David Cameron's letter to cabinet ministers in 2010, affirming previous progress in open data and setting out the coalition's transparency agenda.

Among the UK's many successes have been the publication of more than 15,000 government datasets as open data; the chairing of the inaugural Open Government Partnership in 2011; the introduction of the Open Government Licence; the launch of the Open Data Institute; and frequent training opportunities and incentives for public bodies to release more open data.

This means the UK is perfectly placed to unlock value

The efforts of the Government Digital Service, the Department for Business, Innovation and Skills and the Cabinet Office have contributed to the UK's world-class digital government service delivery.

There is still more data that can be released, more uses of data that can be demonstrated and more that can be done to improve data quality and literacy.

The UK has made great strides in open data so far, and must continue to move forward boldly.





New businesses are emerging with open data

As more open data is released, businesses are using it to grow. Startups supported by the ODI have used open data to build businesses around government procurement, health savings, smart cities, energy efficiency, 3D-printing and supporting disabled communities. They have attracted clients from both the public and private sectors, and, between them, generated £2.5m since 2012.

The UK's efforts in open data have fostered new kinds of innovation and new business models. Now the focus is moving onto sustainability.

A sustainable open data culture

The ODI has been engaging groups from across the UK's open data communities to gather their feedback and build on this strong foundation.

Based on these conversations, the ODI's roadmap for open data in the UK sets out recommendations for how to achieve a sustainable open data culture. The roadmap also builds on a range of policy documents that have been released this year, including: the Royal Statistical Society's Data Manifesto; Policy Exchange's Technology Manifesto; and the Institute for Government's Programme for Effective Government.

In 2015, the ODI will continue to explore the prerequisites for widespread impact from open data, through discussions with UK stakeholders, technical briefings and regular blog-posts on the ODI website. We will continue to invite feedback as we move from laying the foundations for a sustainable open data culture, to putting it into practice.

The Open Data Institute's roadmap for open data in the UK

The next UK Government should:

Continue to build a coherent open data strategy

1. Clearly embed open data within a wider data strategy
2. Appoint a Chief Data Officer for government to oversee this strategy
3. Build data publication into all government digital services

Open up more data with social, environmental and economic benefits

1. Support UK trading funds to release more closed datasets as open data
2. Use the National Information Infrastructure as a tool for future releases
3. Include the release of open data in government procurement contracts

Support even more reuse of open data

1. Commit to data training for government, business and citizens
2. Incentivise government to consume open data, not just publish it
3. Connect research and development frameworks to open data

Continue to build a coherent open data strategy

The central government has stimulated a range of activities around open data. Now is the time to connect and focus them.

1. Invest in a data framework: embed open data as part of a wider data strategy

Some aspects of data policy, like open data, data sharing and data science are dealt with by different teams in the Cabinet Office. Data protection and IP rights in data are coordinated by other departments. The responsibility for all aspects of data policy should lie in one place within the Cabinet Office, and be more clearly aligned with digital service delivery. The Information Commissioner's Office should oversee regimes governing both access to and reuse of public information, and be supported to continue to improve its services. The data strategy should cover data owned by central and local government, other public bodies and organisations outside government, wherever possible.

2. Give the framework oversight and political attention: appoint a Chief Data Officer, who, as part of their role, will monitor and seek the publication of open data

A government data strategy needs strong strategic leadership. A Chief Data Officer position created within the Cabinet Office should be provided with budget and a team to develop, advocate for and

seek progress on all aspects of the UK's data strategy. The Chief Data Officer position would report to the Executive Director of Digital in the Cabinet Office, explicitly aligning data as part of the government's 'digital by default' strategy. The Chief Data Officer should be able to compel the release of data as high-quality, open data from public bodies, where it is in the public interest to do so.

3. Combine policy with delivery: support the Government Digital Service to develop a world-class data publishing platform for use by the public sector

The Government Digital Service is transforming online government services, and making it easier to find information about government. Similar attention should be paid to embedding high-quality data publication into all digital services across government. The GDS is best placed to exercise this role. GOV.UK and the Office of National Statistics website should be invested in to enhance high-quality open data publication.

“Like the early days of the Web itself, this is only the beginning”

- Sir Nigel Shadbolt

Open up more data with social, environmental and economic benefits

The UK Government has published a lot of open data, but it still holds important datasets that are ‘closed’ – that is, not openly licensed for reuse. These datasets could have significant social, environmental and economic benefits if released as high-quality open data.

1. Open up: invest in the release of important datasets as open data

The standard for UK public sector data is open by default. Geospatial data, address data, meteorological data and land valuations data all hold immense potential if released as high-quality open data. Trading funds including Ordnance Survey, the Met Office, Land Registry and Companies House need to be empowered to continue to release more open data. In Denmark, in 2002, the government made its national address file free; since then it has calculated a 30 to 1 ratio of direct financial benefits to cost.²

2. Think big: use the National Information Infrastructure to plan for the future

The National Information Infrastructure is a potentially powerful strategic asset to prioritise and incentivise the release of important datasets. It needs thoughtful design and investment so that it is more than a static list of datasets: it needs to change and evolve as other infrastructures do. So far, the NII has largely highlighted important but closed datasets, without a means of opening them

up, or a plan for identifying future data assets. The new Chief Data Officer should be able to release important datasets identified through the NII as open data, taking account of what public bodies and the wider community want and need.

3. Set best-practice for the future: mandate that government procurement contracts require the release of open data

The UK has committed to being “open by default” under the G8 Open Data Charter. Embedding open data into procurement contracts will ensure that data produced in future, as part of the delivery of goods and services for government, is opened up. The government should also proactively look for tenders that will generate significant amounts of data. The ODI has published a guide, *Procuring open data in the public sector*, which outlines how open data can be embedded into the procurement of public services.



Support even more reuse of open data

Across the UK, businesses, researchers, citizens and public bodies already rely on open data to deliver products and services and help lower costs, often without realising. With a clear UK data strategy, strong implementation and access to high-value, good-quality datasets, the number of businesses, research projects, innovative services and new ways of interpreting open data will continue to flourish.

1. Commit to data training and skills development for government, business and citizens

In October 2013, the government published its strategy for increasing UK data capability, with strong emphasis on data skills development. The nation needs more data scientists and statisticians, equipped with basic skills that can be applied in all fields of data analysis. Civil servants should be trained in basic data literacy skills, including open data. Open data training encourages collaboration across different kinds of data, and will ultimately foster the data scientists of tomorrow.

2. Incentivise government to consume open data, not just publish it

Training the next generation of data scientists and statisticians will be of little benefit if their skills are not put to good use. Government departments need to be encouraged to use open data themselves, published by both government

and business, and to request more open data from businesses to advance policy goals. The government should introduce a rewards scheme for innovative uses of the open data it releases.

3. Connect research and development frameworks to open data

The Royal Statistical Society highlights increased investment in R&D as an essential element of its data manifesto, to strengthen data and statistics for better policy-making, greater democracy and increased prosperity, and the ODI agrees. The funding framework for R&D can also be explicitly aligned with open data. Where R&D is supported by public funds, the data that is created should be made available to other researchers, as open data wherever possible. Existing and future investments in data science and R&D, including big data initiatives, should form a coordinated and complementary research landscape.

“As more open data becomes available we will see things happening that we couldn’t possibly have predicted.”

- Dame Wendy Hall

The Open Data Institute: Knowledge for everyone

The ODI is an independent non-profit bringing together government, industry and academia to realise the benefits of open data. The ODI helps people to unlock supply and demand for open data, and share this value with everyone, by:

- Providing support to UK entrepreneurs working with open data
- Delivering open data training to people and government
- Recognising and rewarding best-practices with open data
- Connecting data reusers with data publishers
- Creating and sharing research on the benefits of open data
- Exporting UK open data best-practices to the world

You can learn more about the Open Data Institute at theodi.org

1. Office of National Statistics, An Executive Summary, 2012-based National Population Projections Reference Volume (published March, 2014)

2. Danish Enterprise and Construction Authority, The Value of Danish address data (published July, 2010)

P5. Visualisations - Left (Source: UK Climate Change Act 2008), Right (Sources: UK Parliament research: 'The aging population' & 'Ready for aging?')