

Open Data in the G8

**A Review of Progress
on the G8 Open
Data Charter**

Open Data in the G8: A Review of Progress on the Open Data Charter

Daniel Castro
Travis Korte



ABOUT THE CENTER FOR DATA INNOVATION

From creating a modern, evidence-based health care system to building sustainable, energy-efficient cities, data is increasingly a critical component in many initiatives to make the world a better place. In the coming years, the collection, analysis, and use of massive amounts of data will have the potential to generate enormous social and economic benefits, but successfully capitalizing on these opportunities will require public policies designed to allow data-driven innovation to flourish.

The Center for Data Innovation is the leading think tank studying the intersection of data, technology, and public policy. Based in Washington, DC, the Center formulates and promotes pragmatic public policies designed to maximize the benefits of data-driven innovation in the public and private sectors. It educates policymakers and the public about the opportunities and challenges associated with data, as well as technology trends such as predictive analytics, open data, cloud computing, and the Internet of Things. The Center is a non-profit, non-partisan research institute proudly affiliated with the Information Technology and Innovation Foundation.



Open Data in the G8: A Review of Progress on the Open Data Charter

March 2015

In 2013, the leaders of the G8 signed an agreement committing to advance open data in their respective countries. This report assesses the current state of open data efforts in these countries and finds substantial variation in their progress. Moving forward, countries have many opportunities to enhance their open data capabilities, such as by increasing international collaboration, better educating policymakers about the benefits of open data, and working closely with civil society on open data initiatives.

INTRODUCTION

On June 17-18, 2013, leaders of the G8 (now G7) countries met in Lough Erne, Northern Ireland for the thirty-ninth G8 summit. During the summit, the G8 member countries—Canada, France, Germany, Italy, Japan, Russia (which exited the group in 2014), the United Kingdom, and the United States—signed on to the G8 Open Data Charter, an agreement that both recognizes the important role of open data in promoting innovation and government transparency and that commits each nation to five key principles concerning open data. These principles are:

- 1. Release open data by default**
Government agencies should release all public data in open and machine-readable formats unless there is a compelling reason not to, such as national security or privacy concerns.
- 2. Ensure high quality and quantity of data**
Government agencies should release a broad range of data sets that have been adequately vetted and cleaned.
- 3. Make data usable by all**
Government agencies should standardize metadata (i.e. data that describes other data) for all data sets, use open licenses, and ensure general accessibility.
- 4. Release data for improved governance**
Government agencies should share best practices on open data internationally, release certain “key data sets” specified in the charter, and seek input from civil society.
- 5. Release data for innovation**
Government agencies should release data sets considered “high value” by the charter, as well as engage with developer communities and fund open data startups.

This report reviews the progress each of the G8 countries (the G7 countries plus Russia) has made towards each of the five principles in the Open Data Charter. In addition, since the open data movement has its roots in freedom of information policies, it provides a brief summary of the freedom of information laws in each country and the extent to which they provide reasonable response times, accountability mechanisms, and appeal processes.¹

The report also notes whether each country participates in the Open Government Partnership, a U.S.-led international organization to improve various aspects of open government in member countries, including open data. The term “open government” typically connotes a larger category of best practices around governance than “open data” does, including priorities such as public access to government information systems, public participation in government, and web accessibility for people with disabilities. In addition, while the Open Government Partnership includes some priorities about releasing data for business value, releasing data for the sake of transparency is a larger focus. This has been a source of friction for countries such as Russia, which had initially sought to join the Open Government Partnership with an eye toward opening data for innovation, but which withdrew its application to avoid making strong commitments around opening data for transparency. The Open Government Partnership, while not directly related to the G8 Open Data Charter, shares numerous priorities with the charter concerning open data and offers insights into how participating countries have dealt with open data in the international community. Most countries participating in the Open Government Partnership have also participated in third-party progress reports, which offer a useful overview of countries’ performance on certain open data priorities, such as creating robust national data portals and facilitating data reuse through open licensing.

To compile the information in this report, the Center for Data Innovation reviewed existing literature, including government documents and third-party assessments, and interviewed experts in each of the G8 countries.

SCORES

Countries were scored based on how well they met each of the five principles in the G8 Open Data Charter. Countries could receive a total of 20 points per principle for a maximum of 100 points. As shown in Figure 1, the United Kingdom received the highest rank, Canada and the United States tied for second place, and France followed closely behind. Italy, Japan, and Germany fell in the middle of the pack, and Russia lagged with the lowest score. Figure 2 provides a more detailed breakdown of scores.

Country	Total Score
United Kingdom	90
Canada	80
United States	80
France	65
Italy	35
Japan	30
Germany	25
Russia	5

Figure 1: Total score by country

Principles	Canada	France	Germany	Italy	Japan	Russia	UK	US
1. Release open data by default	10	0	0	10	0	0	10	20
Does it have an open by default policy? Yes (10), Yes, nonbinding (5), No (0)	5	0	0	10	0	0	5	10
Does it release data by default in practice? Yes (10), Sometimes (5), No (0)	5	0	0	0	0	0	5	10
2. Ensure high quality and quantity of data	20	10	10	10	10	0	20	20
How do its open data releases compare to its peers? Above average (20), Average (10), Below Average (0)	20	10	10	10	10	0	20	20
3. Make data usable by all	20	20	5	15	0	5	20	15
Does it use standardized metadata? Yes (10), Sometimes (5), No (0)	10	10	0	5	0	0	10	10
Does it use an open license? Yes (10), Sometimes (5), No (0)	10	10	5	10	0	5	10	5
4. Release data for improved governance	10	15	10	0	10	0	20	15
Has it released key data sets? Yes (10), Scheduled to release (5), No (0)	5	5	5	0	5	0	10	5
How much does it engage with civil society? High (10), Partial (5), Low engagement (0)	5	10	5	0	5	0	10	10
5. Release data for innovation	20	20	0	0	10	0	20	10
Has it substantially promoted data innovation? Yes (10), No (0)	10	10	0	0	10	0	10	10
Has it funded data innovation efforts? Yes (10), No (0)	10	10	0	0	0	0	10	0
Total	80	65	25	35	30	5	90	80

Figure 2: Detailed scores by country

SUMMARY OF FINDINGS

Although every country has published an Open Data Action Plan (see Appendix 1), countries varied widely in their progress against their commitments to the Open Data Charter and the state of their open data efforts. Some countries, such as the United States and Italy, have created policies with strong commitments to releasing data openly by default, while others such as Canada and the UK have only adopted voluntary guidelines. France, Germany, Japan and Russia have not committed to this principle.

All eight countries have established a national data portal. Although the number of data sets is by no means a precise measure of a data portal's value since countries may represent the same data in different ways (e.g., one country may release a single combined data set whereas another may release multiple disjoint data sets), it gives some indication of the level of activity. As shown in Figure 3, some countries, such as Canada and the United States, have released relatively large quantities of high-quality data on their open data portals, while other countries with newer portals, such as Russia and Italy, have released relatively few data sets. Of the G8 countries, Canada has released the most data sets in total, the vast majority of which are geospatial data sets, such as map projections or coordinates. The United States has released the most non-geospatial data sets, approximately 48,000 (compared to approximately 8,000 by Canada).

Country	Number of Data Sets	National Data Portal
Canada	214,033	http://open.canada.ca/en
France	13,967	https://www.data.gouv.fr/en/
Germany	9,799	https://www.govdata.de/
Italy	9,031	http://www.dati.gov.it/
Japan	12,800	http://www.data.go.jp/
Russia	2,424	http://data.gov.ru/
UK	20,505	http://data.gov.uk/
United States	137,601	http://www.data.gov/

Figure 3: Number of data sets on national portal, as of January 2015

Countries also run the gamut in terms of the usability of the data, with the UK originating a now widely-used metadata standard, Canada rapidly adopting that standard, France offering no commitment to adopt such standards, Japan not even offering licensing information on some of the data sets on its national portal, and other countries falling somewhere in between. Some countries, such as France, have consulted vigorously with civil society organizations to prioritize data release and map out the future of their open data programs, while others, such as Russia, have made few attempts to engage with such groups or release data to improve government services and accountability. All countries have engaged with developers in some capacity, but few countries are actively funding open data startups and only the UK and the United States are making comprehensive efforts to prioritize data release according to private-sector demand. As shown in Figure 4, five of the eight countries participate in the Open Government Partnership (OGP). This is indicative of the extent of commitment to make data sets open as the average number of data sets on the national portal is approximately 79,000 for nations in the OGP versus 8,000 for nations not in the OGP.

Country	Open Government Partnership
Canada	Yes
France	Yes
Germany	No
Italy	Yes
Japan	No
Russia	No
UK	Yes
United States	Yes

Figure 4: Country's membership status in the Open Government Partnership

Based on our analysis, the Center for Data Innovation has categorized these countries into three categories (strong, intermediate, or weak) indicating their level of commitment to the Open Data Charter and efforts to meet those commitments (see Figure 5). The categorization should not necessarily be taken to indicate the progress on open data in the country generally, which may include local efforts not captured in this analysis, but rather progress with respect to the Open Data Charter commitments.

Country	Classification
Canada	Strong
France	Intermediate
Germany	Intermediate
Italy	Intermediate
Japan	Intermediate
Russia	Weak
UK	Strong
United States	Strong

Figure 5: Classification of open data efforts

In general, metadata standards and licensing issues remain the most problematic areas in most countries, while nearly all countries are making meaningful progress in improving the quality and quantity of data sets released on national data portals. Several countries are split on their commitments to releasing data for improved governance and releasing data for innovation, and are only fulfilling one of these commitments. This may be due in part to differing motivations behind releasing data from country to country. For example, France's open data efforts have been informed primarily by a desire for greater government transparency and place less emphasis on releasing data for innovation, while Russia's efforts sideline transparency almost entirely and focus on the economic benefits of publishing open data.

THE BENEFITS OF OPEN DATA

The potential benefits of open data are considerable. A 2013 McKinsey Global Institute report estimated that open data could add over \$3 trillion annually in total value to the global economy.² The G8 Open Data Charter sought to encourage participating countries to expand their open data efforts in order to capture this economic value along with other, less tangible societal and cultural benefits. Taken together, the benefits of releasing open data can be grouped into three main

categories: economic growth; improving government services; and reducing fraud, waste, and abuse in government programs. There have been numerous examples of national governments using open data to reap these benefits in the G8 and beyond.

First, nations are investing in open data for its potential economic impact. The U.S. National Weather Service alone supports a private weather industry estimated to be worth \$1.5 billion annually.³ Denmark's open register of addresses has yielded €62 million (\$71 million) in value for its wide range of users on an investment of just over €2 million (\$2.3 million) as of 2010.⁴ A similarly wide range of users of geospatial data from the UK's Ordnance Survey was predicted in 2013 to generate an impact on Great Britain's GDP of £13-£28.5 million (\$20-\$44 million) annually by 2016.⁵

Second, nations benefit from open data through improved public services. In response to the 2011 nuclear disaster in Fukushima, Japan, the private sector website atmc.jp began pulling open data from the country's Nuclear Regulatory Authority to visualize changes in radiation levels over time across the country. Agencies at various levels of government can use this visualization to plan and provide health and emergency response services.⁶ In the Philippines, the Department of Transport and Communications is collaborating with the World Bank in an effort to create open data on public transportation routes and road safety that will be used to provision traffic monitors at the most dangerous intersections and create new bus routes along underserved metropolitan corridors in two major cities.⁷ In South Africa, the Centre for Higher Education Transformation has developed an open data platform with institution-level information that public higher education researchers can use to inform funding and other policy decisions.⁸

Third, countries are using open data to reduce fraud, waste, and abuse within government. In 2014, the U.S. Centers for Medicare and Medicaid Services published a large data set of claims data, containing physician-level information on payments from the public insurer, which journalists quickly analyzed to discover potentially fraudulent transactions and physicians who issued disproportionately large bills for their fields and geographic areas.⁹ The Canada Revenue Agency opened its data set of charities' annual information returns, filings in which charities disclose their receipts and other information, following a series of investigations into tax fraud in the philanthropic sector.¹⁰ Some of Italy's recent anti-corruption efforts were spurred by a journalistic effort known as "Money to Parties", which digitized and opened data on political contributions that had been publicly available but not searchable.¹¹ The online database has been a major catalyzing force for the open data movement in Italy.

COUNTRIES

The following sections examine each country's overall data policy background and adherence to the G8 Open Data Charter principles.

CANADA

DATA POLICY BACKGROUND

Canada's freedom of information laws date to 1983, the year when the Access to Information Act and the Privacy Act were introduced.¹² The Access to Information Act gave Canadians the ability to access a range of government documents and other information and specified a time period in which they could expect to receive that information. The act applies to federal agencies only, excludes contractors and other federally-funded private organizations, and permits agencies to charge fees for information retrieval. Two key classes of information are excluded from the Act: cabinet records and records relating to federal-provincial affairs. The Privacy Act grants individuals access to certain types of their own information that is held by the government, and forbids the government from disclosing individuals' personal information or using that information for purposes other than that for which the information was originally obtained, without the individuals' consent.

There have been various efforts, both successful and unsuccessful, to reform the Access to Information Act since it became law.¹³ In 2006, the Federal Accountability Act expanded the coverage of the Access to Information Act to include additional government bodies.¹⁴ The Public Servants Disclosure Protection Act of 2007 amended the Access to Information Act, the Privacy Act, and the Personal Information Protection and Electronic Documents Act to narrow the timeframes under which agencies could deny information requests.¹⁵

PRINCIPLE 1: OPEN DATA BY DEFAULT

Canada has committed to the principle of open by default. While the country does not currently have an "open by default" law on its books, it has affirmed its commitment to the concept in forward-looking plans. In its Action Plan on Open Government, an outline of its planned participation in the Open Government Partnership, the Canadian government declared its intention to promote an "open by default" approach in a forthcoming Directive on Open Government, which will be created by the federal Treasury Board but will apply to the entire federal government. The directive will issue guidance to federal agencies on publishing open data and establishing data standards, publication priorities, and other information on publication.¹⁶ In addition, a bill proposed by the Canadian parliament would amend the Access to Information Act to promote openness by default, noting that exceptions to data access should be "rare, limited, and specific."¹⁷

PRINCIPLE 2: QUALITY AND QUANTITY

Canada's Open.canada.ca data portal has published over 200,000 data sets, more than any other nation. All but approximately 8,000 of these are geospatial data sets, such as the geospatial vector data used in geographic information system software. The federal data portal suffers some quality and completeness issues. For example, a recent review by the Open Government Partnership found that the government had reported releasing around 35 percent more data sets than were actually hosted on the portal.¹⁸ In addition, agencies have failed to release a number of high-value data sets, including inventories of data from the federal human resources and skills development agencies, and data sets related to government accountability, employment insurance, homelessness, seniors, health, and aboriginals.¹⁹ While many of the available data sets have been improved by Open.canada.ca's efforts to standardize metadata, some data sets, such as collections of geospatial

information, actually carry less complete metadata on the federal portal as a result of standardization than they do in the repositories of the agencies that created them.²⁰

PRINCIPLE 3: USABLE BY ALL

Canada has made considerable progress in advancing data usability, particularly in licensing efforts.²¹ The federal government adopted the UK-developed Open Government License in 2013, which allows for data modification and reuse freely and without limits beyond attribution.²² The license has since been adopted by three provinces and several municipalities.²³ Canada's national data portal is available in both English and French. The federal government also began using its updated Web Experience Toolkit, which provides modular components for websites that are accessible for people with disabilities, in the data portal and other information sites in 2013.²⁴ However, some data users report difficulties obtaining public data that has not yet been published openly by Open.canada.ca. For example some freedom of information requests have taken months or years longer to process than initially promised or are too expensive.²⁵

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

The Canadian government has made modest efforts to increase government transparency about data collection and to involve the public in decision-making. In the Open Data Action Plan, which outlines the government's agenda for its commitments to the G8 Open Data Charter, the Treasury Board said it plans to enhance the exploration tools it offers for federal budget and expenditure data by December 2014.²⁶ It also expects to release "high-value" data sets, such as bankruptcy records, company registry information, and international development assistance commitments information, in open formats by December 2015.

In its Open Data Action Plan, the Treasury Board states that it will consult with citizens through "multiple channels" by December 2014.²⁷ One such channel is a working group organized as part of Canada's participation in the Open Government Partnership, which has provided direction and leadership for federal open data efforts.²⁸ In the process of developing its Open Government Action Plan, federal agencies undertook several public and intra-governmental consultations, including a "Twitter Town Hall", a meeting with legislative clerks at all levels of government, and a public-private Advisory Panel on Open Government.²⁹ However, these forums had low participation and the government parties involved did little to raise awareness.³⁰ To date, there have been no in-person public hearings on the topic of the Action Plan on Open Government, and it is critical that the Open Data Action Plan not suffer the same neglect.

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

The Canadian government has made considerable efforts to organize initiatives to encourage the public to use its data for innovative new applications and to engage with individuals interested in developing applications based on government data. The Open.canada.ca portal's "Developer's Corner" provides comprehensive support and documentation for developers, as well as plain-language starter-guides for the public, including thorough instructions on using APIs in multiple programming languages and visually aided explanations of different data formats.³¹ In the spring of 2014, the federal government hosted its first countrywide hackathon, the Canadian Open Data Experience, in which over 900 civic hackers participated.³² Finally, the federal government devoted

\$3 million in 2014 to the Canadian Open Data Institute, a public-private partnership to coordinate and advance open data use domestically.³³

CONCLUSION

Overall, Canada has performed strongly in its commitments to the Open Data Charter. The country has made a great deal of progress in increasing access to and promoting innovation with open data. It has also made some progress toward realizing “open by default” standards. However, its data portal still suffers from some completeness issues, and it should release certain high-value data sets that could be used to improve governance.

FRANCE

DATA POLICY BACKGROUND

The origins of France's freedom of information policy date back to the founding of the French Republic in 1789. That year, the Declaration of the Rights of Man decreed that citizens have the right to request a description of public officials' duties as well as rights to information about taxation.³⁴ The Constitution of the Fifth Republic, adopted in 1958, further codified freedom of information rights concerning the government budget, granting citizens the right to access information on how taxes are spent.³⁵

The constitution paved the way for more general freedom of information legislation, which came in the form of the Act No. 78-753 of July 17, 1978. That act allowed citizens to request a copy of any administrative document and established an agency to facilitate the request process.³⁶ The law applies not just to documents created by the government, such as memos and communications, but also to documents merely held by the government.³⁷ In addition to making standard exemptions for information with national security significance, the law also exempts some major agencies, including the State Audit Office, the parliamentary assemblies, and the judicial Council of State.³⁸ In addition, the law does not specify a timeframe for government agencies to comply with requests.³⁹ The law was amended by Act No. 321 (April 12, 2000), which broadened the law's mandate to include territorial and local authorities.⁴⁰

Over the past decade, the nation has developed its open licensing laws for public data. Order No. 2005-650 modified the 1978 law to establish that public information is freely reusable.⁴¹ In 2010, the French Ministry of Justice developed an open license pursuant to this order.⁴² However, the license is stricter than open data licenses in many other European countries, such as the UK and Italy, forbidding data users from "deteriorating" the contents of the information or changing the meaning of words.⁴³

Recent efforts have focused on open data. The national Department of Public Service had yet to release an action plan as of October 2014.⁴⁴ The previous May, France announced the creation of a national Chief Data Officer position, making it the first European country to do so.⁴⁵

PRINCIPLE 1: OPEN BY DEFAULT

France's commitment to a policy of "open by default" is among the weakest in the G8. The country currently lacks any laws containing that language and has committed only to "moving toward" openness by default in its 2014 Open Data Action Plan.⁴⁶

PRINCIPLE 2: QUALITY AND QUANTITY

Data.gouv.fr, the national data portal, contained nearly 14,000 data sets as of January 2015, placing it in the middle of the G8 in terms of data quantity.⁴⁷ In its Open Data Action Plan, France committed to making its data machine readable "to the greatest extent possible."⁴⁸ While this falls short of a firm commitment (i.e., mandating that all data must be published in machine-readable formats), only a very small fraction of data sets available on Data.gouv.fr are not machine-readable.⁴⁹

France is the only G8 country besides the United States to make a concrete commitment to releasing data in bulk, not simply through public APIs.⁵⁰ A strong commitment to releasing bulk data can be a boon to startups hoping to make use of large amounts of government data.

PRINCIPLE 3: USABLE BY ALL

France has made some efforts to ensure that its data is usable by all. For example, the country has committed to making its open data available under the “License Ouverte”, an open license that meets internationally accepted guidelines and requires only attribution on the part of the data user.⁵¹ The vast majority of the data sets on Data.gouv.fr carry this license or another open license.⁵² However, more than a third of these data sets are offered in the proprietary .viz or .shp file formats, which are generally used for mapping and other visualizations.⁵³ While both of these formats can be opened and manipulated with nonproprietary software, offering this data in fully open formats could ensure that the information will be usable without restrictions indefinitely.

In addition, Etalab, the French Prime Minister’s data authority that wrote the action plan, has not made a strong commitment regarding free access to data. Despite acknowledging that it would attempt to foster free reuse and committing to make “essential public data” available free of charge, the action plan states only that the Prime Minister has made some progress towards a regime of free reuse, such as setting up a task force to assess existing royalty fees.⁵⁴ Meanwhile, French authorities are still charging for nominally public data sets such as gas stations’ daily price reports, for which access costs €3,000-38,500 annually, including for non-commercial use.⁵⁵

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

Etalab has made considerable efforts to work with civil society organizations in prioritizing data for release. The action plan commits to holding a series of public debates to identify high-value data sets and points to the country’s efforts to publish its best practices in multiple languages for an international audience.⁵⁶ However, there may be policy obstacles to using open data to improve governance. The Commission on Access to Administrative Documents (CADA), the agency tasked under the 1978 freedom of information (FOI) law to administer the process of FOI requests, has a limited mandate, and it cannot compel agencies to adopt its recommendations on fulfilling requests.⁵⁷ Moreover, the agency is not required to raise public awareness of freedom of information issues, unlike similar agencies in other countries, such as the Information Commissioner’s Office in the UK.

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

Although business use has not been the central focus of past French open data efforts, France has begun some important efforts to release data for innovation. In early 2015, the French Deposits and Consignments Fund, a public financial organization, announced that it would invest €2.5 million (\$2.8 million) in open data projects and released a call for proposals that will be reviewed for investment by June 2015.⁵⁸ In addition, Etalab runs Dataconnexions, a competition to develop projects using public data, and hosts a series of networking events for the open data business community.⁵⁹ Data.gouv.fr has begun to showcase innovative applications for open data, as stated in the country’s action plan commitments.⁶⁰

CONCLUSION

Overall, France has performed at a relatively strong level in its commitments to the Open Data Charter. While the country has shown solid commitments to data quality and releasing data for improved governance and innovation, it has not performed as well in ensuring that data is usable and creating a policy of openness by default. With greater oversight capabilities, Etalab and CADA could counteract such shortcomings and maximize the benefits of France's freedom of information laws in the country's efforts to improve governance.

GERMANY

DATA POLICY BACKGROUND

Freedom of information law in Germany originated in the Basic Law, the constitution for West Germany adopted by World War II's allied powers in 1949. The law, which came to apply to all of Germany following the nation's reunification in 1990, states that every person shall have a right to "inform himself without hindrance from generally accessible sources."⁶¹ Subsequent sector-specific freedom of information legislation, such as the Environmental Information Act of 1994, granted free access to information about the environment that federal, state-level, and local authorities possessed, and the Consumer Information Law of 2007, which gives citizens the right to request information on food and consumer goods from public authorities.⁶² Similarly, the 2008 Geodata Access Act established a right of access to geographic information held by the federal government, while the Geodata Usage Ordinance of 2013 introduced free commercial and non-commercial usage rights to this data.⁶³

Until 2005, however, German citizens did not have a general right of access to government records. That year, the Freedom of Information Act elaborated on the Basic Law to grant citizens the right to access government information and set up procedures for requesting information that are generally in line with international standards.⁶⁴ The act also required the federal government to make certain documents available to the public on a designated website.⁶⁵ However, the law contained several broad exceptions, including information from regulatory authorities on financial and business competition, as well as information that would harm the "fiscal interests of the federal government."⁶⁶

In 2005, the German legislature also passed the Information Reuse Law, which focused on the economic aspects of data reuse, in particular placing a ceiling on charges the federal government can levy for reusing public sector information and forbidding private-sector bodies from entering into exclusive arrangements with some individual data users at the expense of others.⁶⁷ The law implemented and closely followed the EU's 2003 directive on the reuse of public sector information, which has since been adopted by a number of other European countries.⁶⁸

PRINCIPLE 1: OPEN BY DEFAULT

Germany has lagged behind most other G8 countries in implementing the principle of "open by default", in part because openness by default has been a low priority of the current government.⁶⁹ The open data action plan of the office of the Federal Ministry of the Interior states that Germany will implement this principle only "step by step over the long term."⁷⁰ Instead, the Ministry committed to issuing an ordinance to make federal data open and machine readable that will apply to "as many government data (*sic*) as possible."⁷¹ However, such an ordinance would miss the point of the open by default principle, which is meant to place the onus on government data holders to justify not releasing data rather than simply accepting that some data sets are not appropriate to publish openly.

PRINCIPLE 2: QUALITY AND QUANTITY

Germany has been somewhat proactive about releasing large quantities of high-quality data, although there is room to improve regarding metadata and certain high-value data sets. GovData, the nation's data portal, contained around 9,700 data sets as of January 2015.⁷² While this is not on

par with other major European data portals such as Data.gov.uk and Data.gouv.fr, GovData only launched in 2013, whereas the English and French portals launched in 2010 and 2011, respectively.

In its action plan, the Ministry of the Interior made a strong commitment to publish a wide variety of key data sets by the end of 2015, and offered one of the most comprehensive publication plans of any G8 country. However, some critical data sets, such as information on federal contract recipients, are noticeably absent from the plan, and the commitment to publish at least two data sets from each federal agency is weak.⁷³ Moreover, the data sets the Ministry of the Interior plans to release do not correspond with the data sets most highly prioritized by civil society organizations.⁷⁴

Finally, while GovData does not currently offer its data sets with uniform metadata, the action plan states that the Ministry of the Interior is seeking legislation that will standardize metadata of government data sets and plans to work with state and local authorities to implement the metadata standards.⁷⁵ While Germany lags some other G8 countries in this area, this commitment is still a step in the right direction and may be implemented in future versions of the GovData site, which was unfinished as of January 2015.⁷⁶ The Ministry of the Interior has established consistent metadata as a priority in its work on open data and efforts in this area are moving forward more quickly than most other aspects of open data in Germany.⁷⁷

PRINCIPLE 3: USABLE BY ALL

Germany's open data efforts in the area of usability have fallen considerably short, but recent efforts to promulgate a single standard license could help matters. As of November 2014, GovData hosts data sets carrying a bewildering array of licenses, and over a quarter of the data sets do not carry a license considered "open"⁷⁸ Having a large number of different licenses discourages reuse because users unfamiliar with a particular license may feel uncertain about what they can do with data that carries it.⁷⁹ In addition, because of the way GovData displays its data sets' formats, there is no easy way to determine how many data sets are available only in non-machine-readable or non-open formats.

Change may also be on the horizon with the creation of a new German data license that conforms to international standards for openness.⁸⁰ Although the license is not yet widely adopted, federal agencies and other stakeholders are expected to use it increasingly in the near future.⁸¹

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

Despite the aforementioned absence of certain key data sets on the GovData portal, Germany has made some commitments to releasing data with an eye toward improving governance. In particular, it clearly states in the open data action plan its commitments to engaging with civil society and sharing its lessons learned with the international community.⁸² The Ministry of the Interior is launching its flagship attempt to engage with civil society on open data issues in January 2015.⁸³ This project will convene a variety of stakeholders to advise the Ministry of the Interior on its open data strategy. However, while German officials have been proactive about sharing open data insights with other countries in the German-speaking world, their presence has been less pronounced in larger international forums.⁸⁴

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

Germany has made some positive if slightly vague commitments to releasing data for innovation in its action plan, mentioning plans to increase engagement with the developer community, promote public-private partnerships focused on open data, and prioritize data set releases based on demand.⁸⁵ However, while the private sector has been active in promoting data reuse and innovation—e.g., the Open Knowledge Foundation’s Code for Germany events—government officials have not been closely involved.⁸⁶

CONCLUSION

Overall, Germany has performed relatively weakly on its commitments to the Open Data Charter. While Germany has made commitments to involve civil society groups and the developer community in its open data efforts, and offered a detailed release schedule for key data sets, the country’s commitments in the areas of openness by default and usability have been sorely lacking. In addition, Germany delayed releasing its action plan by nine months, and it was the last of the G8 countries to submit a plan.⁸⁷ Coupled with the current German government’s staunch refusal to join the Open Government Partnership, these facts call into question how seriously Germany is taking its Open Data Charter commitments.

ITALY

DATA POLICY BACKGROUND

Italy's history of information freedom has been relatively short compared to that of other G8 countries. However, in recent years, the nation has adopted a number of information freedom policies with an eye toward combatting corruption.

Italy's recent progress began with the Anti-Corruption Law no. 190 of 2012, which entered into force in November of that year and established a new national anti-corruption authority, the Independent Commission for Evaluation, Integrity and Transparency (CIVIT).⁸⁸ CIVIT is authorized under the anti-corruption law to require government agencies to publish data, official papers, and other information for the purpose of auditing. The law also made substantial changes to the national Code of Public Contracts, requiring agencies to publish their contract-awarding process on their respective websites.

Also in 2012, the cabinet-level Council of Ministers issued Decree no.179, which modified the national Code of Digital Administration to make it easier for the public to access and share public data by mandating that agencies create dedicated pages on their websites to serve as data repositories. That decree also introduced an explicit policy of "open by default", stating that agencies must justify failing to publish data or using any licenses or data formats other than open ones.⁸⁹ The decree also established a new Agency for Digital Italy, which facilitates information sharing across agencies and is specifically charged with promulgating open data standards.

In 2013, the Italian government took a major step toward open data with its Decree no. 33, "Reorganization of the rules concerning the obligations to disclosure, transparency and dissemination of information by public authorities". That decree, issued by the cabinet-level Council of Ministers, broadens public access to information about how the government spends taxpayers' money and requires publication of information on the assets of people holding public office.⁹⁰ Decree no. 33 also elaborated on Decree no. 179's open data obligation, requiring agencies to create a website where they will publish all public data online and in non-proprietary, machine-readable formats. However, despite the aforementioned public access provisions, the decree does not specify additional data sets or data types that should be considered public in the future. Also in 2013, Decree no. 91 established open access to data from publicly funded scientific research, requiring funding bodies to make research and data available publicly within six months of initial publication.⁹¹

Although Decree no. 33 is a step in the right direction for information freedom in Italy, it contains a number of gaps that make it difficult for Italians to access and use government information.⁹² For example, the decree does not include a guaranteed maximum response time to information requests, and offers limited means for the public to appeal request denials.⁹³ Without a freedom of information framework that includes these internationally accepted provisions, open data efforts in the country will continue to face practical challenges to accessing information despite the government's efforts to promote open data.

PRINCIPLE 1: OPEN BY DEFAULT

Italy was one of the earliest adopters of the "open by default" principle. Decree no. 179 of 2012, which applies to all national agencies in Italy, established the principle for disseminating all public

information.⁹⁴ However, Italy's Open Data Action Plan for its G8 commitments makes only vague reference to its plans for publishing high-value data sets.⁹⁵ Experts interviewed for this report noted that the new government under Prime Minister Matteo Renzi has done little to implement the policy of open by default during the government's transition into office, which began after national elections in February 2014. Italy could strengthen its commitment to being open by default by issuing a schedule for publishing high-value data sets and creating prioritization mechanisms for future releases.

PRINCIPLE 2: QUALITY AND QUANTITY

Italy has made substantial efforts to improve the quality of its national open data portal, Dati.gov.it, but it lags behind countries such as Canada and the UK in publishing an inventory of all data sets. As of January 2015, the portal contained around 9,000 data sets.⁹⁶ Italy's Ministry for Simplification of Public Administration, which oversees the data portal, implemented a data harvesting system similar to that deployed in the United States and other countries, enabling it automatically to consolidate data sets published on local and regional data portals and offer them on the national portal.⁹⁷ The ministry has also firmly committed to standardizing the metadata of these data sets, which will help promote data quality, but it has not yet published an inventory of existing data sets.⁹⁸ A data inventory can help citizens and external evaluators determine how much of Italy's data has actually been made open. Without such an inventory, it is difficult to get a clear picture of the country's performance on releasing data.

PRINCIPLE 3: USABLE BY ALL

The Italian government has made mixed progress in improving data usability, with strong commitments around open licensing but weaker commitments around making data available free of charge. Decree no. 179 of 2012, which established the open by default principle, also defined open data as data that is available for commercial re-use and that is available free of charge.⁹⁹ Combined with the Council of Ministers' strong commitment to open licensing, this lays a healthy foundation for widespread usability. Given these facts, it was somewhat surprising that the Department of Public Administration and the Agency for Digital Italy, which created the G8 Open Data Action Plan, issued a relatively weak commitment to making data available free of charge.¹⁰⁰ The agencies wrote only that there are regulatory limits for charging data users and that the government has created the conditions to support free use of data. Since prior legislation has given agencies the legal authority to offer data freely, there is nothing stopping the Department of Public Administration and the Agency for Digital Italy from making a more concrete commitment to this effect.

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

Italy has made limited progress in releasing data for improved governance. The Department of Public Administration, the Agency for Digital Italy, and other Italian agencies have held numerous consultations on data policies with businesses, civil society organizations, and local and regional administrators, but the Italian government is not well-coordinated with the private sector regarding data demand.¹⁰¹ Moreover, the Italian government has failed to address civil society groups' suggestions for a mechanism to prioritize high-value data sets and for a stronger freedom of information framework.¹⁰² A robust freedom of information framework is a prerequisite for using

open data to improve governance, so these consultations will have been held in vain if 65 percent of Italian public information requests continue to be met with “mute refusal”, as was reported in an April 2013 survey by Access-Info Europe.¹⁰³ This may be due in part to a lack of awareness about freedom of information policies among some government officials.¹⁰⁴ Even so, the Agency for Digital Italy has made some positive efforts in this regard, publishing a website with government agencies’ experiences implementing open data initiatives in an effort to share successes and best practices internally.

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

Italy has made some progress in releasing data for innovation. Most importantly, the National Institute of Statistics and the Interregional Center for Geographic Information Systems and Statistics (CISIS), the national mapping authority, have committed to publishing their high-demand national statistics and national maps data in open formats by the end of 2014 and 2015, respectively.¹⁰⁵ In other areas, however, the country’s progress is somewhat less certain. Although the Open Data Action Plan makes a strong commitment to make open data available through APIs, it omits any mention of making data available for bulk download.¹⁰⁶ In addition, the national open data innovation competition Apps4Italy was discontinued in 2013.¹⁰⁷

CONCLUSION

Overall, Italy has performed at an intermediate level in its commitments to the Open Data Charter. Despite its short tradition of information policy, the country has made considerable progress in terms of usability, data quality, and open by default policies. However, its unsatisfactory engagement with civil society groups and its reticence to adopt a robust freedom of information framework have imposed obstacles to citizens obtaining and using data. If it is to make good on its forward-thinking policies, it will need to connect them with practice as soon as possible.

JAPAN

DATA POLICY BACKGROUND

Japan's engagement with freedom of information law began in 1999 with the passage of the Act on Access to Information Held by Administrative Organs.¹⁰⁸ That law gave members of the public the right to request paper or electronic documents held by national agencies and directed agencies to respond to such requests within thirty days, a standard met in the vast majority of cases.¹⁰⁹

Since then, most of the policy work around information access has been non-binding, in the form of guidelines and strategies. For example, in 2004, the national Chief Information Officer's office issued a set of guidelines directed at agencies for releasing public information online.¹¹⁰ Since then, several official documents, including the New Strategy in Information and Communications Technology, the Basic Action Plan for the Promotion of e-Government, and the Policy on Reforming Regulations and Systems for Promoting the Use of Telecommunications Technologies (all adopted in by the Prime Minister's cross-agency IT Strategic Headquarters in 2011), offer best practices for various aspects of maximizing the reuse potential of public government data.¹¹¹ Finally, in 2012, the IT Strategic Headquarters released the Open Government Data Strategy, a non-binding document that outlines some fundamental principles around releasing open data in Japan, including releasing data in machine-readable formats, releasing data for business and public value, and releasing data in a timely manner.¹¹²

PRINCIPLE 1: OPEN BY DEFAULT

Japan's Open Data Action Plan, authored by the Minister of Information Technology Policy, states that the government will "actively release public data," but it does not require that data be "open by default."¹¹³ Specifically, it is unclear whether the government considers agencies that actively release certain data sets but not others to be compliant. Promoting openness by default is not seen as a priority among government officials at present.¹¹⁴

PRINCIPLE 2: QUALITY AND QUANTITY

Japan's national open data portal, Data.go.jp, is moving in the right direction in terms of quantity but is still a work in progress in terms of quality.¹¹⁵ As of November 2014, the portal contained over 12,000 data sets, comparable in quantity to national data portals in the UK and France.¹¹⁶ However, Japan's portal contains a much higher proportion of data sets in PDF and HTML formats than those in other countries, with about 6,300 and 5,200 data sets in those formats, respectively.¹¹⁷ These formats are designed for human-readability, not machine-readability, which limits further data processing.¹¹⁸ Because of the way data formats are indexed on Data.go.jp, it is difficult to tell exactly how many of these data sets are *only* available in PDF or HTML formats, but this appears to be the case for a significant fraction of the data sets.¹¹⁹ However, this may improve in the future, as the Information Technology Policy Ministry has committed in its Open Data Action Plan to expanding machine-readable data releases within three years.¹²⁰

The Open Data Action Plan makes no mention of the capability to download data sets in bulk or of granting users access to data through APIs. Without offering bulk downloads, Data.go.jp users will be restricted in the range of applications they can create, and without API access, less experienced users could find it too difficult to work with government data.

PRINCIPLE 3: USABLE BY ALL

The Information Technology Policy Ministry has made a preliminary commitment to open licensing, stating that it plans to post new data sets on Data.go.jp under a Creative Commons license.¹²¹ However, the commitments still leave a number of gaps around licensing. For example, this commitment does not apply to data sets previously released under proprietary licenses.¹²² In addition, Data.go.jp provides poor licensing information, among the worst in the G8.¹²³ Users cannot search by license and sometimes the license is missing. The lack of standardized metadata means data sets do not always carry a metadata field specifying the license under which the data can be used. There is no commitment in the Open Data Action Plan around standardized metadata or making data available free of charge.¹²⁴ However, officials at the Information Technology Policy Ministry consider metadata and licensing standards to be a priority internally and are currently working to develop a blanket license that can apply to all data on Data.go.jp.¹²⁵

The Data.go.jp website has also suffered uptime issues and was inaccessible for several months in 2013 and early 2014 due to budgetary issues.¹²⁶ Although it has been accessible since January 2015, the possibility of downtime on a national data portal could discourage companies from reusing the portal's data for mission-critical applications.

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

Japan's commitments to releasing data for improved governance are generally encouraging but incomplete in some areas. The Open Data Action Plan commits to releasing data sets considered key in the G8 Open Data Charter, such as election information, budgets, and important national statistics data sets.¹²⁷ The plan also offers concrete deadlines for releasing these data sets.¹²⁸ Japan's Action Plan also makes a strong commitment to international collaboration, in particular committing to post examples of success stories and best practices on Data.go.jp.¹²⁹

However, Japan has taken some civil society organizations' priorities into account when releasing data.¹³⁰ While the Open Data Action Plan mentions engaging with civil society organizations through its recurring E-Government Open Data Executive Meetings, government agencies are primarily motivated to release open data for innovation; in some cases, civil society interests have been a secondary priority.¹³¹

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

Japan has made strong commitments to releasing data for innovation. Notably, the Open Data Action Plan commits to releasing data considered "high-value" by the G8, such as a company registry, national education data, and data concerning the country's foreign aid contributions, along with concrete deadlines that make Japan's commitment in this area among the best in the G8.

Japan also commits to engaging with the developer community, committing to "actively participate" in activities such as hackathons but not mentioning whether these events will be nationally sponsored. National agencies have partnered with private-sector organizations on hackathons and app contests in the past, as well as holding consultations with the private sector around data demand as specified in the 2012 Open Government Data Strategy.¹³²

CONCLUSION

Overall, Japan has performed at an intermediate level in its commitments to the Open Data Charter. The country has made the most rapid progress toward open data of any G8 country. While there is considerably more work to do in the areas of licensing, open formats, and “open by default” provisions, Japan has made some encouraging headway in other areas. In particular, Japan’s commitments to releasing key and high-value data sets are encouraging and show promise for the future of the country’s burgeoning open data program.

RUSSIA

DATA POLICY BACKGROUND

Following an exceptionally closed government information climate during the Cold War, Russia has taken some steps toward greater openness in recent years. These include a variety of measures focusing on open government that began in 2012, such as appointing the country's first cabinet-level Special Minister for Open Government and hosting a large conference around open government in Moscow.¹³³ In addition, the country adopted its first freedom of information law in 2009.¹³⁴ That law contains provisions for responding to information requests and some regulations concerning information to be released on official websites.¹³⁵ Finally, between May 2012 and September 2013, the Russian central government issued twenty-four orders containing provisions on public access to various kinds of government information.¹³⁶

However, not one of these orders specified that the public should be able to access this information as open data.¹³⁷ An independent evaluation of the government's activities regarding open data from the National Research University in Russia concluded that this shortcoming resulted from the fact that lawmakers did not consult with the agency in charge of open government when drafting orders that affect public access to information.¹³⁸ Moreover, even though there is a freedom of information law, government officials have low awareness of the law and limited accountability for following it, which often keeps private individuals from being able to access information in practice.¹³⁹

PRINCIPLE 1: OPEN BY DEFAULT

There is no "open by default" provision in Russian law, and it is not expected to be a priority for the government in the near future.¹⁴⁰

PRINCIPLE 2: QUALITY AND QUANTITY

At the federal level, Russia has made preliminary efforts toward releasing large quantities of high-quality data. Data.gov.ru, the federal open data portal managed by the Russian Ministry of Economic Development, is small compared to most other G8 countries' portals, containing 2,303 data sets as of November 2014.¹⁴¹ To the ministry's credit, the vast majority of these data sets are in the open and machine-readable CSV or XML formats.¹⁴² However, five of the top six agencies contributing to Data.gov.ru were local or regional governments, and all contributing federal agencies other than Rosstat, the national statistics agency, released fewer than 100 data sets each.¹⁴³ Moreover, an independent investigation from the National Research University found that dozens of the Rosstat data sets are merely different views of a single consumer price index data set.¹⁴⁴

Still, while the results have been somewhat meager, the Ministry of Economic Development has been somewhat proactive around setting goals for increased open data disclosures. The ministry established the Open Data of the Russian Federation Roadmap in 2012, which set targets for expanding the federal government's open data presence. For example, it set modest goals for the number of agencies with open data sections on their websites and the number of total federal data sets released. The aforementioned National Research University report, which also detailed Russian agencies' progress on the roadmap, found that agencies were on average 75 percent compliant with the goals set in the document, which the otherwise critical report found to indicate "a fairly responsible attitude toward open data."¹⁴⁵

PRINCIPLE 3: USABLE BY ALL

Although Russia has not released a large number of data sets on Data.gov.ru, the Russian Ministry of Economic Development appears to have made some efforts to ensure that the data the portal does contain are available for reuse. The portal does not carry data set-specific metadata on licensing or reuse rights, but the portal offers a blanket definition for open data as that which can be freely used for any “appropriate lawful purposes,” and this principle seems to apply to all the data sets hosted on the portal.¹⁴⁶ At present, it is ambiguous what license applies to the Russian government’s open data.¹⁴⁷

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

Russia’s efforts in releasing data for improved governance are lacking.¹⁴⁸ Certain key data sets, such as those concerning transportation infrastructure, are unavailable.¹⁴⁹ In addition, some key data sets are available but not yet machine readable, such as the company register, election results, and environmental pollution information.¹⁵⁰ This may improve in the future with the presence of the recently created Open Data Council, an advisory group comprised of representatives from public authorities, academia, and the private sector that helps Russian authorities prioritize data sets for release.¹⁵¹

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

The Russian government has made limited efforts to engage with entrepreneurs about releasing data for innovation.¹⁵² Recent private-sector hackathons, such as the Apps 4 Russia programming contest, and the Hackathon for Urbanists and Financiers, did not have any Russian federal government support.¹⁵³ In addition, while officials expressed interest in assessing the demand for open data by the business community, they have not yet conducted such a study.¹⁵⁴

CONCLUSION

Overall, Russia has performed weakly in its commitments to the Open Data Charter. The country’s administrative barriers to openness loom large in the shortcomings of its open data efforts. In particular, the country has a long way to go before it lives up to the G8 Open Data Charter’s principles around the principle of “open by default” and its efforts to engage with civil society and the private sector to prioritize data releases.

UNITED KINGDOM

DATA POLICY BACKGROUND

The UK did not have strong freedom of information laws until 2000. That year, the UK passed the Freedom of Information Act (FOIA), which establishes the public right to access paper or electronic copies of government-held information from all public authorities, excluding personal information about individuals and information that relates to national security or that is held by intelligence departments.¹⁵⁵ The Environmental Information Regulations law of 2004 provides a mechanism of public and electronic access, specifically to environmental information, similar to that provided for other information in the Freedom of Information Act.¹⁵⁶

In 2012, the Cabinet Office, an agency charged with supporting the Prime Minister and Cabinet, released a white paper outlining its vision for open data, including a schedule for openly releasing high-value data sets from various departments.¹⁵⁷ The Cabinet Office also published its 2012 Public Data Principles, a set of guidelines for how national government agencies should publish open data, such as using standard features like machine-readability, open formats, and open licenses.¹⁵⁸

PRINCIPLE 1: OPEN BY DEFAULT

The UK committed to mandating an “open by default” policy in its first Open Government Action Plan. While it has made some progress by creating non-binding guidelines and codes of practice, it has not yet mandated “open by default.”¹⁵⁹

The UK has created four non-binding commitments to open by default. First, the 2012 Public Data Principles state that public data should be open without caveat or exception.¹⁶⁰ Second, the Secretary of State’s 2013 Code of Practice, which provides guidance for public authorities on handling FOIA requests, reinforced this sentiment, noting that authorities releasing data under the act must, as far as is reasonably practical, provide it in a machine-readable format, with the UK Open Government License as the default licensing model.¹⁶¹ Third, the Information Fair Trader Scheme, a standards-setting body at the National Archives that public agencies can voluntarily commit themselves to, recommends that most government information should be made available free of charge or at marginal cost. As of January 2015, eighteen public bodies, including major data holders such as the Met Office, the Companies House, the Environment Agency, and the Ordnance Survey have joined the scheme.¹⁶² Fourth, the Cabinet Office’s 2012 Open Standards Principles for software interoperability and data formats state that government bodies must require IT solutions that comply with open data standards.¹⁶³

Occasional technological and cultural barriers, including legacy IT systems’ inability to produce data in machine-readable formats and some government departments’ reticence to release data, have sometimes stymied further progress in releasing open data by default.¹⁶⁴ Some current efforts squarely target these barriers. For example, in February 2014, the Cabinet Office announced about £1.5M (\$2.5M) in funding toward projects related to open data in government, including one project with the explicit goal of advancing a culture of “open by default” by providing open data training to public servants.¹⁶⁵

PRINCIPLE 2: QUALITY AND QUANTITY

The UK is one of the global leaders in open data quality and quantity. The UK claimed the top spot on the World Wide Web Foundation's 2015 Open Data Barometer, eclipsing the United States in terms of data on the basis of the greater availability and quality of UK company registration and land ownership data.¹⁶⁶ The UK has since made additional efforts toward company transparency, with the Companies House pledging in July 2014 to make all of its digital information available openly.¹⁶⁷

As of January 2015, the UK's data portal contained approximately 20,000 published and over 4,000 unpublished data sets, and government agencies publishing data through Data.gov.uk have generally been proactive in releasing large amounts of high quality data.¹⁶⁸ This total trails the United States' Data.gov and Canada's Open.canada.ca in terms of quantity of data sets. The portal offers several unique components, including a joint effort from the Cabinet Office and Data.gov.uk developers to identify and fix broken links in data sets and a feature that lets users view certain metadata of those data sets that agencies have included in their data inventories but have not yet published.¹⁶⁹

PRINCIPLE 3: USABLE BY ALL

The UK has been a global leader in ensuring its public data is usable by all, in part for having completed its commitments around open licensing ahead of schedule. The Open Government License, first published in 2010, permits free and unlimited reuse with modification, subject only to attribution.¹⁷⁰ The license covers approximately three-quarters of published data sets on data.gov.uk and is widely used by English and Welsh local authorities in addition to federal agencies.¹⁷¹

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

The UK has made substantial progress on releasing data for improved governance, including input from data users, but there is still room for improvement.¹⁷² The government has undertaken efforts to engage with civil society to prioritize data releases.¹⁷³ However, a 2013 study evaluating the impacts of the UK's open data efforts found that while open data had increased government accountability in some cases, it had done little to increase public participation.¹⁷⁴

Certain key data sets for improved governance have licensing and timeliness problems. The UK Electoral Commission's election data, for example, do not carry an open license and in some cases may not be freely reused.¹⁷⁵ In addition, legislative data are not available for bulk download.¹⁷⁶ Government agencies have resisted releasing certain high-value data sets, such as those underlying policy statements and official surveys, in a timely fashion.¹⁷⁷

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

The UK has made considerable progress in releasing data for innovation, convening private-sector stakeholders to prioritize data sets for release, offering funding for data-driven startups, and hosting a variety of hackathons and other events to promote data use.

The Cabinet Office has instituted feedback mechanisms with private sector stakeholders through the Open Data User Group (ODUG), an independent advisory group representing data users that provides recommendations on funding for open data initiatives and that conducts public consultations to identify and prioritize data sets for open release.¹⁷⁸ ODUG has also released a set of fifty case studies of businesses that make extensive use of open data, in an effort to demonstrate data

demand to agencies and spur more innovative business ideas in the private sector.¹⁷⁹ The non-profit Open Data Institute (ODI) also works to promote open data release within the government and innovation in the private sector, convening experts, publishing open data use case studies, and offering training courses. Regarded as a successful model for encouraging open data innovation, the Open Data Institute has expanded to include eleven branches in other cities around the world, and it has been replicated in the United States as the U.S. Open Data Institute.¹⁸⁰

Public and private-sector efforts have been made to engage the developer community directly. The Department for Business, Innovation, and Skills has tried to spur open data innovation through its Technology Strategy Board. The board operates an open data innovation voucher program, whereby startups can receive grants of up to £5,000 (\$8,300) for open data consulting and services.¹⁸¹ The Open Data Challenge Series, administered by the Open Data Institute and innovation charity Nesta, hosts challenges to encourage open data innovation in the private sector and offers £400,000 (\$660,000) in prizes annually.¹⁸²

Finally, local and regional governments have been proactive in engaging with developer communities to promote open data innovation. Agencies have hosted hackathons and challenges around issues such as mental health care, flooding, and food security, and new events are regularly announced.¹⁸³

CONCLUSION

Overall, the UK has performed strongly in its commitments to the Open Data Charter. The country is one of the world leaders in open data, and it has delivered on most of its Open Data Charter commitments. Areas to improve include increasing consultation with civil society groups to identify gaps in data releases, ensuring that as much data as possible fall under open licenses, and fully implementing its “open by default” policy.

UNITED STATES

DATA POLICY BACKGROUND

The United States established its first freedom of information law in 1966, and its efforts have spurred numerous other governments to pass similar legislation. The nation was also among the first, through the 2013 Executive Order on Open Data, to promote a national open data policy.

The Freedom of Information Act (FOIA), passed in 1966, established the foundations for government information disclosure by requiring agencies to answer requests for public records.¹⁸⁴ Numerous acts since then have amended it, including the Privacy Act of 1974, which gave individuals access and amendment rights to their own government-held information; the Government in the Sunshine Act of 1976, which established exemptions to FOIA, including information pertaining to national defense and information relating to ongoing investigative proceedings, among other protected categories; and the Electronic Freedom of Information Act of 1996, which required that agencies make certain information available in electronic formats.¹⁸⁵

Agencies have not developed a consensus for how to fulfill the requirements of FOIA. A nonbinding 2009 memorandum from the office of the Attorney General encouraged agencies to achieve the maximum possible information disclosure given restrictions on releasing information that could have national security or privacy implications.¹⁸⁶ However, officials have challenged this approach, including in a 2001 memorandum encouraging agencies to take advantage of legal exemptions to releasing information.¹⁸⁷ Future administrations may also change these guidelines.

Finally, in 2013, President Obama's executive order on open and machine-readable government information, and the Office of Management and Budget's memorandum on open data policy formally introduced the principle of "open by default", requiring agencies to begin releasing data in open and machine-readable formats, and offering guidance for agencies to implement open data initiatives.¹⁸⁸

PRINCIPLE 1: OPEN BY DEFAULT

The U.S. government has made a strong commitment to the principle of openness by default. The 2013 executive order explicitly contains language calling for open data to be "the new default" for government information.¹⁸⁹ To help agencies rapidly expand their capabilities to be open by default, the White House launched Project Open Data in 2013 as a collection of resources including code, case studies, and standards information.¹⁹⁰

PRINCIPLE 2: QUALITY AND QUANTITY

The United States is one of the world's leaders in terms of releasing large quantities of high-quality data, but there is still room for improvement regarding certain kinds of data.¹⁹¹ Data.gov, the United States federal data repository, hosts the second-most numerous data sets of any national platform in the G8, trailing Canada, with 137,601 data sets as of January 2015.

In addition to quantity, agencies can use the volume of FOIA requests they receive as a metric of success for open data. While this is a relatively new approach to measuring open data efforts, some state agencies, such as New York's Department of Environmental Conservation, have found that opening key data sets can substantially reduce FOIA requests.¹⁹² Federal agencies such as the Food

and Drug Administration have also made efforts to take FOIA requests into account in open data releases, but it will take time to determine if this approach is successful.¹⁹³

PRINCIPLE 3: USABLE BY ALL

The United States has made progress in ensuring that open data is usable by all, particularly in the area of offering machine-readable information on Data.gov, although many data sets hosted on the portal are in proprietary formats. In addition, the country still has room to improve with respect to open licenses and public data inventories.

The United States has made strong commitments to releasing data under open licenses, and the vast majority of data sets on Data.gov are in the public domain. However, some data sets not directly created by the federal government may carry a more restrictive license. In addition, some data sets scheduled to be released as part of the U.S. Open Data Action Plan are only available for non-commercial purposes.¹⁹⁴ Federal government policy requires agencies to describe data sets with standard metadata.¹⁹⁵ Unfortunately, this standard does not include mandatory licensing information. As a result, approximately 70 percent of the datasets on Data.gov do not have licensing information.¹⁹⁶

One area where the United States' commitments to the G8 charter are unclear is in the area of free access to open data. Paragraph 20 in the charter indicates that open data should be available free of charge to encourage the most widespread use, and paragraph 22 states that member countries will offer free access to data where possible.¹⁹⁷ However, the U.S. action plan contains no commitment to provide data free of charge, despite the fact that every data set listed in the plan's selected examples of data releases is available free of charge.¹⁹⁸ Making a firm commitment to offering data free of charge could help ensure that this precedent continues to be upheld.

In addition, the charter specifies that each country will create a data catalog, an inventory of data sets including both released and to-be-released information. Although all executive branch agencies in the United States are required to publish a machine-readable data catalog, the requirement does not apply to agencies outside the executive branch, and many agencies do not have such public facing inventories.¹⁹⁹

Making an explicit commitment to release data freely when possible and offering detailed data inventories from all agencies would help move the United States forward on its G8 charter commitments to usability.

PRINCIPLE 4: RELEASING DATA FOR IMPROVED GOVERNANCE

The United States has released some data for improved governance, including federal grants data and stimulus funding information. However, important gaps, such as corporate registration data, which can be used to fight crime and corruption, remain.²⁰⁰

The United States lacks a federal repository for corporate registrations, and policies on corporate licensing differ from state to state.²⁰¹ One of the nation's commitments to the Open Government Partnership was to increase transparency of legal entities formed in the country, which would mean making information on corporate ownership more broadly available. Despite the Obama Administration's support for the 2011 "Incorporation Transparency and Law Enforcement Assistance

Act”, which would have required greater transparency in corporate ownership, no bills in this area have become law, and there has been little legislative focus in this area since 2011.²⁰²

Congress has had more success with regard to other areas of open data, passing the Digital Accountability and Transparency Act (DATA Act) in 2014, which will standardize and publish federal financial reporting information.²⁰³ The bill, which passed unanimously in both the House of Representatives and the Senate, demonstrates the bipartisan appeal of open data in the United States.

The United States has also made substantial progress in releasing other kinds of data for improved governance. For example, stimulus spending information is publicly available on the federal Recovery.gov website and federal grants and contracts are documented on the Treasury’s USAspending.gov.²⁰⁴

In general, U.S. efforts to release open data for improved governance have been promising, but more work remains. While many agencies have released key data sets, some have found political and cultural barriers to certain releases. For example, doctors’ groups such as the American Medical Association opposed the Centers for Medicare and Medicaid Services’ 2014 publication of physician-level insurance claims data.²⁰⁵

PRINCIPLE 5: RELEASING DATA FOR INNOVATION

Many U.S. federal agencies have been proactive about releasing data for innovation, and innovation is one of the major focuses of the U.S. action plan. The United States made a relatively strong commitment to releasing data sets considered “high value” under the G8 Open Data Charter, offering in its Open Data Action Plan a schedule for releasing a number of such data sets.²⁰⁶ Several federal agencies, including the Department of Health and Human Services, the Department of Energy, and the Department of Transportation have hosted “datapaloozas”, conference-hackathon hybrids that connect developers with government officials around open data.²⁰⁷ The White House’s Project Open Data offers a template for other agencies hoping to host similar events.²⁰⁸ The Department of Commerce and the Department of Agriculture have already participated in roundtable discussions on this topic hosted by New York University’s GovLab, and ten more plan to participate in the future.²⁰⁹ Other agencies have explicitly prioritized their open data releases to correspond with private-sector demand. The Food and Drug Administration, for example, prioritized its OpenFDA data releases according to the frequency with which data sets were requested under FOIA.²¹⁰ The United States is on schedule with regard to its commitments to release data for innovation.

CONCLUSION

Overall, the United States has performed strongly in its commitments to the Open Data Charter. The country has made great strides in releasing data for innovation, ensuring an ethic of “open by default”, and releasing large quantities of high-quality data. The country has made some progress in ensuring that open data is usable by all and releasing data for improved governance, but there is more work to be done in these areas.

RECOMMENDATIONS

Given the high degree of variation in countries' progress at fulfilling commitments to the Open Data Charter, each country has its own unique challenges. However, our analysis has revealed certain underlying themes in terms of most countries' next steps, including a need to collaborate internationally; a need to generate political will and visibility around open data issues; a need to provide support, education, and training to agency officials tasked with releasing open data; and a need to undertake more meaningful interactions with civil society to develop open data initiatives in the long-term.

To the extent that countries still face technical barriers to open data release and use, such as metadata and licensing issues, international collaboration is important. There is no need for countries to develop their own licenses when a number of adequate ones exist, including the UK's Open Government License and various Creative Commons licenses. It is also unnecessary for countries to build their national data portals from scratch when robust and internationally supported open source data publishing platforms such as CKAN exist, as well as commercial solutions. While there may be some utility in developing country-specific metadata schemes to reflect differing governance structures from country to country, this is also an area where governments with less experience can learn from countries with more mature metadata efforts.

Interviewees in several countries cited a lack of political will and visibility around open data issues as the primary impediment to progress on Open Data Charter commitments. The reasons for these conditions, however, varied from country to country. In Italy, a series of government transitions has interrupted civil society's momentum around open data; while in Germany and Russia, the governments have strongly resisted international influence around their open data priorities. Similarly, potential solutions differ from country to country. While international encouragement might help remind Italian leaders of the importance of open data, German and Russian civil society groups will likely need to take the lead on improving open data's visibility in those countries.

Where political will and public awareness of open data issues are relatively high, such as in the UK, government priorities have begun to shift from simply publishing data to creating strong user communities and maximizing government data's reuse value. The country's influential Open Data Institute, a non-profit organization devoted to advancing the use of open data, was recently replicated in the United States with its U.S. Open Data Institute, funded by the Knight Foundation; it offers an excellent model for supporting and coordinating open data efforts between government agencies, civil society groups, and the private sector. In addition, the UK's Open Data User Group, an advisory council that reports to the country's Cabinet Office, represents a good approach to incorporating civil society and private-sector perspectives into government decision-making around open data. While not all countries have access to the same levels of expertise on open data as the UK enjoys, the notions of a unified civil society authority working to improve a country's open data initiatives and a government group of external open data experts could be helpful for all Open Data Charter signatories as they plan the way forward.

APPENDIX 1: OPEN DATA ACTION PLANS

All of the G8 countries have produced an “Open Data Action Plan.” The following table contains links to these plans.

Country	URL of Open Data Action Plan
Canada	http://open.canada.ca/en/g8-open-data-charter-canadas-action-plan
France	https://www.etalab.gouv.fr/en/frenchprimeministerreleasestheg8opendatacharteractionplanforfrance
Germany	http://www.verwaltung-innovativ.de/SharedDocs/Publikationen/Pressemitteilungen/nationaler_aktionsplan_open_data_englisch.pdf?__blob=publicationFile&v=1
Italy	http://www.funzionepubblica.gov.it/media/1104831/piano_azione_g8_open_data.pdf
Japan	http://www.kantei.go.jp/jp/singi/it2/cio/dai53/plan_en.pdf
Russia	http://opendata.open.gov.ru/upload/iblock/996/9963ee33cc3b315533b2b4917edde11e.docx
UK	https://www.gov.uk/government/publications/g8-open-data-charter-national-action-plan
United States	http://www.whitehouse.gov/sites/default/files/microsites/ostp/us_open_data_action_plan.pdf

Figure 6: URLs of Open Data Action Plan, by country

ACKNOWLEDGEMENTS

For information on open data initiatives, the Center for Data Innovation consulted with the following experts. Any errors or omissions are the authors' alone.

CANADA

Mary Francoli, Associate Professor of Communication Studies, Carleton University
James McKinney, Executive Director, Open North

FRANCE

Kat Borlongan, Co-Founder, Five-by-Five and Open Data Institute Paris
Jean-Marie Bourgogne, Director, Montpellier Open Data Project, Co-Founder of OpenDataFrance

GERMANY

Christian Heise, Board Member, Open Knowledge Foundation Germany
Joern von Luck, Director, The Open Government Institute, Zeppelin University

ITALY

Giorgia Lodi, Consultant, Agency for Digital Italy
Maurizio Napolitano, Head of Digital Commons Lab, Fondazione Bruno Kessler

JAPAN

Soichiro Takago, Research Fellow, Interfaculty Initiative in Information Studies, University of Tokyo
Tomoaki Watanabe, Coordinator, Open Knowledge Foundation Japan

RUSSIA

Ivan Begtin, Ambassador, Open Knowledge Foundation Russia, Director, Information Culture
Evgeny Styrin, Researcher, the Institute for Public and Municipal Administration, National Research University Higher School of Economics

UK

Harvey Lewis, Research Director (Data), Deloitte
Jeni Tension, Technical Director, Open Data Institute

UNITED STATES

Waldo Jacquith, Director, U.S. Open Data Institute
Matt Rumsey, Policy Associate and the Director of the Advisory Committee on Transparency, the Sunlight Foundation
Sean Vitka, Federal Policy Manager, the Sunlight Foundation
Rebecca Williams, Senior Engagement Liaison, Data.gov, U.S. General Services Administration

REFERENCES

1. "International standards: Right to information," *Article 19*, April 5, 2012, <http://www.article19.org/resources.php/resource/3024/en/international-standards:-right-to-information>.
2. James Manyika et al., "Open Data: Unlocking Innovation and Performance with Liquid Information," *McKinsey Global Institute*, October 2013, http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information.
3. "The Open Data Economy: Unlocking Economic Value by Opening Government and Public Data," *Capgemini*, February 7, 2013, 8, <http://ebooks.capgemini-consulting.com/The-Open-Data-Economy/files/assets/basic-html/page8.html>.
4. "The Value of Danish Address Data," *Danish Enterprise and Construction Authority*, July 7, 2010, http://www.adresse-info.dk/Portals/2/Benefit/Value_Assessment_Danish_Address_Data_UK_2010-07-07b.pdf.
5. John Carpenter and Phil Watts, "Assessing the Value of OS OpenData™ to the Economy of Great Britain - Synopsis," *UK Ordnance Survey*, June 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207692/bis-13-950-assessing-value-of-opendata-to-economy-of-great-britain.pdf.
6. Heather Timmons, "Monitoring the spreading radiation from Fukushima, in real time," *Quartz*, September 5, 2013, <http://qz.com/121562/monitoring-the-spreading-radiation-from-fukushima-in-real-time/>.
7. Travis Korte, "5 Q's for Transportation Economist Holly Krambeck," *The Center for Data Innovation*, March 6, 2014, <http://www.datainnovation.org/2014/03/5-qs-for-transportation-economist-holly-krambeck/>.
8. Francois van Schalkwyk et al., "Case study: Open data in the governance of South African higher education," *Open Data Research Network*, April 2014, <http://www.opendataresearch.org/content/2014/710/case-study-open-data-governance-south-african-higher-education>.
9. Reed Abelson and Sarah Cohen, "Sliver of Medicare Doctors Get Big Share of Payouts," *The New York Times*, April 9, 2014, <http://www.nytimes.com/2014/04/09/business/sliver-of-medicare-doctors-get-big-share-of-payouts.html>.
10. David Eaves, "Case Study: How Open data saved Canada \$3.2 Billion," *Eaves.ca*, April 14, 2010, <http://eaves.ca/2010/04/14/case-study-open-data-and-the-public-purse/>.
11. Delphine Reuter, "Open Data: Fighting corruption in Italy and beyond," *International Journalism Festival*, May 1, 2014, <http://www.journalismfestival.com/news/open-data-fighting-corruption-in-italy-and-beyond/>.
12. "Access to Information Act (R.S.C., 1985, c. A-1)," *Government of Canada*, accessed March 4, 2015, <http://laws-lois.justice.gc.ca/eng/acts/A-1/page-1.html>; and "Privacy Act (R.S.C., 1985, c. P-21)," *Government of Canada*, accessed March 4, 2015, <http://laws-lois.justice.gc.ca/eng/acts/P-21/index.html>.
13. Kristen Douglas, Elise Hurtubise-Loranger, and Dara Lithwick, "The Access to Information Act and Proposals for Reform," *Parliamentary Information and Research Service*, June 6, 2012, <http://www.parl.gc.ca/Content/LOP/ResearchPublications/2005-55-e.pdf>.
14. "Federal Accountability Act (S.C. 2006, c. 9)," *Government of Canada*, accessed March 4, 2015, <http://laws-lois.justice.gc.ca/eng/acts/F-5.5/>.

15. "Public Servants Disclosure Protection Act (S.C. 2005, c. 46)," *Government of Canada*, accessed March 4, 2015, <http://laws-lois.justice.gc.ca/eng/acts/P-31.9/>.
16. "Canada's Action Plan on Open Government," *Government of Canada*, accessed March 4, 2015, <http://data.gc.ca/eng/canadas-action-plan-open-government>.
17. "Bill C-613: An Act to amend the Parliament of Canada Act and the Access to Information Act (transparency)," *Parliament of Canada*, June 11, 2014, <http://www.parl.gc.ca/HousePublications/Publication.aspx>.
18. Mary Francoli, "Independent Reporting Mechanism: Canada Progress Report 2012-2013," *Open Government Partnership*, 2014, http://www.opengovpartnership.org/sites/default/files/Canada_final_2012_Eng.pdf.
19. Janet Davidson, "How open is Ottawa's new 'open data' website?" *CBC News*, June 19, 2013 <http://www.cbc.ca/news/technology/how-open-is-ottawa-s-new-open-data-website-1.1373680>; and Mary Francoli, "Independent Reporting Mechanism: Canada Progress Report 2012-2013," *Open Government Partnership*.
20. Author interview.
21. Ibid.
22. "Open Government License - Canada," *Government of Canada*, accessed March 4, 2015, <http://data.gc.ca/eng/open-government-licence-canada>.
23. Mary Francoli, "Independent Reporting Mechanism: Canada Progress Report 2012-2013," *Open Government Partnership*.
24. "Web Experience Toolkit," *Government of Canada*, October 1, 2012, <http://www.tbs-sct.gc.ca/ws-nw/wa-aw/wet-boew/index-eng.asp>; and Mary Francoli, "Independent Reporting Mechanism: Canada Progress Report 2012-2013," *Open Government Partnership*.
25. Author interview.
26. "G8 Open Data Charter – Canada's Action Plan," *Government of Canada*, July 11, 2014, <http://data.gc.ca/eng/g8-open-data-charter-canadas-action-plan>.
27. Ibid.
28. Author interview.
29. "Open Government Consultation Report," *Government of Canada*, March 26, 2012, <http://data.gc.ca/eng/open-government-consultation-report>.
30. Mary Francoli, "Independent Reporting Mechanism: Canada Progress Report 2012-2013," *Open Government Partnership*.
31. "Developer's Corner," *Government of Canada*, accessed March 4, 2015, <http://open.canada.ca/en/site-structure/developers-corner>.
32. "About CODE - Canadian Open Data Experience," *Government of Canada*, accessed March 4, 2015 <http://data.gc.ca/eng/about-code-canadian-open-data-experience>.
33. Nick Waddell, "Why Open Data was the best \$3-million investment in Canada's 2014 budget," *Cantech Letter*, February 12, 2014, <http://www.cantechletter.com/2014/02/open-data-best-3-million-investment-canadas-2014-budget/>.

34. "Declaration of the Rights of Man - 1789," *Yale Law School*, accessed March 4, 2015, http://avalon.law.yale.edu/18th_century/rightsof.asp.
35. "Transparency & Silence," *The Open Society Justice Initiative*, 2006, http://www.opensocietyfoundations.org/sites/default/files/transparency_20060928.pdf.
36. "France: International Focus," *University College London Constitution Unit*, September 30, 2011, <http://www.ucl.ac.uk/constitution-unit/research/foi/countries/france>.
37. "Overview of Member States' National Legislation Concerning Access to Documents," *The European Commission Secretary General*, October 9, 2000, http://ec.europa.eu/transparency/access_documents/docs/apercu_en.pdf.
38. "Transparency & Silence," *The Open Society Justice Initiative*.
39. Ibid.
40. "Better Regulation in Europe: France," *Organisation for Economic Co-operation and Development*, 2010, <http://www.oecd.org/gov/regulatory-policy/45706697.pdf>.
41. "Licence « conditions of the reuse of public information that is freely reusable », " *Repertoire des Informations Publiques du Ministere de la Justice*, accessed March 5, 2015, http://www.rip.justice.fr/conditions_of_the_reuse_of_public_information_that_is_freely_reusable.
42. Ibid.
43. Ibid.
44. "France Plans to Join OGP, Will Become 64th Member," *Freedominfo.org*, April 24, 2014, <http://www.freedominfo.org/2014/04/france-plans-join-ogp-will-become-64th-member/>.
45. "Open government data: France creates the role of State Chief Data Officer," *Etalab*, May 21, 2014, <http://www.etalab.gouv.fr/en/open-government-data-france-creates-the-role-of-state-chief-data-officer>.
46. James Kin-sing Chan, "G8 Open Data Charter Action Plan: Open data by default, but you may have to pay," *The Sunlight Foundation*, July 28, 2014, <http://sunlightfoundation.com/blog/2014/07/28/g8-open-data-charter-action-plan-open-data-by-default-but-you-may-have-to-pay-for-it/>.
47. *Data.gouv.fr*, accessed October 23, 2014, <https://www.data.gouv.fr/fr/datasets/>.
48. "Action Plan for France: G8 Open Data Charter," *Etalab*, November 6, 2013, <http://www.slideshare.net/Etalab/open-data-g8-action-plan-for-france-veng>.
49. Ibid.
50. Ibid.
51. "License Ouverte," *Data.gouv.fr*, October, 2011, https://wiki.data.gouv.fr/images/0/05/Open_Licence.pdf; For more on open licenses, see "Conformant Licenses," *Open Definition*, accessed February 5, 2015, <http://opendefinition.org/licenses/>.
52. *Data.gouv.fr*.
53. Ibid.
54. "Action Plan for France: G8 Open Data Charter," *Etalab*.
55. Guillaume Champeau, "Open Data: Les Prix des Stations Essence Restent Payants, et Chers," *Numerama*, March 15, 2013, <http://www.numerama.com/magazine/25392-open-data-les-prix-des-stations-essence-restent-payants-et-chers.html>.

56. "Action Plan for France," *The Paris Conference*, April 24, 2014, <http://www.laconferencedeparis.com/agenda.html>; Francis Maude, "Francis Maude welcomes France to the Open Government Partnership," *Gov.uk*, April 24, 2014, <https://www.gov.uk/government/speeches/francis-maude-welcomes-france-to-the-open-government-partnership>; and "Open data and democracy: answer by Henri Verdier, « Mr. Data » of the government," *The Open Data Institute*, August 21, 2014, <http://theodi.org/blog/open-data-and-democracy-answer-by-henri-verdier-mr-data-of-the-government>.
57. "France: International Focus," *University College London Constitution Unit*.
58. "French Government to Invest €2.5m in Open Data," ePSIplatform, January 27, 2015, <http://www.epsiplatform.eu/content/french-government-invest-€25m-open-data>.
59. "Dataconnexions, La Communauté de L'Innovation," *Etalab*, accessed October 23, 2014, <http://www.etalab.gouv.fr/presentation>.
60. "Le concours Dataconnexions 5," *Data.gouv.fr*, accessed March 4, 2015, <https://www.data.gouv.fr/en/dataconnexions>.
61. "Basic Law for the Federal Republic of Germany," *IUSCOMP*, May 23, 1949, <http://www.iuscomp.org/gla/statutes/GG.htm>.
62. "Environmental Information Act," *Federal Law Gazette*, July 8, 1994, <http://www.iuscomp.org/gla/statutes/ UIG.htm>; and "Law on Improvement of Health-Related Consumer Information," *FAOLEX*, accessed November 3, 2014, http://faolex.fao.org/cgi-bin/faolex.exe?rec_id=108292&database=faolex&search_type=link&table=result&lang=eng&format_name=@ERALL.
63. "Open Data Activities in Germany," *United Nations Group of Experts on Geographical Names*, May 2, 2014, http://unstats.un.org/unsd/geoinfo/UNGEGN/docs/28th-gegn-docs/WP/WP21_OpenData_Germany_item%209_UNGEGN-28_final.pdf.
64. "Federal Act Governing Access to Information Held by the Federal Government," *Federal Law Gazette*, September 5, 2005, http://www.bfdi.bund.de/SharedDocs/IFG/IFGBundesgesetzUndGebuehrenO/TextIFG_EN.pdf?__blob=publicationFile; and "International standards: Right to information," *Article 19*, April 5, 2012, <http://www.article19.org/resources.php/resource/3024/en/international-standards:right-to-information>.
65. Ibid.
66. Ibid.
67. "Final Report: Public Sector Information (PSI): Identification of Potential Exclusive Arrangements (EA) In Germany," *European Commission Information Society and Media Directorate-General, Digital Libraries and Public Sector Information Unit*, 2010, <http://bookshop.europa.eu/es/public-sector-information-psi-identification-of-potential-exclusive-arrangements-ea-in-germany-pbKK0214219/>.
68. "European Legislation on Reuse of Public Sector Information," *European Commission*, February 02, 2015, <http://ec.europa.eu/digital-agenda/en/european-legislation-reuse-public-sector-information>.
69. Author interview.
70. "The Federal Government's National Action Plan to Implement the G8 Open Data Charter," *Federal Ministry of the Interior*, September 2014, http://www.cio.bund.de/SharedDocs/Publikationen/DE/Aktuelles/20140918_nationeler_aktionsplan_open_data_englisch.pdf?__blob=publicationFile.

71. Ibid.
72. GovData, accessed November 3, 2014, <https://govdata.de>.
73. Miranda Neubauer, "Germany Releases Open Data Action Plan Amidst Grassroots Enthusiasm and Pirate Party Turmoil," *TechPresident*, September 22, 2014, <http://techpresident.com/news/wegov/25280/germany-releases-open-data-action-plan>.
74. Author interview.
75. "The Federal Government's National Action Plan to Implement the G8 Open Data Charter," *Federal Ministry of the Interior*.
76. Author interview.
77. Ibid.
78. GovData.
79. "Joint Statement: Finally Setting the Standard to 'Open!'" *Not Your GovData*, accessed November 3, 2014, <http://not-your-govdata.de/en/>.
80. Author interview; and Miranda Neubauer, "Germany Releases Open Data Action Plan Amidst Grassroots Enthusiasm and Pirate Party Turmoil," *TechPresident*.
81. Author interview.
82. "The Federal Government's National Action Plan to Implement the G8 Open Data Charter," *Federal Ministry of the Interior*.
83. Author interview.
84. Ibid.
85. "The Federal Government's National Action Plan to Implement the G8 Open Data Charter," *Federal Ministry of the Interior*.
86. Author interview.
87. James Kin-sing Chan, "G8 Open Data Charter Action Plan: Open data by default, but you may have to pay," *The Sunlight Foundation*, July 28, 2014, <http://sunlightfoundation.com/blog/2014/07/28/g8-open-data-charter-action-plan-open-data-by-default-but-you-may-have-to-pay-for-it/>.
88. "Self Evaluation of the Italian Action Plan," *The Open Government Partnership*, accessed October 12, 2014, <http://www.opengovpartnership.org/country/italyself-assessment/self-assessment>.
89. Ibid.
90. Ibid.
91. Ibid.
92. Guido Romeo, "Why Italy Needs a Proper Freedom of Information Law," *Open Society Foundations*, May 22, 2013, <http://www.opensocietyfoundations.org/voices/why-italy-needs-proper-freedom-information-law>.
93. Ibid.
94. Andrea Menapace, "Independent Reporting Mechanism Progress Report Italy 2012-13," *Open Government Partnership*, accessed October 12, 2014,

[http://www.opengovpartnership.org/sites/default/files/Italy%20GP%20IRM%20Public%20Comment%20\(Eng\)_0.pdf](http://www.opengovpartnership.org/sites/default/files/Italy%20GP%20IRM%20Public%20Comment%20(Eng)_0.pdf).

95. The plan states only that “Italy is committed to publishing, along with the key datasets, a number of high value datasets listed in the G8 Collective Action Plan.” James Kin-sing Chan, “G8 Open Data Charter Action Plan: Open data by default, but you may have to pay,” *The Sunlight Foundation*.
96. *Dati.gov.it*, accessed October 12, 2014, <http://www.dati.gov.it>.
97. Author interview; and “Self Evaluation of the Italian Action Plan,” *The Open Government Partnership*.
98. James Kin-sing Chan, “G8 Open Data Charter Action Plan: Open data by default, but you may have to pay,” *The Sunlight Foundation*.
99. Andrea Menapace, “Independent Reporting Mechanism Progress Report Italy 2012-13,” *Open Government Partnership*.
100. “Open Data Action Plan,” *Minister for Simplification of Public Administration*, 2013, www.funzionepubblica.gov.it/media/1104831/piano_azione_g8_open_data.pdf.
101. “Self Evaluation of the Italian Action Plan,” *The Open Government Partnership*.
102. Andrea Menapace, “Independent Reporting Mechanism Progress Report Italy 2012-13,” *Open Government Partnership*.
103. “The Silent State: Access to Information in Italy,” *Diritto Di Sapere and Access-Info*, April 2013, http://www.dirittodisapere.it/wp-content/uploads/2013/04/TheSilentState_2013.pdf.
104. Ibid.
105. “Self Evaluation of the Italian Action Plan,” *The Open Government Partnership*.
106. James Kin-sing Chan, “G8 Open Data Charter Action Plan: Open data by default, but you may have to pay,” *The Sunlight Foundation*.
107. “Open Data Action Plan,” *Minister for Simplification of Public Administration*.
108. Ministry of Justice, Government of Japan, “Act on Access to Information Held by Administrative Organs,” Wikisource, April 1, 2009, http://en.wikisource.org/wiki/Act_on_Access_to_Information_Held_by_Administrative_Organs.
109. “Freedom of information in Japan: promoting accountability in government”, *Freedominfo.org*, accessed November 23, 2014, <http://www.freedominfo.org/regions/east-asia/japan/japan/>.
110. See “Basic Thinking Regarding Electronic Provision of Government Information,” in “Open Government Data Strategy,” *IT Strategic Headquarters*, July 4, 2012, <http://japan.kantei.go.jp/policy/it/20120704/text.pdf>.
111. Ibid.
112. Ibid.
113. “Japan Open Data Charter Action Plan,” *Prime Ministry of Japan and His Cabinet*, October 29, 2013, http://www.kantei.go.jp/jp/singi/it2/cio/dai53/plan_en.pdf.
114. Author interview.
115. *Data.go.jp*, accessed March 4, 2015, <http://www.data.go.jp>.
116. Ibid.

117. Ibid.
118. “A Primer on Machine Readability for Online Documents and Data,” *Data.gov*, September 24, 2012, <https://www.data.gov/developers/blog/primer-machine-readability-online-documents-and-data>.
119. Ibid.
120. “Japan Open Data Charter Action Plan,” *Prime Ministry of Japan and His Cabinet*.
121. Ibid.
122. Author interview.
123. *Data.go.jp*.
124. “Japan Open Data Charter Action Plan,” *Prime Ministry of Japan and His Cabinet*.
125. Author interview.
126. Ibid.
127. “Japan Open Data Charter Action Plan,” *Prime Ministry of Japan and His Cabinet*.
128. Ibid.
129. Ibid.
130. Open Data Promotion Consortium, <http://www.opendata.gr.jp/en/>. (accessed March 5, 2015)
131. Author interview; and James Kin-sing Chan, “G8 Open Data Charter Action Plan: Open data by default, but you may have to pay,” *The Sunlight Foundation*.
132. Author interview; Julia Weatherell, “For the First Time, Japan's Government Hosts a Hackathon,” *TechPresident*, February 7, 2013, <http://techpresident.com/news/wegov/23470/first-time-japans-government-hosts-hackathon>; “Meteorological Data Hackathon,” *Open Data Promotion Consortium*, December 1, 2012, <http://www.opendata.gr.jp/en/event/2012/000401/>; and “Open Government Data Strategy,” *IT Strategic Headquarters*.
133. “Conference 'Open Government,’” December 13, 2012, <http://конференция.большоеправительство.рф/en/>.
134. Inna Kremen, “Federal Law 'On Providing Access to Information on the Activities of Government Bodies and Bodies of Local Self-Government,' No. 8-FZ, February 9, 2009,” *The Freedom of Information Foundation*, July 27, 2010, <http://svobodainfo.org/en/node/439>.
135. Ivan Pavlov, “Freedom of Information and Open Data—Interaction and Contradiction: The Russian Example,” *The Freedom of Information Foundation*, accessed November 14, 2014, <https://svobodainfo.org/en/system/files/Pavlov-presentation-22-05-13.ppt>.
136. A.B. Zhulin, et al., “Implementing Russian Open Data Conception: Public and Local Government Bodies Progress Report 2013” *National Research University*, September 25, 2013, http://gos.hse.ru/downloads/2013/OpenDataReport_Russia2013.pdf.
137. A.B. Zhulin, et al., “Implementing Russian Open Data Conception: Public and Local Government Bodies Progress Report 2013” *National Research University*.
138. Ibid.
139. Ibid.

140. Author interview.
141. "What is Open Data," *Data.gov.ru*, accessed November 15, 2014 <http://data.gov.ru/chto-takoe-otkrytye-dannye>.
142. Ibid.
143. Ibid.
144. A.B. Zhulin, et al., "Implementing Russian Open Data Conception: Public and Local Government Bodies Progress Report 2013" *National Research University*.
145. Ibid.
146. *Data.gov.ru*.
147. Author interview.
148. Ibid.
149. Ibid.
150. Ibid.
151. Ibid.
152. "Open Data Hackathon 2014: Hack for Piter," *Hackathon*, accessed November 15, 2014, <http://www.hackathon.spb.ru>; "Awarding winners of Moscow Government's Open Data web portal hackathon competition," *Moscow City Government*, May 29, 2014, http://www.mos.ru/en/press-center/themes/index.php?search_4=1700&view_mode_4=tag_search&view_module_4=anywhere&refer_id_4=29341&refer_module_4=news.
153. Author interview; "Apps 4 Russia," accessed November 16, 2014, <http://apps4russia.ru>; and "Hackathon for Urbanists and Financiers," *Prototyping Center School of Economics*, October 11, 2014, <http://labhsemati.timepad.ru/event/149923/>.
154. Author interview.
155. "Freedom of Information Act 2000," *Legislation.gov.uk*, accessed March 4, 2015, <http://www.legislation.gov.uk/ukpga/2000/36/contents>.
156. "The Environmental Information Regulations 2004," *Legislation.gov.uk*, accessed March 4, 2015, <http://www.legislation.gov.uk/uksi/2004/3391/made>.
157. "Open Data: unleashing the potential," *UK Cabinet Office*, June 28, 2012, <https://www.gov.uk/government/publications/open-data-white-paper-unleashing->.
158. Farah Ahmed, "Public data - statement of principles," *UK Cabinet Office*, November 21, 2012, <http://data.gov.uk/blog/public-data-statement-of-principles>.
159. Kevin Dunion, "United Kingdom Progress Report 2011-2013," *The Open Government Partnership*, 2013, <http://www.opengovpartnership.org/sites/default/files/171165808-UK-IRM-Report.pdf>.
160. Farah Ahmed, "Public data - statement of principles," *UK Cabinet Office*.
161. "Secretary of State's Code of Practice (datasets) on the discharge of public authorities' functions under Part 1 of the Freedom of Information Act," *Ministry of Justice*, July 2013, <http://www.justice.gov.uk/downloads/information-access-rights/foi/code-of-practice-datasets.pdf>.

162. "IFTS Members," *The National Archives*, accessed January 28, 2015, <http://www.nationalarchives.gov.uk/information-management/re-using-public-sector-information/ifts-and-regulation/ifts-members/>.
163. "Exceptions to marginal cost pricing," *National Archives*, accessed March 4, 2015, <http://www.nationalarchives.gov.uk/information-management/re-using-public-sector-information/ifts-and-regulation/exceptions-marginal-cost-pricing/>; Francis Maude MP, "Open Standards Principles: For software interoperability, data and document formats in government IT specifications," *Cabinet Office*, 2012, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/78892/Open-Standards-Principles-FINAL.pdf.
164. Author interview.
165. Heather Savory, "Release of Data Fund – New Funding Rounds," *Data.gov.uk*, February 4, 2014, <http://data.gov.uk/blog/release-data-fund---new-funding-rounds>.
166. "Open Data Barometer: Second Edition," *The World Wide Web Foundation*, January 2015, <http://www.opendatabarometer.org>.
167. Bryan Groom, "Companies House moves to transparency by making digital data free," *Financial Times*, July 15, 2014, <http://www.ft.com/cms/s/0/15c339e4-0c1c-11e4-a096-00144feabdc0.html#axzz3AxrJ6ehr>.
168. "Tenth Report Statistics and Open Data: Harvesting unused knowledge, empowering citizens and improving public services," *Public Administration Committee*, March 2014, <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmpubadm/564/56410.htm>.
169. Matt Lloyd, "Fixing broken data links." *Data.gov.uk*, June 4, 2014, <http://data.gov.uk/blog/fixing-broken-data-links>; and Rebecca Chao, "Entering a New Era of Open Data in the U.K.?" *TechPresident*, September 17, 2013, <http://techpresident.com/news/wegov/24342/new-era-open-data-UK>.
170. "Open Government License for Public Sector Information," *The National Archives*, accessed August 20, 2014, <https://www.nationalarchives.gov.uk/doc/open-government-licence/>.
171. Kevin Dunion, "United Kingdom Progress Report 2011-2013," *The Open Government Partnership*.
172. Ibid.
173. "UK Civil Society Perspectives on National Action Plan," *Open Government Partnership UK*, April 16, 2012, <http://www.opengovernment.org.uk/civil-society-perspectives-on-uk-national-action-plan/>.
174. Ben Worthy, "David Cameron's Transparency Revolution? The Impact of Open Data in the UK," *Social Science Research Network*, November 29, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2361428.
175. Author interview; and "Countries / United Kingdom," *Open Data Index*, 2011 <https://index.okfn.org/country/overview/United%20Kingdom/>.
176. Ibid.
177. Kevin Dunion, "United Kingdom Progress Report 2011-2013," *The Open Government Partnership*.
178. "Open Data User Group," *Gov.uk*, accessed August 20, 2014, <https://www.gov.uk/government/groups/open-data-user-group>.
179. "£1.5 million funding to open up public data," *Cabinet Office*, March 31, 2014 <https://www.gov.uk/government/news/15-million-funding-to-open-up-public-data>.

180. "Data transparency effort – successful in U.K. – to be tested in U.S.," *Knight Foundation*, October 28, 2013, <http://www.knightfoundation.org/press-room/press-release/data-transparency-effort-successful-uk-be-tested-u/>.
181. "Innovation Vouchers for Open Data Innovators and Inventors," *Technology Strategy Board*, July 29, 2014, <https://vouchers.innovateuk.org/data-voucher>.
182. Jemma Insall, "Open Data Funding Programmes," *Data.gov.uk*, <http://data.gov.uk/blog/open-data-funding-programmes>.
183. "Past Hack Day conferences in the UK," *Lanyrd*, accessed August 20, 2014, <http://lanyrd.com/topics/hack-day/in/uk/past/>.
184. "U.S. Code § 552 - Public information; agency rules, opinions, orders, records, and proceedings," *Cornell University Law School*, accessed March 5, 2015, <http://www.law.cornell.edu/uscode/text/5/552>.
185. "Privacy Act of 1974," *U.S. Department of Justice*, accessed March 5, 2015, <http://www.justice.gov/opcl/privacy-act-1974>; "The Government in the Sunshine Act," *U.S. Government Services Administration*, http://www.gsa.gov/graphics/ogp/SunshineAct_R2B-x3-g_OZ5RDZ-i34K-pR.pdf; and "Electronic Freedom of Information Act Amendments of 1996," *Library of Congress*, <http://thomas.loc.gov/cgi-bin/query/z?c104:H.R.3802.ENR>.
186. Eric Holder, "Memorandum for Heads of Executive Departments and Agencies," *U.S. Office of the Attorney General*, March 19, 2009, <http://www.justice.gov/sites/default/files/ag/legacy/2009/06/24/foia-memo-march2009.pdf>.
187. "New Attorney General FOIA Memorandum Issued," *Office of Information and Privacy*, accessed January 7, 2014, <http://www.justice.gov/archive/oip/foiapost/2001foiapost19.htm>.
188. "Executive Order—Making Open and Machine Readable the New Default for Government Information," *The White House*, May 9, 2013, <http://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government->; and Sylvia Burwell, et al., "Open Data Policy—Managing Information as an Asset," *Office of Management and Budget*, May 9, 2013, <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf>.
189. Ibid.
190. "Project Open Data," *Project Open Data*, <http://project-open-data.github.io>. (accessed August 21, 2014)
191. "Open Data Barometer: Second Edition," *The World Wide Web Foundation*, January 2015, <http://www.opendatabarometer.org>.
192. Troy K. Schneider, "Finding Savings in FOIA," *FCW*, August 19, 2014, <http://fcw.com/articles/2014/08/19/finding-savings-in-foia.aspx>.
193. Author interview; and "About," *OpenFDA*, accessed September 25, 2014, <https://open.fda.gov/about/>.
194. See "Education" category under "Selected Examples of Data Releases," U.S. Open Data Action Plan, 2014.
195. Sylvia Burwell et al., "Memorandum for the Heads of Executive Departments and Agencies," *Executive Office of the President Office of Management and Budget*, May 9, 2013, <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf>.
196. Author interview.

197. "G8 Open Data Charter and Technical Annex," *Gov.UK*, June 18, 2013, <https://www.gov.uk/government/publications/open-data-charter/g8-open-data-charter-and-technical-annex>.
198. "U.S. Open Data Action Plan," *The White House*, May 9, 2014, http://www.whitehouse.gov/sites/default/files/microsites/ostp/us_open_data_action_plan.pdf.
199. Ibid.
200. "Open Data Barometer: Second Edition," *The World Wide Web Foundation*, January 2015, <http://www.opendatabarometer.org>.
201. Ibid.
202. "Independent Reporting Mechanism: United States Progress Report, 2011-2013," *Open Government Partnership*, accessed September 25, 2014, <http://www.opengovpartnership.org/sites/default/files/IRM100513-USA-Report-LIVE.pdf>.
203. "Data Act," *The Data Transparency Coalition*, accessed November 24, 2014, <http://datacoalition.com/issues/data-act.html>.
204. "Independent Reporting Mechanism: United States Progress Report, 2011-2013," *Open Government Partnership*.
205. Mindy Yochelson, "Doctors Wary as CMS Policy on Releasing Medicare Pay Data Becomes Effective Soon," *Bloomberg BNA*, February 11, 2014, <http://www.bna.com/doctors-wary-cms-n17179882230/>.
206. James Kin-sing Chan, "G8 Open Data Charter Action Plan: Open data by default, but you may have to pay," *The Sunlight Foundation*.
207. "Health Datapalooza," *Health Datapalooza*, accessed March 4, 2015, <http://healthdatapalooza.org>; "White House Energy Datapalooza," *Data.gov*, accessed November 24, 2014, <https://www.data.gov/energy/white-house-energy-datapalooza>; Paul Goddin, "Data Palooza Helps USDOT Plan for Our Transportation Future," *Mobility Lab*, May 14, 2013, <http://mobilitylab.org/2013/05/14/data-palooza-helps-usdot-plan-for-our-transportation-future/>.
208. "Templates for open data community events," *Project Open Data*, accessed November 24, 2014, <https://project-open-data.cio.gov/engagement/>.
209. "Open Data Roundtables," *GovLab*, accessed September 25, 2014, <http://www.opendata500.com/us/roundtables/>.
210. "About," *OpenFDA*, accessed September 25, 2014, <https://open.fda.gov/about/>.

About the Authors

Daniel Castro

Daniel Castro is the director of the Center for Data Innovation. He is also the vice president of the Information Technology and Innovation Foundation (ITIF). His research focuses on information technology policy including data-driven innovation, privacy, information security, e-government, electronic voting, and accessibility for people with disabilities. Mr. Castro previously worked as an IT analyst at the Government Accountability Office (GAO) where he audited IT security and management controls at various government agencies. He contributed to GAO reports on the state of information security at a variety of federal agencies, including the Securities and Exchange Commission (SEC) and the Federal Deposit Insurance Corporation (FDIC). In addition, Mr. Castro was a Visiting Scientist at the Software Engineering Institute (SEI) in Pittsburgh, Pennsylvania where he developed virtual training simulations to provide clients with hands-on training of the latest information security tools. He has a B.S. in Foreign Service from Georgetown University and an M.S. in Information Security Technology and Management from Carnegie Mellon University. Follow him on Twitter @castrotech.

Travis Korte

Travis Korte is a former research analyst at the Center for Data Innovation specializing in data science applications and open data. He has a background in journalism, computer science, and statistics. Prior to joining the Center for Data Innovation, he launched the Science vertical of *The Huffington Post* and served as its Associate Editor, covering a wide range of science and technology topics. He has worked on data science projects with *The Huffington Post* and other organizations. Before this, he graduated with highest honors from the University of California, Berkeley, having studied critical theory and completed coursework in computer science and economics. His research interests are in computational social science and using data to engage with complex social systems.

