



Empowering Edinburgh

Strategy for Open Data

Document Control

Document	Strategy for Open Data
Filename & Location	\\corpad.corp.edinburgh.gov.uk\departments\corp\egov\digital\empowered edinburgh_open_data_approach.docx
Author(s)	Sally Kerr & Ritchie Somerville
Contributors	

Version Control

Version	Changes	Status	Version Date
V1	Drafted from initial report	Draft	24/03/14
V2	Amendments to structure and some content refinement	Draft	25/03/14
V3	Addition of explicit statement on licensing	Draft	27/03/14
V4	Addition to roadmap	Draft	31/03/2014
V5	Changes following review	Draft	04/04/2014
V6	Amended to reflect requested Changes	Draft	04/04/2014
V7	Amended to include review changes	Draft	30/04/2014
V8	Amended to change the diagram on page 17	Draft	01/05/14

Distribution & Review History

Version	Distribution List	Purpose	Comment/Action Location	Distribution Date
V1	Sally Kerr, Claudette Jones	Review		26/03/14
V3	Sally Kerr	Review		27/03/14
V4	Claudette Jones. Ritchie Somerville	Review		31/03/2014
V5	Claudette Jones. Ritchie Somerville, Steve Langmead	Review		28/04/2014

CONTENTS

Purpose of this Strategy	3
Vision for Open Data	3
Context	3
Delivering Open Data	4
Main report	5
Vision for Open Data	5
Context	5
Legislative context	6
Relevant Guidelines	6
Other Local Authorities	6
Delivering Open Data	7
Governance.....	8
<i>Principles</i>	8
<i>Management Arrangements</i>	8
<i>Open Data Management</i>	8
<i>Data Stewards</i>	9
<i>Publication Processes</i>	9
<i>Regular Reviews</i>	10
<i>Council Policy and Strategy Context</i>	10
<i>Related Council Initiatives and Projects</i>	10
Data Usage.....	10
<i>Technical Skills</i>	11
Data Sources	11
<i>Internal Data Sources</i>	11
<i>Common Packages</i>	12
<i>Keeping Data Current</i>	12
<i>Edinburgh Related External Data</i>	13
<i>Accessibility and Usability</i>	15
<i>Registry File</i>	16
<i>Usability</i>	16
<i>Licensing</i>	16
<i>Presentation Themes</i>	16
<i>Metadata</i>	16
User Engagement.....	16
<i>Publicising Open Data</i>	17
Technical Architecture	18
<i>Architectural Principles</i>	18
APPENDIX ONE: Outline Roadmap	20
APPENDIX TWO: Possible Starter Projects	21

Purpose of this Strategy

This strategy sets out the Council's position on open data. It then outlines how the Council will deliver open data, including the sourcing of data, presentation of data, governance, and engagement with consumers.

Vision for Open Data

The City of Edinburgh Council has a goal to become the leading contributor of open data for Edinburgh and its wider region, *supporting innovation and encouraging economic growth*.

To achieve this the City of Edinburgh Council has adopted the principles of the G8 Open Data Charter (May 2013). This encourages open data in order to increase accountability, efficiency, responsibility and encourage economic growth in government. The vision for Edinburgh is:



data will be open by default, of a high quality, timely, comprehensive and usable by all

Context

Open Data has emerged as a concept over the last decade. As a concept, it is being adopted globally: to make public service and commercial data openly available for everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control.

In a UK context the Cabinet Office¹ have defined open data as public data which is:

- **Accessible** (ideally via the internet) at no more than the cost of reproduction, without limitations based on identity or intent;
- In a **digital**, machine readable format for interoperation with other data;
- **Free of restrictions** on use or redistribution in its licensing conditions.

¹ Cabinet Office White Paper on open data "Unleashing the Potential" available at: <https://www.gov.uk/government/publications/open-data-white-paper-unleashing-the-potential>

The Council's stated direction of travel for its use of ICT and digital is that it should empower. The adoption of open data as an enabler to this is clear, providing data in this format where there are no commercial or legal barriers supports a more open approach to local government, where administered correctly.

The Council gathers many types of data to help deliver and inform its work. Making this data 'open' has the potential to bring benefits to citizens, communities, businesses and partners.

Open data is being seen as a catalyst that will encourage innovation in the city, help the Council develop new approaches to delivering services, and lead to new systems to support the quality of life in Edinburgh.

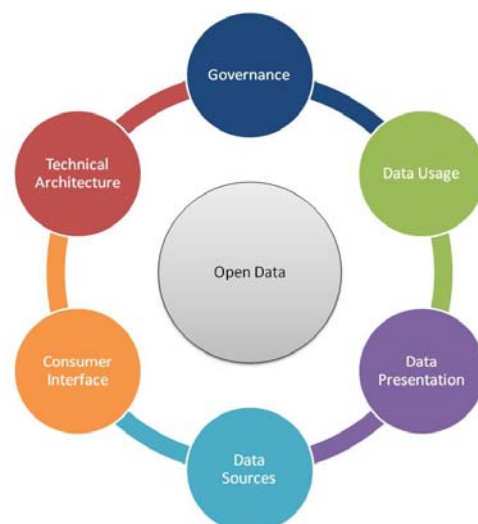
In this context whilst there are aspects of Open Data that will touch all our customers, there are four Empowering Edinburgh outcome areas that Open Data will directly support:

- **Empowered Citizens:** ICT enables me to interact with the Council through my choice of technology and keeps me informed on the things that matter.
- **Empowered Learners:** Our schools use technology well, really improving teaching.
- **Empowered Businesses:** ICT makes Edinburgh an even more attractive place for doing business.
- **Empowered Partners:** Technology makes a real difference to the way we provide joined up services to the people of Scotland.

Delivering Open Data

To deliver Open Data as a new way of working with the data we produce and consume, there are six key components the Council has identified to support its practical delivery.

The strategy sets out in more details these six components and how they will be delivered.



Main report

Vision for Open Data

This strategy sets out the Council's position on open data. It then outlines how the Council will deliver open data, including the sourcing of data, presentation of data, governance, and engagement with consumers.

The City of Edinburgh Council has a goal to become the leading contributor of open data for Edinburgh and its wider region.

To achieve this the City of Edinburgh Council has adopted the principles of the G8 Open Data Charter (May 2013). This encourages open data in order to increase accountability, efficiency, responsibility and encourage economic growth in government. The vision for Edinburgh is:



Data will be open by default, of a high quality, timely, comprehensive, and accurate, usable by all and support innovation.

Context

Open Data has emerged as a concept over the last decade. As a concept, it is being adopted globally: to make public service data openly available for everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control.

In a UK context the Cabinet Office² have defined open data as public data which is:

- **Accessible** (ideally via the internet) at no more than the cost of reproduction, without limitations based on identity or intent;
- In a **digital**, machine readable format for interoperation with other data;
- **Free of restrictions** on use or redistribution in its licensing conditions.

The Open Knowledge Foundation, the leading international non-profit organisation dedicated to promoting open data and open content in all their forms – including

² Cabinet Office White Paper on open data "Unleashing the Potential" available at: <https://www.gov.uk/government/publications/open-data-white-paper-unleashing-the-potential>

government data, publicly funded research and public domain cultural content, has a similar definition:

A piece of data or content is open if anyone is free to use, reuse, and redistribute it — subject only, at most, to the requirement to attribute and/or share-alike. Open data is not about personal data. The open release of any information that identifies an individual is contrary to the Data Protection Act, unless the individual had consented to the release.

Legislative context

The Council's open data strategy will enable the Council to comply with a number of relevant Scottish, UK and European bodies of legislation, i.e.:

- Freedom of Information legislation
- Re-Use of Public Sector Information Regulations
- INSPIRE Directive for Spatial Information (although it is not clear how many UK public bodies are fully complying with these regulations).

Relevant Guidelines

The Council's open data strategy will be developed and implemented with consideration for the relevant guidelines issued by various Scottish, UK and international government bodies, in particular:

- [The G8 Open Data Charter](#)
- [Scottish Government Open Data policies and Data Innovation initiative](#)
- [The UK Transparency Agenda](#)
- [The Open Government Partnership](#)

In addition to these sources, there are a significant number of other resources available to local government to guide the development of open data approaches.

The City of Edinburgh Council has engaged with the Open Knowledge Foundation in Scotland and Open Data Institute in the development of this strategy and will continue this engagement as the development of the generation and use of open data by the Council continues.

This sort of engagement has the dual benefits of improving the Council's knowledge of open data, and raising awareness of the Council's open data in the open data community.

Other Local Authorities

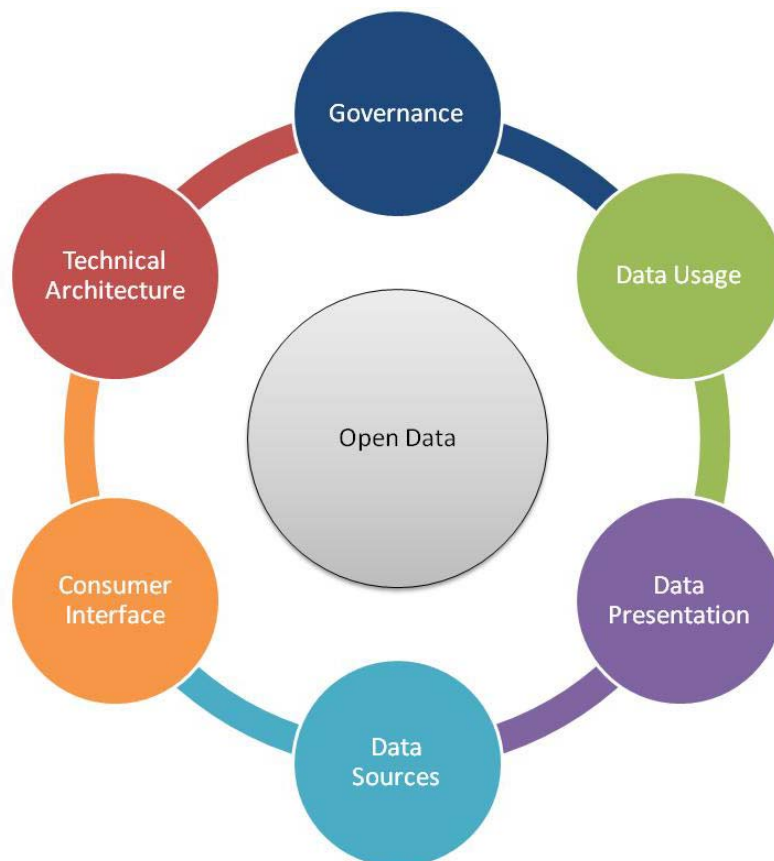
The adoption of an open data approach is being taken forward by other local authorities, with varying levels of quality and quantity. The Council will learn from these other approaches. Areas of learning include:

- Themes used to catalogue data
- Types of data published
- Approaches to metadata
- Ways that organisations engage with the potential and actual data users.
- Review types of local authority data currently published as open data as one input to the Council's priorities for publication.

In the preparation of this strategy, the City of Edinburgh Council has already had direct discussions with a number of other UK councils, including Glasgow, Amsterdam and London. This form of engagement will continue.

Delivering Open Data

Six key components have been identified in the Council's delivery of open data:



In addition, putting in place key metrics, KPIs and associated targets, will be essential for measuring strategy success.

Governance

Principles

The Councils provision of open data will be based on the following principles:

Delivery Principles	Data Principles
<ul style="list-style-type: none"> ▪ Keep it simple and small 	<ul style="list-style-type: none"> ▪ Release good quantities of high quality data
<ul style="list-style-type: none"> ▪ Open by default 	<ul style="list-style-type: none"> ▪ Describe the data
<ul style="list-style-type: none"> ▪ Engage early and engage often 	<ul style="list-style-type: none"> ▪ Make data freely available (with defined exceptions)
<ul style="list-style-type: none"> ▪ Foster innovation 	<ul style="list-style-type: none"> ▪ Provide accessible data
<ul style="list-style-type: none"> ▪ Start with the customer's need 	<ul style="list-style-type: none"> ▪ Allow reuse and redistribution
<ul style="list-style-type: none"> ▪ Share expertise and experience 	<ul style="list-style-type: none"> ▪ Aim to publish linked data
<ul style="list-style-type: none"> ▪ Be transparent 	<ul style="list-style-type: none"> ▪ Ensure data is as up to date as possible
<ul style="list-style-type: none"> ▪ Address common internal fears and misunderstandings 	
<ul style="list-style-type: none"> ▪ Encourage universal participation 	

Management Arrangements

For an Open Data approach to be sustainable, strong governance is necessary. To support this, the Council will implement the following initial management arrangements, acknowledging that as Open Data is deployed the arrangements will need to be reviewed to ensure they remain appropriate and functional:

- Appointment of individuals to champion and coordinate open data in the Council:
 - The Open Data champion will be responsible for raising the profile of open data in the council and obtaining commitment from service areas.
 - The Open Data Coordinator will be responsible for the operational management of open data, including the implementation of the publication processes and regular reviews as defined below.
- Accountable body for Open Data Management
- Open Data working group

Open Data Management

Open Data Management will be managed by the Digital Services Manager, reporting to the Information Council

The additional remit for the Council in relation to Open Data will be to:

- Provide joined-up strategic leadership for open data at the Council, including challenging the Council business areas to publish more data
- Ensure open data management processes are in place and being followed
- Ensure the Open Data Strategy is still valid and review the status of open data delivery against the strategy
- Ensure the commitment of appropriate resources to support the Strategy
- Review the results of the quarterly or annual open data reviews and ensure any necessary actions take place
- Ensure support for open data from Council senior managers, the Council Management Team and Elected Members
- Review opportunities for integration and synergies with other Council initiatives, project and programmes, and ensure any necessary actions are undertaken
- Ensure that if possible open data requirements are built into the requirements for new and upgraded systems, i.e. avoiding locked-in data that can only be accessed at significant extra cost.
- Ensure that where appropriate open data requirements are built into any third party contracting arrangements for services and systems.

The Open Data Working Group will report to the Information Council. The Open Data Working Group will work closely with the Record Management Working Group to ensure consistency of approach.

Data Stewards

The Council will establish a network of data stewards. These stewards will 'own' the data in their area of the Council as well as ensuring compliance with the Data Protection Act and licensing restrictions. The stewards could take an active involvement in open data – having been trained in open data support areas such as metadata and data legality.

Publication Processes

The Council will define and implement a robust set of processes (or checks) for the publication of open data.

Publication checks	
▪ Check the legality of the data	▪ Consider the expected rate of change
▪ Verify the source data is valid	▪ Check for similar existing Council open data
▪ Consider the use of linked data	▪ Identify the relevant Data Owner
▪ Obtain approval for publication	▪ Confirm responsibility for ongoing

Publication checks	
	maintenance of the data
<ul style="list-style-type: none"> ▪ Identify the contact person for the data 	<ul style="list-style-type: none"> ▪ Decide on format(s) for publication
<ul style="list-style-type: none"> ▪ Validate machine readability, where applicable 	<ul style="list-style-type: none"> ▪ Consider alternative ways of making the data available
<ul style="list-style-type: none"> ▪ Confirm spatial elements of any data and INSPIRE compliance 	<ul style="list-style-type: none"> ▪ Update the public Council Open Data Catalogue
<ul style="list-style-type: none"> ▪ Document any advice or additional information about the data 	<ul style="list-style-type: none"> ▪ Release the data to the Open Data website
<ul style="list-style-type: none"> ▪ Check the success of the release 	<ul style="list-style-type: none"> ▪ Publicise the release
<ul style="list-style-type: none"> ▪ Publicise data in external locations 	

Regular Reviews

The quality and quantity of the Council's pending and published open data sets will be reviewed regularly as the approach to Open Data matures.

Council Policy and Strategy Context

The Council open data will be managed within the framework of the following existing Council strategies and policies:

- Council ICT and Digital Strategy
- Records Management Policy
- Information Governance Strategy
- Geographical Information Strategy

Related Council Initiatives and Projects

Development and governance of open data at the Council will be coordinated with any other Council initiatives and projects where there are overlaps, in areas such as source data, technologies and stakeholders.

Data Usage

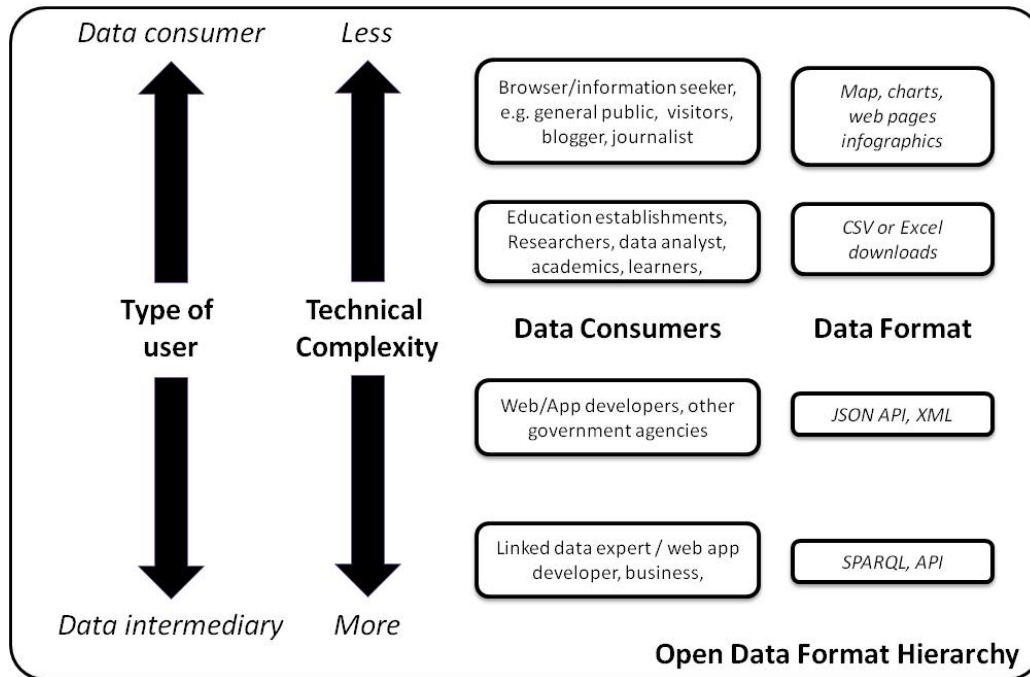
Open data is being used by a wide variety of different users. The Council will monitor and review how data is being used. This will drive how data will be presented and how the Council will interact with data users.

potential data consumers	
<ul style="list-style-type: none"> ▪ Citizens 	<ul style="list-style-type: none"> ▪ Customers and service users
<ul style="list-style-type: none"> ▪ Education establishments and students 	<ul style="list-style-type: none"> ▪ Children and young people
<ul style="list-style-type: none"> ▪ Researchers 	<ul style="list-style-type: none"> ▪ Software developers
<ul style="list-style-type: none"> ▪ Media organisations and individuals 	<ul style="list-style-type: none"> ▪ Special interest groups
<ul style="list-style-type: none"> ▪ Visitors 	<ul style="list-style-type: none"> ▪ Suppliers
<ul style="list-style-type: none"> ▪ Businesses, including those who use it themselves, and those who add value to data and resell it 	<ul style="list-style-type: none"> ▪ Other public sector organisations, including other local authorities and other areas of government
<ul style="list-style-type: none"> ▪ Charities and other civil society organisations 	<ul style="list-style-type: none"> ▪ Elected Members

potential data consumers	
▪ Council staff, Chief Officials and Officers	

Technical Skills

Different types of users will have a need for different formats of data. The City of Edinburgh Council has adopted the approach proposed by Open Data Scotland.



Data Sources

There are four areas of assessment that will drive open data sources:

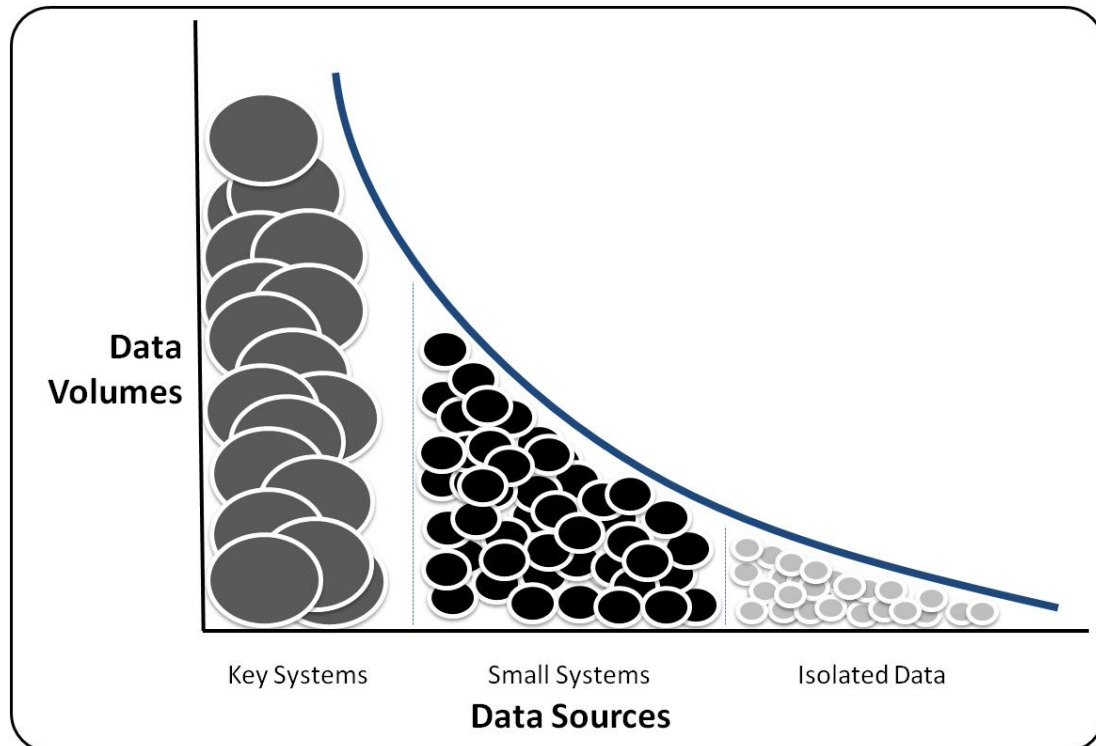
- Known usage of existing open data
- User feedback
- Lessons learned from other similar contributors of open data
- Easily accessible sources of good quality data within the Council.

What data will be used most will only be determined as data is released and use is tracked. Sources can be divided into two broad categories: Internal Data Sources; and Edinburgh Related External Sources.

Internal Data Sources

From the experience of others, it is normal that the majority of Council data that can be released as open data is held in a minority of Council's systems. This means that sourcing internal data can be organised into three categories:

- Critical business solutions
- Other smaller business solutions
- Spreadsheets and other isolated data stores.



The Council will audit readily available data in its critical business solutions. The process will then be used for smaller systems and isolated data stores.

Common Packages

Many local authorities in Scotland and the rest of the UK are seeking to improve their open data provision. In many cases, several councils use the same commercial packages for key functions, e.g. planning, licensing, or highway management.

The Council will work with other local authorities, as well as the Scottish and UK governments, to influence package vendors to develop interfaces that allow the easy extraction of data for open data purposes.

There are also opportunities when the Council selects or implements a package to ensure that the ability to extract open data is a core requirement.

Keeping Data Current

The Council will implement appropriate and sustainable ways to ensure open data is kept up to date and reflects changes in the source data. These will include:

- Completely manual monitoring and extracts (the least desirable approach).
- Automatic notifications of data changes followed by a manually initiated extracts.

- Scheduled extracts on a suitably regular basis – driven by the frequency of change in the source system.
- Automated extracts and uploads when data changes (the ideal solution, especially for frequently changing data).

Edinburgh Related External Data

Data on Edinburgh is produced by a wide range of services, not just the City of Edinburgh Council. There is a significant amount of Edinburgh related data publically available on the internet from various bodies. This data is not always in a useful open format, whether lacking metadata (i.e. data that describes data) or with other presentation barriers to machine readability.

To enhance the user experience the Council will act as a “data broker” or “lighthouse” for open data that relates to Edinburgh but is not owned by the Council. The Council will undertake further work to analyse and publicise data that would be of interest to Edinburgh open data consumers. The Council will work with partners to do this, considering the following:

- The quality of the source data, e.g. availability and how current;
- Working arrangements with the source organisations; and,
- Whether the council extracts and holds the data, or simply links to the external source data (with a limited amount of information about the data). The latter option is simpler and avoids an extra layer of processing that might add little value.

A further area of action will be for the City of Edinburgh Council to make available its own data that has been processed or enhanced by other parties.

Data Presentation

For every dataset there will be an appropriate format or formats which will allow the easiest re-use of the data. Formats will include, but necessarily be limited to:

CSV Comma Separated Values



XML eXtensible Markup Language



ODF Open Document Format



KML Keyhole Markup Language (for Geospatial data)



ICS electronic calendar files



XLS Excel format

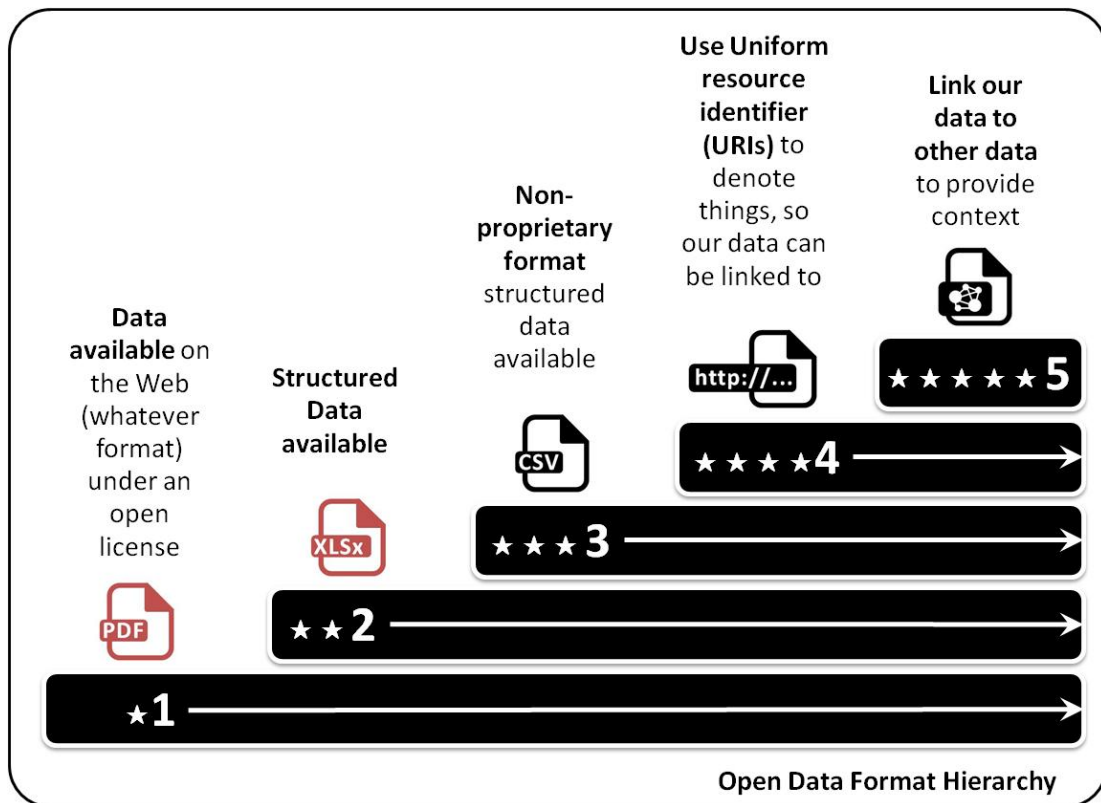


PDF Only in addition to another format



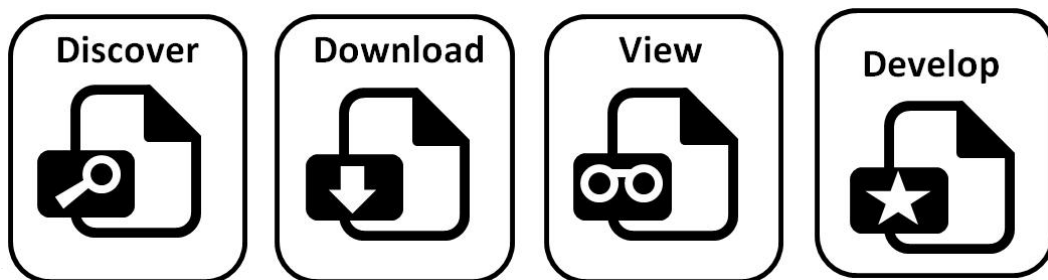
The City of Edinburgh Council will adopt the 5 star deployment scheme³ for open data provides for assessing the maturity of the open data produced. Over time the Council will aim to deploy data at the 4 star level (using Uniform Resource Identifiers to allow bookmarking and linking), and ideally at the 5 star level (linked to other people's data). It will also investigate the use of standardized vocabularies for its open data.

³ Available at: <http://5stardata.info/>.



Accessibility and Usability

For every dataset published, the Council will consider how the data will be made available. There are four elements to this: Discovery, Download, Develop and View.



- **Discover services** – enable users to search and display the contents of metadata for data sets and services by various standard criteria
- **Download services** – enable users to download copies of whole datasets or parts of datasets.
- **View services** - enable users as a minimum to display, navigate, zoom in and out, pan or overlay spatial data sets and to display legend information and any relevant content of metadata.

- **Develop services** – enable users to develop new and innovative solutions using core data sets, including mobile apps

Registry File

The Council will maintain a registry file, master data catalogue that lists key details of all published data.

Usability

The City of Edinburgh Council recognises that people’s willingness to use the Council’s open data will be significantly influenced by the usability of its open data portal. User experience will drive the development of the portal.

Licensing

Unless otherwise indicated, the City of Edinburgh Council open data will be offered under the Open Government License⁴ for public sector information.



Presentation Themes

The Council will implement a categorisation scheme for the presentation of open data, consistent with the approaches taken by similar organisations. These will include but not be limited to the following:

Themes

- | | | |
|----------------------|-----------------------|-------------------------|
| ▪ Council facilities | ▪ Economic Indicators | ▪ Environment and Crime |
| ▪ Health | ▪ Transportation | ▪ Demographics |

Metadata

A key element of open data is metadata: the data that describes data. Metadata is important to assist in the discovery of data, and to ensure that the data is properly understood and used. The Council’s existing open data already includes metadata. The Council will undertake the following actions to develop the metadata in its open data:

- Review the scheme in comparison with other comparable open data contributors and extend if required;
- For each dataset create metadata describing the data fields;
- Consider the use of common keyword vocabularies;
- Review the completeness of all the metadata;
- Conform to INSPIRE standards for geospatial data metadata.

User Engagement

⁴ <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/>

For any sharing to work effective engagement with the consumers is critical. Given the dynamic and interdependent relationship between data producers and consumers in the open data world, it is essential.

The City of Edinburgh Council will use the following in developing its engagement approach:

- implement the best means of publicising the Council’s data, e.g. sponsored events, social media, hackathons, etc;
- Understand the target audience;
- Develop a robust, two way engagement with key types of users, e.g. independent and SME software developers, universities, open data organisations etc. This will allow the user community to:
 - Know what datasets are being released, and in what timeframes
 - Say what datasets they would like to be released as a matter of priority
 - Feedback how they used the data
 - Inform the Council if they find mistakes or issues with the data
 - Help the Council to deliver the data more efficiently
- Implement effective and open means of feedback, e.g. by Email, Twitter, Blogs, “*Show ‘n’ Tell*” sessions, discussion boards, Google Groups and mailing lists;
- Ensure feedback is captured, shared and acted upon;
- Build on the success of the Edinburgh Apps and Edinburgh Outdoors initiatives;
- Develop closer engagement with the Scottish ICT industry via engagement with ScotlandIS, (organisers of the ScotSoft event and the Young Software Engineer of the Year award); and
- Promote data literacy amongst the citizens of Edinburgh, and by partnering with organisations like Nesta, RSE, OKF, Creative Exchange, CoderDojo and Citizen Science initiatives.

Publicising Open Data

For the true value of open data to be realised the Council’s open data needs to be visible to actual and potential users of the data, and that users understand the Council’s approach to open data. This will be achieved by:

- The online publication of a policy or manifesto for open data, for example see the Birmingham City Council Open data policy, or Glasgow’s Open Manifesto. The contents will be:
 - A definition of open data;
 - Reasons for doing open data;
 - Summary of the guiding principles for the Council;

- How the Council will engage with users;
- The Council's Roadmap for open data;
- Keeping under review how open data is presented in the Council's website.
- The Council to consider applying for the Open Data Institute's Open Data Certification⁵ process.
- Publish Council open data via external locations, for example UK Government's register of open data at <http://data.gov.uk>.

Technical Architecture

The Council will deploy a technical architecture that is consistent with its ICT and Digital Strategy. Scottish Government and other local authorities are currently examining technical architecture solutions. Insight from these assessments will be drawn upon.

Architectural Principles

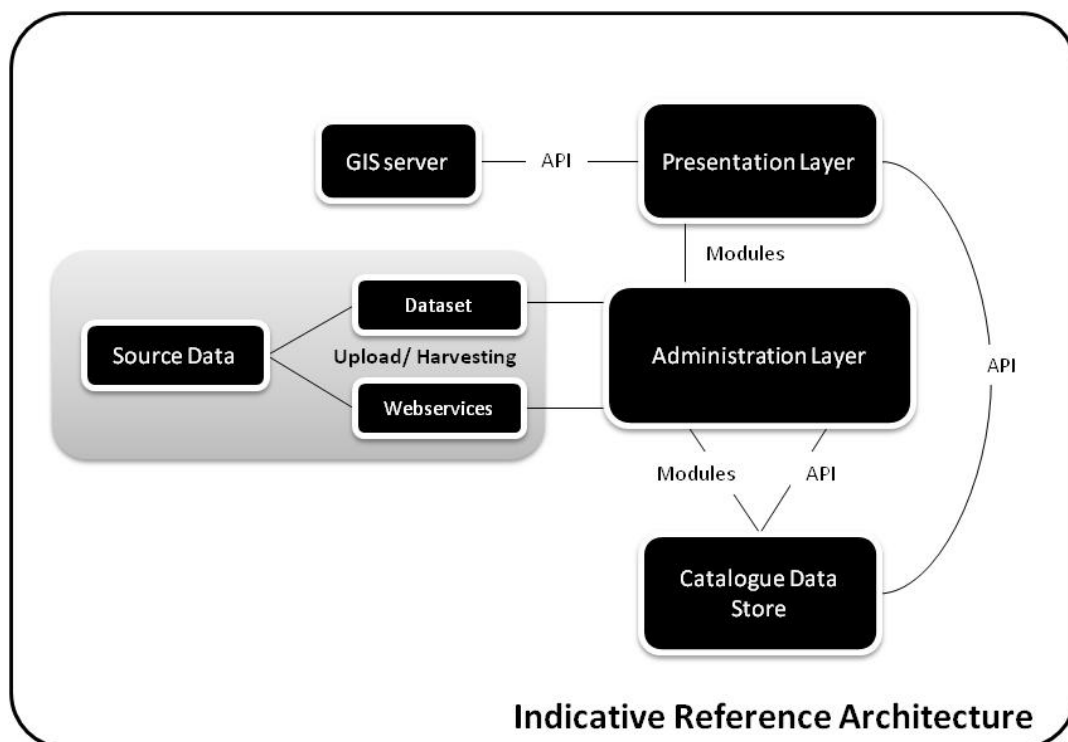
To ensure the long term sustainability of any chosen architecture, it will need to be consistent with the following principles:

<i>Principle</i>	<i>Description</i>
Maximum reuse	Providing a central hub that gives access to the Council's datasets will facilitate and maximise the reuse of resources. The system will ensure that the resources are available and well documented to encourage reuse.
Ease of use	A simple and accessible interface has a considerable impact on perceived usefulness of a system. The system should follow accessibility guidelines and provide a responsive interface to allow access from various devices such as PCs, tablets and mobile phones.
Secure	Any system should be compliant with the Council's web security policies
Scalable	Experience from existing Online Data catalogues such as data.gov.uk has shown that scalability is a crucial factor and the platform should be scalable. An infrastructure using scalable virtual machines rather than physical servers is recommended.
Employs open standards, if possible	This is to guarantee interoperability and integration as well as to facilitate the reuse of document. Using Open standards removes access barriers.
Cost effective	Using Open Source systems and software coupled with virtual machines reduces licences costs and increases the cost-effectiveness of the platform.

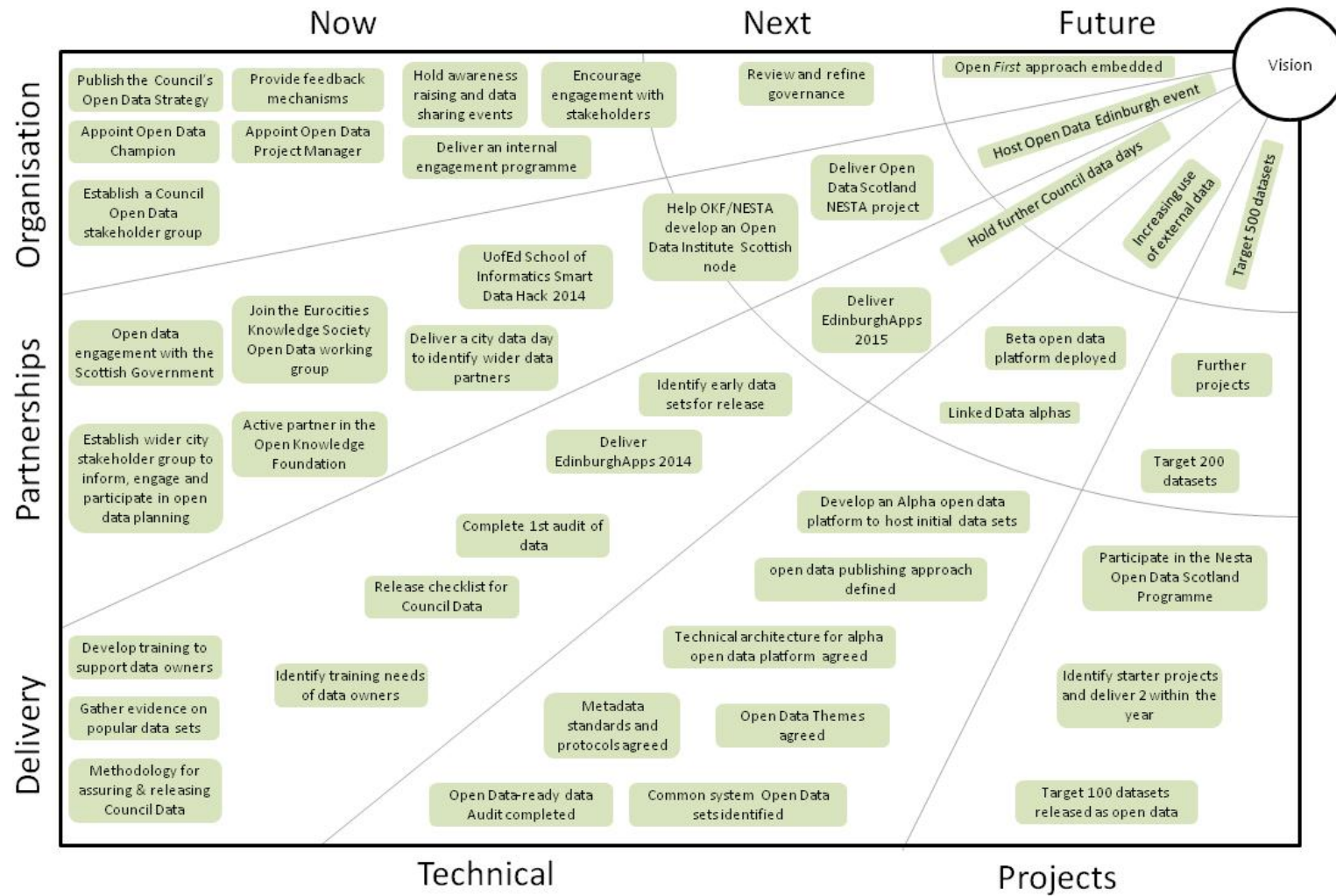
⁵ This would provide an internationally recognized means of assessing the Council's progress in delivering open data, and demonstrate that the Council is serious about open data. Even if certification is not fully pursued then the questions involved provide good ideas for a working checklist. See <https://certificates.theodi.org/>

<i>Principle</i>	<i>Description</i>
Inter-operable	The platform should provide datasets in Open Standards format, such as CSV, XML, RDF etc. It should integrate with other existing when possible using standard protocols such as WMS, WFS, and RDF.
Integrated	The platform should provide an API to facilitate integration with other systems such as content management systems, and it should be able to harvest datasets from other publishing systems.

The indicative reference architecture is detailed below:



APPENDIX ONE: Outline Roadmap



APPENDIX TWO: Possible Starter Projects

The Council plans to work with the Edinburgh open data community to deliver innovative open data projects as a high priority. Early candidate solutions are listed below. The first stage of the exercise will be to canvas opinion from as wider range of interested parties as possible.

Possible solutions include:

- Electronic Council Calendar
- Road Safety App
- Integrated Transport App
- Health and Wellbeing App