

## Future Cities and Open Data Strategy update

Item number	7.7
Report number	
Executive/routine	
Wards	All

### Executive summary

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This report provides a progress update on the Open Data Programme 2015 and seeks approval to progress to the next stage of the programme.

It provides an update on partnership working with the University of Edinburgh to develop an Edinburgh Living Lab<sup>1</sup> projects with Edinburgh Prewired<sup>2</sup> and Code the City and leading delivery of the first Open Data for Scotland Conference.

The report also provides an update on the publication of the Scottish Government's Open Strategy and its recommendations.

Finally, the report notes the Council's involvement with the Cities Standards Institute and our role in influencing this work.

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<sup>1</sup> Edinburgh Living Lab is a city laboratory experiment set up between the City of Edinburgh Council and the University of Edinburgh

<sup>2</sup> Edinburgh Prewired is a Coding Club for young people in Edinburgh <http://www.prewired.org/>

## Future Cities and Open Data Strategy update

### Recommendations

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It is recommended that the Committee:

- 1.1 Note the progress on releasing data sets, with over 100 now available, as agreed at Corporate Policy & Strategy Committee on 24th March 2015.
- 1.2 Approve identification and delivery of a further 100 new data sets at level three of the agreed Open Data format hierarchy<sup>3</sup> by September 2016 with timescales for each Directorate to deliver and publish a minimum of 20 data sets.
- 1.3 Endorse the identification of open data champions from within the Council to progress data recommendations and publishing, and develop an open data publication plan to align with Scottish Government recommendations (see 1.2)
- 1.4 Endorse the development of an API<sup>4</sup> and integration with the Council's open data portal for Council online services where practical, to allow the flow of real-time data.
- 1.5 Approve the Council entering into an Edinburgh Living Lab Framework agreement with the University of Edinburgh, enabling partnership working and providing more opportunities for joint funding bids and projects.
- 1.6 Endorse the development of other Living Lab Framework agreements with Edinburgh's other Universities, enabling partnership working and providing more opportunities for joint funding bids and projects.
- 1.7 Note the Council's membership of the Cities Standards Institute and the opportunities this affords for the Council.

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<sup>3</sup> As noted in the Open Data full strategy p16 (<http://www.edinburgh.gov.uk/info/20218/council-wide-plans-and-strategies/1031/open-data-strategy>)

<sup>4</sup> **API**, an abbreviation of application program interface: a set of routines, protocols, and tools for building software applications that can enable the sharing of data between systems

## Background

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- 2.1 At its meeting on 24th March 2015, Committee approved the Open Data Strategy update, acknowledging the progress made since the Open Data Strategy was agreed in June 2014.
- 2.2 At that meeting it was agreed to deliver a 100 new data sets at level three of the agreed Open Data format hierarchy<sup>5</sup> by September 2015.

## Main report

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- 3.1 Since agreeing the Strategy update, work on open data has progressed both internally and externally. A wide range of activities have contributed to the progress the Council has made since March 2015.
- 3.2 This has included the delivery of a open data portal, with, currently, 108 data sets either at level three of the agreed Open Data format hierarchy<sup>6</sup> or data sets not previously made available online, with an aspiration to meet this level as soon as possible. A proportion of these have been delivered by federating with the Council's data mapping portal, built as a separate requirement to publish geo-data to meet the EU INSPIRE<sup>7</sup> directive requirements. (See [Appendix 1](#) for a complete list). The Portal also now has additional data partners who will publish data sets (Edinburgh Prewired and Edinburgh Living Lab)
- 3.3 Edinburgh Collected<sup>8</sup> was launched at the end of April 2015, and currently has 330 registered individual and group users. Interest has been city-wide and Edinburgh Collected has proved an excellent method of expanding community engagement with a wide range of user groups.
- 3.4 SEPA held an environmental hack in May 2015 and Council data sets were made available for use in this event. EdinburghApps, the Council's civic challenge programme, held a weekend workshop with Code the City (Aberdeen) in June 2015. This had an environmental theme and a number of challenges were presented. There were 75 participants over the weekend and five teams produced challenge solutions. (See [Appendix 2](#) for team solutions). Waste

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<sup>5</sup> As noted in the Open Data full strategy p16 ([http://www.edinburgh.gov.uk/info/20218/council-wide\\_plans\\_and\\_strategies/1031/open\\_data\\_strategy](http://www.edinburgh.gov.uk/info/20218/council-wide_plans_and_strategies/1031/open_data_strategy))

<sup>6</sup> As noted in the Open Data full strategy p16 ([http://www.edinburgh.gov.uk/info/20218/council-wide\\_plans\\_and\\_strategies/1031/open\\_data\\_strategy](http://www.edinburgh.gov.uk/info/20218/council-wide_plans_and_strategies/1031/open_data_strategy))

<sup>7</sup> INSPIRE is the EU 2007 Directive establishing an infrastructure for spatial information in Europe: <https://data.gov.uk/location/inspire>

<sup>8</sup> Edinburgh Collected is a new digital service which offers users the opportunity to add images and text memories to add to the heritage collection of Edinburgh Libraries. It is an open data product: <https://www.edinburghcollected.org/>

Services are currently in discussion with the team to identify the potential of implementing a prototype of their litter solution.

- 3.5 The event proved to be the Council's most successful to date. This was due to a number of factors:
- a. Code the City<sup>9</sup> facilitation, running the weekend - they led the development hack, and provided innovation activities
  - b. Presence of Edinburgh Prewired for the first time – including young coders generated extra energy for both ideas and prototype development
  - c. Developer mentors supporting teams
  - d. Calibre of those invited, including design and game students from Holland, on an academic visit, local designers and the young people from Edinburgh Prewired.
- 3.6 New environmental data sets, in the majority provided by Parks and Green Spaces, were used by Edinburgh Prewired for the national [Festival of Code](#)<sup>10</sup> event, run by [Young Rewired State](#).<sup>11</sup> This is an annual event with young people taking part from across the United Kingdom. The event took place at the end of July 2015 and the data sets were used by teams to learn how to code, build and publish maps demonstrating points of interest in the city of Edinburgh. The Council's involvement was welcomed warmly, and Prewired are keen to continue to work with us EdinburghApps 2014 winners, RuntheCity<sup>12</sup> and ARC – Edinburgh<sup>13</sup> are both in the final stages of development and will be launched at in September.
- 3.7 The Council led the delivery of [Open Data for Scotland](#), a national data event, supported by Scottish Government, in Early November. This event brought together Scottish open data advocates and innovators for the first time, and created an opportunity for policy and project discussion.

### **Growing Partnerships**

- 3.8 As evidenced above, Edinburgh benefits from a strong ecosystem of organisations and individuals with an interest in open data and future cities, and the development of Edinburgh in this regard.
- 3.9 All of Edinburgh's universities are involved in research and innovation relating to future cities and data. The Council is engaged with all of them to some extent.

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<sup>9</sup> Code the City is a civic open data innovation initiative, based in Aberdeen: <http://codethecity.org/>

<sup>10</sup> Festival of Code is an annual coding competition for young people: <http://festival.yrs.io/>

<sup>11</sup> Young Rewired State is an organisation providing expertise to support young coders: <http://www.yrs.io/>

<sup>12</sup> RuntheCity is a runners app, aimed at the business visitor and offering routes of different lengths with an accompanying audio points of interest commentary

<sup>13</sup> ARC – Edinburgh is a support app for those in recovery from drug or alcohol abuse.

- 3.10 Through the existing programme of Open Data work, collaboration with the University of Edinburgh has gather pace over the past 2-3 years resulting in the development of an [Edinburgh Living Lab](#).
- 3.11 This has involved the Council working with the School of Informatics, drawing on the expertise of their masters programmes to provide new insight into how real problems in the city could be addressed through the innovative use of data and technologies.
- 3.12 This approach has now reached a point where approval is sought to enter into a more formal Framework Agreement with the University of Edinburgh to support the on-going development of this proposal.
- 3.13 Adopting this model, the Council has had preliminary talks with the Heriot Watt University about establishing a similar agreement, and would want to consider how this could be extended to Edinburgh's other universities and Edinburgh College, either through a single collaboration or individual arrangements, as agreed with each institution.

### **Contributing to National Standards**

- 3.14 The City of Edinburgh Council, through its work on Open Data and other Digital related developments has been engaging with the [Future Cities Catapult](#)<sup>14</sup>. The Catapult was established in 2013 to accelerate urban ICT & Digital driven ideas to market, to grow the economy and make cities better. They bring together businesses, universities and city leaders so that they can work with each other to solve the problems that cities face.
- 3.15 In collaboration with the British Standards Institute, the Future Cities Catapult has established the [Cities Standards Institute](#)<sup>15</sup> (CSI). The purpose of the CSI is to advance the development of standards to support the effective adoption of Smart City technologies by cities.

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<sup>14</sup> There are ten Catapults around the UK, each specialising in a different type of technology. Catapults bridge the gap between research and commercial reality. They work with UK businesses, scientists and engineers to turn ideas into new products and services that will generate economic growth. Catapults receive core public funding from Innovate UK, the UK's Government-funded innovation agency. They are established as not-for-profit organisations, with any revenue being reinvested in their work.

<sup>15</sup> More details is available at: <https://futurecities.catapult.org.uk/project/cities-standards-institute/>

3.16 For the purposes of the this work, Smart Cities are defined as:

*“effective integration of physical, digital and human systems in the built environment to deliver a sustainable, prosperous and inclusive future for its citizens”*

[Source: BSI Publicly Available Standard - Smart cities. Vocabulary \(PAS 180:2014, 3.1.62\)](#)

3.17 The institute is composed of a Board, a Cities Working Group and a SMEs Working Group that hold separate meetings to discuss their needs and priorities in terms of standardisation.

3.18 The Council was invited to take an active role on the Board and Cities Working Group of the CSI in August 2015, to work with a consortium of partners, including cities, businesses, government, and other organisations, to decide how new and existing standards should be developed and implemented.

3.19 The current focus of activity is on the development of further Publicly Available Standards (PAS) building on those published to date:

- [PAS 181 Smart city framework](#),
- [PAS 182 Smart city concept model](#).

3.20 The development of smart city solutions is an evolving one. Through involvement with the CSI, the City of Edinburgh Council is able to benefit from knowledge transfer from others cities in the UK and abroad and also have an influence on the standards that are being developed, and adopted, at a UK and international level.

3.21 Glasgow City Council and Aberdeen City Council, fellow Scottish Cities Alliance members, are also involved in this work.

### **Next Steps**

3.22 The Open Data programme for 2015/16 will continue to build on the existing programme that has been developed. Seven areas of work have been identified:

- I. **EdinburghApps Civic Challenge competition** (Feb 2016). This will follow the current format, running over 5 weeks. The themes this year are health and wellbeing, offering the opportunity for winners to take forward their concepts with challenge partners. The first weekend event will adopt a service design focus, to help teams taking part to better understand the challenges in this area.
- II. **Product launch**: launch of RuntheCity and ARC-Edinburgh at EdinburghApps 2016

- III. **Project:** With the University of Edinburgh, progressing the next Edinburgh Living Lab project for 2015/6, working with the City Centre Partnership on their active travel action plan, and publishing relevant data sets on the Open Data Portal.
- IV. **New data sets:** the identification, assurance and publishing of a further 100 data sets by September 2016 providing departments with timescales to each deliver and publish a minimum of 20 data sets.
- V. **Embedding Practice:** a key part of ensuring that Open Data is not an add-on to the way that data is captured, processed, managed and stored is to identify *open data champions* to progress the delivery of the strategy for the city.
- VI. **Development of a business case:** to establish requirements for delivery of the open data publication plan in line with Scottish Government timescales. The outline will recommend the establishment of a cross-council team, an approach being favoured by other Scottish local authorities such as Renfrewshire
- VII. **Development of an API<sup>16</sup>:** Develop API<sup>17</sup> and deliver integration with the Council's open data portal for Council online services, to allow the flow of real-time data, where appropriate.

## Measures of success

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- 4.1 The success of the Open Data programme will continue to be measured in the publishing of new data sets, case studies and projects.
- 4.2 Awareness in relevant audiences has been raised through EdinburghApps and working closely with the University of Edinburgh and now Edinburgh Prewired and CodeBase. It has delivered a number of successful new products which provide strong case studies for both the re-use of data and collection of new data. Some service areas have seen the benefits of this and are now supporters of the open data approach.
- 4.3 The delivery of the open data strategy requires the Council to follow a maturity path that incorporates the embedding and implementation of principles, standards and process changes in data publishing. In 2016/17 the open data publication plan roadmap will bring an increase in data sets made available.

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<sup>16</sup> **API**, an abbreviation of application program interface: a set of routines, protocols, and tools for building software applications that can enable the sharing of data between systems

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## **Financial impact**

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- 5.1 Currently delivery has been managed through existing budgets identified in service areas.

## **Risk, policy, compliance and governance impact**

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- 6.1 The Open Data Strategy is part of the ICT & D Strategy Programme. Risks are monitored and managed at the project and ICT&D Board.

## **Equalities impact**

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- 7.1 The Open Data Strategy will promote equitable access to Council, and Partner services in line with Council equality standards.

## **Sustainability impact**

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- 8.1 ICT Solutions will enable the ongoing support of the Portal and publishing of data sets.

## **Consultation and engagement**

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- 9.1 A key element of the development of the Open Data strategy is wider engagement with staff, managers, elected members, relevant audiences and sectors to encourage a city-wide approach to the sharing and re-use of data. Stakeholders such as Open Knowledge and Edinburgh University were consulted during the strategy development. Feedback was positive and supportive.
- 9.2 Ongoing engagement will take place in 2015/16.



## Background reading/external references

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- [The City of Edinburgh ICT and Digital Strategy](#)
- [The City of Edinburgh Council Open Data Strategy](#)
- [Scottish Government Data Management Board](#)
- [Re-Use of Public Sector Information Regulations 2015](#)  
<http://ec.europa.eu/digital-agenda/en/european-legislation-reuse-public-sector-information>
- [INSPIRE \(Infrastructure for Spatial Information in Europe\) Directive \(2007\)](#)  
[http://ico.org.uk/for\\_organisations/inspire\\_regulations](http://ico.org.uk/for_organisations/inspire_regulations)
- [Future Cities Standards Institute](#)
- [Edinburgh Living Lab](#)

### Andrew Kerr

Chief Executive

Contact: Claudette Jones, Chief Information Officer

E-mail: [claudette.jones@edinburgh.gov.uk](mailto:claudette.jones@edinburgh.gov.uk) | Tel: 0131 529 7847

<b>Coalition pledges</b>	P15 - Work with public organisations, the private sector and social enterprise to promote Edinburgh to investors P28 - Further strengthen our links with the business community by developing and implementing strategies to promote and protect the economic well being of the city
<b>Council outcomes</b>	CO23 - Well engaged and well informed – Communities and individuals are empowered and supported to improve local outcomes and foster a sense of community CO24 - The Council communicates effectively internally and externally and has an excellent reputation for customer care CO25 - The Council has efficient and effective services that deliver on objectives CO26 - The Council engages with stakeholders and works in partnership to improve services and deliver on agreed objectives
<b>Single Outcome Agreement</b>	SO1- Edinburgh's Economy Delivers increased investment, jobs and opportunities for all SO2 - Edinburgh's citizens experience improved health and wellbeing, with reduced inequalities in health SO3 - Edinburgh's children and young people enjoy their childhood and fulfil their potential SO4 - Edinburgh's communities are safer and have improved physical and social fabric
<b>Appendices</b>	Appendix 1 – List of Open Data Sets Appendix 2 – Code the City Environmental workshop weekend outcomes Appendix 3 - Freedom of Information (Scotland) Act 2002 (FOISA) and Environmental Information (Scotland) Regulations 2004 (EIRs)

## Appendix 1 – List of Open Data Sets

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Access to Sport and Culture Edinburgh	Adventurous Activity Providers
Allotments	Areas of outstanding landscape quality
Areas of great landscape value	Bella Italia football counters 2012 - 15
Bus Tracker (API)	Business Start-ups
Businesses – vacant locations	Care Homes
Carer Support Groups	Cemeteries and Crematoria
Central Edinburgh Passenger and Transport Studies	City Chambers Rooms
Civil Marriage and Partnership Venues	CO2 Emissions
Community Centres	Community Councils
Community learning and development	Conservation Area Character Appraisals
Conservation Areas	Controlled parking zones
Council Tax Bands by Postcode	Councillors' Membership of Organisations
Councillors' Register of Interests and Expenses	Cycle Parking
Day Services and Lunch Clubs	Dentists by Postcode
Drug and Alcohol Services	Edinburgh Airport Passenger Numbers
Edinburgh Collected API	Edinburgh Council Leisure Facilities
Edinburgh Leisure data	Edinburgh Urban Design Panel Review Directory
Edinburgh World Heritage Site	Edinburgh's Parks: tree special collections
Employment Demographic Data	Floral meadows
Green belt	Greyfriars Bobby Trail

Gritting routes	Hotels and other Serviced Tourist Accommodation 2013
House building completions	Housing land audit completions
Housing land audit schedule	Housing Support Organisations
Jobseeker's Allowance	Landfill areas (Edinburgh Council derived)
Libraries locations	Listed buildings
Litter Bins locations	Litter Reports
Living Landscapes	Mobile Library Stops
Monthly footfall data	Monuments in Parks and Green spaces
Museums and Galleries	National Insurance Number registrations
Natural neighbourhoods	Neighbourhood Offices
Neighbourhood partnerships	New Homes in your Area
Notable rare species in Edinburgh	ONS Disposable Income
Outdoor Education Providers	Open Space audit
Parking bays	Parks and Gardens
Planning Policies	Play Areas
Polling districts	Polling stations
Presentation Seats	Primary school catchments (non denominational)
Public CCTV locations	Public Conveniences
Public Registers	Recorded Crime
Recycling Points	Registered Home Care Providers
Registrars Offices	School catchment areas
School Leaver Destinations	Schools locations

Secondary school catchments (non denominational)	Secondary school catchments (Roman Catholic)
Seed Mix - Floral Meadows 2015	Sheltered Housing Complexes
Shop survey 1986	Shop survey 1996
Shop survey 2004	Shop survey 2010
Special landscape areas	Sports and Recreational Facilities
Street Name Bank	Tables and Chairs Permits
Temporary CCTV locations	Tenant Organisations
Tram line	Tree preservation orders (supporting maps)
Trees with Preservation Orders	Vacant and Derelict Land Survey
Vacant and derelict land survey (supporting data)	Vehicle Collisions
Waiting and loading markings	Wi-Fi Access Points
Your Edinburgh	Youth Work Opportunities

## Appendix 2 – Code the City Environmental workshop weekend outcomes

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**Trashban** – this team created a litter monster, ‘Munching Max’ - both a physical bin and an app. They looked at mapping litter reports and bins, which influenced their thinking and were essential to the development. The app uses gamification in the disposing of litter, giving users points which offer deals. A leader board itemises awards for those who get rid of the most litter.

This team also had a hardware development team, who built an actual bin, which talks to you when you put litter in. It was powered by Arduino and included a speaker on the inside, light sensor, and LED light. When the light is disrupted by litter being thrown in the voice is activated.

**Fly** – an app crowd sourcing biodiversity data in the city the app issues a daily challenge to find species with a score board. The community self-moderates and data is uploaded onto a server which creates a heat map of locations in the city. Requests will come through at a specific time each day, and the rarer the species the more points there are. Incentives include virtual trophies to be won, and encourages competition. The ultimate goal is to crowdsource the data across the city. The team managed to create an API to pull in data.

The design – homepage designed by one of the visiting Dutch students from Gronigen and images and species were researched before developing a graphical view of Edinburgh Castle – an eye catching design, with a kingfisher as the app logo.

**Cyclists for cyclists** - an app designed to offer a range of services for cyclists including where to get repairs, shower, park and eat as well as a chat feature. In the future it would be possible to add cycling routes, and share trips you have completed. It has the user GPS to help locate. The idea is for it to be community driven, crowd sourcing useful information.

**Edinbro** built a website where people can share tasks – looking for help in their community, from anything to finding a cat to moving house. Points are awarded depending on the complexity of the task and it includes a leader board to discover who is the most helpful in your area. This has a separate app. The backend was also developed so they could demonstrate adding a new request, as well as the architecture for their development.

**The Land Revival site** was built by two of the Prewired coders who attended the weekend – the idea was to map all the data for vacant and derelict land so citizens could ask for land for community projects or to buy. Using the Council API to extract data they created a searchable site, with a full map and also a satellite map. You can view by map or list.

**Data Noms** is really the start of a project thought of by a local developer who is using Edinburgh Council open data. It is an idea to create a hub to improve data for anyone using it. Using Council data he demonstrated with one data set using programmes

created to find data errors and fix them, improving the data. His example was a csv file improved from 3 star to 4 star (following the open data quality system). This development is open and be used by anyone working with data, and at specific events to help those working with data.

## Appendix 3 – Freedom of Information (Scotland) Act 2002 (FOISA) and Environmental Information (Scotland) Regulations 2004 (EIRs)

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FOISA and EIRs are enforced by the Scottish Information Commissioner.

The legislation gives any person the right to ask for information held by a Scottish public authority and the right to receive it. Requests for information under FOISA must be in writing. Requests for environmental information under the EIRs may also be verbal.

The legislation imposes two broad duties on Scottish public authorities:

1. The duty to respond to information requests within statutory time limits.

There is a presumption that information will be disclosed but the legislation makes provision for it to be withheld if exemptions or exceptions apply. These exemptions and exceptions are also relevant when releasing Open Data. This should be taken into account when developing your [Open Data Publication Plan](#).

2. The duty to proactively publish information.

Section 23 of FOISA requires authorities to “adopt and maintain a scheme [...] which relates to the publication of information by the authority...” Open data is one method of publishing information.

The Scottish Information Commissioner has created a [short guide](#) to help authorities decide which law applies when dealing with requests. More [detailed guidance](#) is available to help public authorities understand their obligations and deal with request. There will also be a FOISA contact within your organisation who you should speak to if you have any questions.

### **Data Protection Act 1998 (DPA)**

The DPA is the main piece of legislation which protects personal data in the UK. Anyone who holds or processes personal data is obligated to comply with the act. The act defines [8 data protection principles](#). If you have questions about your obligations under the DPA, you should speak to your Information Asset Owner or consult the UK Information Commissioner’s [guidance](#).

### **INSPIRE (Scotland) Regulations 2009**

The INSPIRE Regulations cover the release of spatial data by Scottish public authorities and organisations which carry out duties on behalf of public authorities. The regulations brought into force the [EU Inspire Directive](#) which aims to create consistency across all member states so that all spatial datasets can be easily shared, modified and combined. INSPIRE defines common technical standards for publishing spatial datasets which fall within [34 data themes](#).

All spatial data which falls under INSPIRE must be published. You should ensure that you publish your data as both [view](#) and download services, to the required standards, as well as its associated metadata. The latest information about INSPIRE can be found on the [UK Location](#) website.

In Scotland, the [Scottish SDI Metadata Catalogue](#) (SSDI) supports the publishing of Scottish public sector spatial data metadata to the INSPIRE and UK Location metadata standards. It provides the discovery component for a set of on-line services that will allow users to evaluate and use public sector spatial data. Guidance on how to create INSPIRE metadata on the SSDI can be found [here](#).

### **Re-use of Public Sector Information Regulations 2015**

The Public Sector Information Regulations cover any information a public sector body:

- a) produces, holds or disseminates within its public task, and
- b) holds the copyright for

Under the regulations, public sector bodies should make their information available for re-use under an open licence at marginal cost. Marginal cost in most cases will be nil. The legislation specifies exceptions to the marginal cost default, for example trading funds. In such cases, public sector bodies may charge re-users to cover the costs of collection, production, reproduction and dissemination of information, together with a reasonable return on their investment.

The National Archives have produced a [checklist](#) to help public sector bodies make sure they satisfy their obligations under the regulations. Detailed [guidance](#), including information around charging, has been produced for public sector and cultural sector bodies.