

**Report of Alan Gay, Deputy Chief Executive**

**Report to the Executive Board**

**Date: 18<sup>th</sup> November 2015**

**Subject: Open Data: Realising the potential of an untapped resource**

Are specific electoral Wards affected? If relevant, name(s) of Ward(s):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is the decision eligible for Call-In?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, Access to Information Procedure Rule number: Appendix number:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

**1. Summary of main issues**

- 1.1 In a time of diminishing resources, local authorities need to find new ways to deliver services and achieve outcomes within budget. Non-personal, when combined across organisations and places, can provide opportunity for better decisions and new solutions, leading to increased efficiencies in the council and better outcomes for citizens, communities and the local economy.

**2. Recommendations**

2.1 Executive Board are asked to:

- set the policy that the Council adopt an 'open by default' approach to proactively publish all its non-personal datasets;
- endorse the 'Leeds: The Data City' manifesto (Appendix 1) as the direction of travel for the Council and one which will be promoted across the city;
- agree to the setting of targets for all services to publish open data on Leeds Data Mill, and;
- support the approach of the Council working across all sectors to get them to open their data for the benefit of the city as a whole.

### **3. Purpose of this report**

- 3.1 To provide Executive Board with the drivers for publishing council data and to recommend a particular strategic and policy approach to facilitate publication.
- 3.2 To update progress and achievements so far.

### **4. Background information**

- 4.1 Open data is the publication of non-personally sensitive data. It is made available in a format which enables members of the public to view it and data analysts, academics, businesses and web/app developers to easily re-use it and combine it, potentially to deliver better insights and solutions to our city's challenges. For example, an independent analyst has used data published on Leeds Data Mill to provide insight into childhood poverty in Leeds, whilst another has interrogated road traffic accident data to identify the 'Who, What, Where and When' of casualties.
- 4.2 Opening up data which has previously been locked away can provide a boost to the digital sector resulting in new jobs and new services at little or no cost to the council. Leeds has a vibrant and creative digital sector (best outside of London) that have the potential to do great things if they had access to data which has never been previously available.
- 4.3 The Leeds Data Mill website is a data repository managed by the council. The site however is not just for Leeds City Council data, but one for the whole city. Leeds is pioneering in taking a multi-organisation, cross-sector approach to open data which is already being replicated by other cities and is a national exemplar. There are currently 27 different organisations publishing on the Leeds Data Mill including Yorkshire Water, Northern Power Grid and Heritage Lottery Fund. Work is continuing to increase the number of publishers who can contribute.

### **5. Main issues**

- 5.1 Transparency is high on the Government's agenda at present and Leeds is one of the leading UK cities promoting the benefits. The council is already fully compliant with the Local Government Transparency Code which outlines data which must be published, and the EU Public Sector Information Directive which was revised in July 2015 states that all information which is generated in the delivery of services should be made available.
- 5.2 Publication of data has led to the reduction of Freedom of Information (Fol) requests ensuring work continues to be delivered within budget and frees up staff resources to concentrate on delivering front line services.
- 5.3 Key city outcomes such as the Breakthrough Projects can be supported through open data. For example, data on street lighting columns, pedestrian crossing locations and timings, and public toilet locations can contribute to Leeds being the Best City to Grow Old in. Additionally, work is continuing with the Sustainable

Energy & Climate Change team to identify ways to improve energy efficiency in council buildings and contribute to reducing carbon emissions.

- 5.4 There has been much talk recently of the 'Northern Powerhouse', and with the launch in 2014 of TechNorth, a new scheme to co-ordinate existing digital technology expertise in the north of England, Leeds is well placed to take the lead in this area and to become *the* digital city of the North. It is the home of the only UK internet exchange operator outside of London, and is the only city in the world (outside of London) with a physical Open Data Institute space.
- 5.5 Leeds is seen by many as being at the cutting edge in the digital/data sector. The University of Leeds secured £12m of funding which resulted in a state-of-the-art centre for data analytics and recently a further £4.2m to carry out pioneering research on how robots can improve the running of the city's infrastructure. These projects rely on data and generate data. It is no surprise then that notable recent investment has come from the likes of Google and Sky, bringing with them new jobs to the city.
- 5.6 Opening up data enables individuals, SMEs, and larger organisations to create new and innovative solutions to some of city's problems, provide an economic stimulus leading to job creation, and increasingly cements Leeds as a great place to live, visit, work, and do business.
- 5.7 Leeds is currently seen as a front-runner on this agenda and seen as the exemplar due to its outward-looking approach. Engagement with the digital sector has already led to the creation of some early prototypes which not only provide citizens with new services but also help the council become more efficient. Increasingly however, other cities are seeing the value of opening up their data and it's important that Leeds continues to stay ahead of the game if it wants to mark itself out as being the 'best city for open data' and reap the rewards which come with that title.
- 5.8 The council cannot rest on its laurels and leave this to a small element of the Smart Cities Team, it needs to continually lead, innovate, and shape the future direction of this agenda as a whole. Clear commitment is required from all services to proactively identify and publish any appropriate data and to continue to work with the ever growing digital sector to realise its potential.

## **6. Examples of the use of open data and progress so far**

- 6.1 Using open data (cycle routes, accident data, traffic counts, air quality data), a developer has created a family friendly cycle app for use on smart phones. It provides the cyclist with information on the safest and cleanest routes to cycle and allows them to share additional information such as places of interest along the route. This is an example of how data which was originally collected for one purpose is being re-used to provide a new service which also promotes health and wellbeing.
- 6.2 The council has seen a reduction in FoI requests for the previous two quarters. Furthermore, evidence shows that the council has saved the equivalent of around £3,500 in officer time due to the publication of Business Rates data alone.

Increasingly, the council does not have enough capacity to effectively deal with any significant rise in FoI requests which can take up to 18 hours to deal with each one. Leeds has seen a reduction in FoI requests, 5% last year, and continuing the trend with a 3% decrease in the 1st quarter of this financial year. On the whole, other local councils are continuing to see increases. It is widely acknowledged that the work carried out so far in publishing open data has contributed to this decline.

- 6.3 ViaggiArt, is an Italian based visitor app promoting cultural attractions. Its creators Altrama wanted to expand outside Italy and saw the UK as the best place to further their ambitions. Leeds was chosen as their first pilot city for 2 fundamental reasons; the investment made in open data (Leeds Data Mill) and that "Yorkshire is one of the most important tourist destinations in Europe". The next step for Altrama is to find the right partners to start to market the app. Trying to replicate the Italian model, the partner search will focus on companies and organisations managing airports, ports and stations, tour operators, car rental companies and public transport companies. This is a new visitor app providing new services to citizens and visitors and was produced at no cost to the council through the combination of open data from different sources.
- 6.4 Doorda's Streetwise.life (Appendix 2) website is using data from Leeds Data Mill to provide citizens with easy and intuitive access to planning applications, accidents, and places to eat combined with data from Zoopla, NHS & Trip Advisor. This service is being offered at no cost to the council or the public and provides a 'one stop shop' for public and visitor information.
- 6.5 Ongoing work is taking place on the design of a new website (Appendix 3). Using open data to provide parents with more information when they are applying for a new primary school place for their child. It will include detailed information on numbers of places available, subscription rates, and likelihood of acceptance based on the previous years' data. The end result is that it will enable parents to make better, more well informed choices, which can lead to more children being allocated their preferred options and result in less appeals and Fols.
- 6.6 Journalists, academics, businesses, and independent analysts are using published data to create visualisations about the city. Appendices 4a & 4b provide an easy to understand view of data which is available in the public domain and in an era of diminishing council resources can help council officers in their decision making. These analysts are civic minded and passionate about Leeds and are working in their free time to provide insight about the make-up of Leeds.
- 6.7 The council is working with an SME in Leeds to create a Leeds City Dashboard (Appendix 5). Using data published on Leeds Data Mill, such as council spending and statutory notices, it will enable councillors, officers, and citizens to curate their own unique dashboard showing visualisations important to them.

## **7. Corporate considerations**

- 7.1 None

## **8. Consultation and Engagement**

- 8.1 The Smart Cities approach, which incorporates open data, has been considered, reviewed and approved by the appropriate council officer boards and Lead Member.

## **9. Equality and Diversity / Cohesion and Integration**

- 9.1 Issues of equality and diversity, cohesion and integration will be considered at all stages of this agenda. The provision of open data enables more individualised solutions to be developed for specific needs.

## **10. Council Policies and Best Council Plan**

- 10.1 The council has aspirations to promote Leeds as being the 'Best City for Open Data'. Open data can make a positive contribution to the key council and city objectives. Data is already being opened up to contribute to the city's Breakthrough Projects and contributes to the council becoming a more efficient and enterprising organisation.

## **11. Resources and value for money**

- 11.1 Funding for 'Smart Cities: Delivering a sustainable City in the Digital Age' was discussed and agreed at the Executive Board on 17<sup>th</sup> December 2014. Part of this funding is to facilitate open data events which bring together service providers and technologists to help deliver new and innovative services and solutions to some of the city's problems. The Information Management and Technology teams located in Directorates are there to support all service heads to progress this agenda.

## **12. Legal Implications, Access to Information and Call In**

- 12.1 There are no specific legal implications or issues relating to access to information.

## **13. Risks**

- 13.1 As in all research and development-type projects, some may fail. Data may be published and work carried out by a developer which doesn't provide any instant benefits. This should be outweighed however against the potential that something may be delivered which could put Leeds on the digital map. Benefits could also be less obvious, for example, the release of accident data could lead to a cycling app which improves health amongst citizens. To mitigate against this the majority of projects delivered so far have been low or no cost to the Council and have delivered benefit. The purpose of this type of approach is that the innovations are delivered by third party independents in the most part at their cost.
- 13.2 It important that there is buy-in from Members, officers, and senior management. This is a new area of work for many at a time when resources are stretched. To

address this issue it is important to promote the drivers and the potential positive outcomes of the agenda and to work with and support services who contribute.

## **14. Recommendations**

### 14.1 Executive Board are asked to:

- set the policy that the Council adopt an 'open by default' approach to proactively publish all its non-personal datasets;
- endorse the 'Leeds: The Data City' manifesto (Appendix 1) as the direction of travel for the Council and one which will be promoted across the city;
- agree to the setting of targets for all services to publish open data on Leeds Data Mill, and;
- support the approach of the Council working across all sectors to get them to open their data for the benefit of the city as a whole.

**15. Background documents<sup>1</sup>**

15.1 None.

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<sup>1</sup> The background documents listed in this section are available to download from the Council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.

# LEEDS: DATA CITY

## Open Data Manifesto



Published DD MMMM 2015

**Leeds: Best City for Open Data**

# OUR MISSION:

Leeds aspires to be the best city for the publication of **NON-PERSONAL** and **NON-COMMERCIALY SENSITIVE** 'open data'. Led by Leeds City Council and working with partners from across the city, this publication outlines the joint approach to opening up data to create new and innovative solutions to help identify and address city problems as well as maximising business potential. Whilst the council is spearheading the agenda as outlined in the Executive Board report, 'Smart Cities: Delivering a Sustainable City in the Digital Age', it is only when working across all sectors and with multiple organisations that real benefits can be realised. Partnership working is at the heart of this agenda and will enable Leeds to distinguish itself as 'The Data City' and become the go-to place for all things digital.

## OPEN DATA PRINCIPLES

It is important that clear principles are outlined to maximise the potential of opening up data. The following were agreed at the *G8 Lough Erne 2013* summit and have been adopted by Leeds City Council. To deliver maximum value it is important that the city works together using these shared goals.

### **OPEN BY DEFAULT**

Establish an expectation that all data will be open by default, meaning that there must be legitimate reasons not to publish. When data isn't published, the reasoning behind the decision shall be made open.

### **QUALITY & QUANTITY**

Release high-quality non-personal and non-commercially sensitive open data that are timely, comprehensive, and accurate. To the extent possible, data will be in its original, unmodified form and at the finest level of granularity available.

Information about the data is written in plain English to enable it to be clearly understood.

Data will be fully described, so that consumers have sufficient information to understand their strengths, weaknesses, analytical limitations and security requirements, as well as how to process it.

Data will be released as early as possible, allowing users to provide feedback, enabling revisions to be made to ensure the highest standards of open data quality are met.

### **USEABLE BY ALL**

Data will be published in open formats to ensure it is available to the widest range of users and for the widest range of purposes.

Release as much data as possible without a charge to the user. Where it is not possible to offer free access at present, promote the benefits and encourage the publication of future free access. In many cases this will include providing data in multiple formats so that they can be processed by computers and understood by people.

### **RELEASING DATA FOR IMPROVED GOVERNANCE**

Share technical expertise and experience across the city, city-region and country to reap the benefits of open data.

Be open and transparent about our own data collection, standards and publishing processes, by documenting all of these related processes online.

### **RELEASING DATA FOR INNOVATION**

Increase open data literacy and encourage people, such as developers, analysts and arm-chair auditors to unlock the value of open data.

Empower future generations of data innovators by providing data in machine-readable formats.

## Appendix 1 (page 3): Leeds: Data City manifesto

### INFORMATION GOVERNANCE

It is important that published data can be trusted, not only in terms of content, but also in the publication process. Open data is concerned with publishing non-personal and non-commercially sensitive data. Leeds City Council which manages Leeds Data Mill, is committed to working with partners across the city to ensure data is published to the highest possible standards and with the greatest levels of rigour.

#### ACCESS FOR ALL

Leeds Data Mill is an open data platform for the city of Leeds. The council will work with individuals, public, private, voluntary and academic sectors from across the city to support the opening up of their data and provide them with a platform for publication.

#### INFORMATION SECURITY

Open data is concerned with the release of non-personal and non-commercially sensitive data. It is important that Data Protection principles are adhered to and considered when deciding what data to publish.

Anonymisation and data matching are important considerations prior to publication. Guidance material based on Information Commissioner's Office (ICO) guidelines will therefore be published on Leeds Data Mill.

Training and support will be made available to ensure a considered approach is taken to publishing data. Appropriate governance and vetting procedures will be in place to ensure no unauthorised or inappropriate data is published.

#### REGULATORY COMPLIANCE

All information made available as open data will be managed in accordance with the relevant public sector legislative and regulatory compliance requirements.

#### PUBLISHED DATA IS MANAGED

It is important that published data is managed appropriately and that an individual or team take responsibility in updating the data.

Only data which is owned by an organisation should be published by them. Third party Intellectual Property Rights also need to be considered prior to publication.

#### DATA QUALITY

Data should, where possible, be published to the highest standards of data quality. The following key metrics should be used to measure the data:

**VALIDITY:** Data should be collected and used in compliance with requirements. It is important that it is fit for purpose.

**ACCURACY:** Data should be *sufficiently accurate* for its intended purposes and reflect the 'real world'.

**RELIABILITY:** Data should be trusted and collection should be consistent.

**TIMELINESS:** Data should be collected as quickly as possible after an event or activity. It should be published as soon as practicable.

**COMPLETENESS:** Missing, incomplete or invalid records need to be monitored and actions put in place to eliminate or minimise these.

Data quality should not be a barrier to publishing data, however where it is known that quality is compromised, actions should be put in place to improve and update it.

#### USEFUL METADATA

The information about the data should be useful and accurate. It is important that users understand the data and are aware of scope, context and any issues such as data quality concerns.

## Appendix 1 (page 4): Leeds: Data City manifesto

### COMMUNITY & EVENTS

The open data agenda in Leeds needs to focus on more than just publishing new data. It is also about working in partnership with developers, analysts and partner organisations across the city to realise the value of data and to re-use it in other ways than the original purpose of collection. To differentiate Leeds from other cities it is important to take advantage of its strengths as well as educate, up-skill, and provide a playground for data enthusiasts.

#### EDUCATION

Opening up data shouldn't simply be about publishing data, but also to ensure citizens have the skills to make sense of it.

Leeds Data Mill will not only focus on being the data repository for the city, but also on providing education to ensure users can understand, analyse, and re-use the data effectively.

#### ENGAGEMENT

Opening up data allows citizens and businesses to become more civic and enables them to influence how their communities are shaped.

Consultation with all stakeholders can provide valuable input into what data is of interest and how it can be used to improve the lives of citizens and communities.

Social media such as Facebook, Twitter and blog posts will be used to keep followers informed of new innovation and progress and to allow different channels of communication and feedback.

#### WORKING TOGETHER

Leeds Data Mill is a data repository for the whole of Leeds; from individual citizens, to organisations in the public, private, voluntary, and academic sectors.

Leeds is well placed to differentiate itself from other cities. It is home to a large health sector including the Health and Social Care Information Centre, three universities and one of the largest digital and creative sectors outside of London.

Leeds should champion what it is doing and work with other cities to share expertise and benefit from their experiences.

#### DATA EVENTS

The hosting of data events, or 'Innovation Labs', can facilitate cross-sector working with developers, analysts, and service providers. They promote the publication of new data and can lead to new and innovative services and solutions to some of the city's problems.

Other, less data-centric events will look to engage a wider audience, introducing open data to those not primarily from the digital sector.

#### MAKING SENSE OF DATA

It is important that data makes sense. Not just to those who are comfortable with interpreting it, but to all citizens regardless of their technical ability. Working with the digital sector, visualisations of data will be created to 'tell the story of Leeds', so that it becomes more accessible and valuable.

A dashboard will be introduced as part of Leeds Data Mill. This will offer users a variety of visual interpretations of published data without having to analyse the data itself.

It is important that success is measured. Baseline and performance monitoring can help ensure progress is being made in the right areas.

## Appendix 2: Doorda's Streetwise.life website

The screenshot displays the Streetwise website interface. At the top left, the logo "STREET WISE" is visible. A search bar contains the text "leeds". The main area is a map of Leeds, populated with numerous yellow circular markers of varying sizes, each containing a number (e.g., 1, 2, 3, 4, 5). The map includes labels for various streets and landmarks such as Leeds General Infirmary, Leeds City Council, and Leeds City Museum. On the left side, there is a vertical list of three accident reports, each with a date, distance, and a brief description of the incident. On the right side, there is a sidebar menu with the heading "Click to view" and several categories: Education, Crime, Eating out, Sold Property, Road accidents (which is highlighted), Properties for sale, Available for rent, TripAdvisor, and NHS Services. At the top right of the sidebar, there are "Sign up" and "Sign in" links.

**STREET WISE** Search: leeds Q

Leeds The weather was reported as Raining. Vehicles involved Car, Car (above 500cc). The Pedestrian, a man aged 72, was injured.

12<sup>th</sup> Mar 2010 42 Metres  
 Accident was reported at 11:10 in Leeds The weather was reported as Fine. Vehicles involved Car. The Pedestrian, a man aged 62, was injured.

27<sup>th</sup> Oct 2008 46 Metres  
 Accident was reported at 10:55 in Leeds The weather was reported as Fine. Vehicles involved Car. The Pedestrian, a girl aged 11, was injured.

2<sup>nd</sup> Aug 2008 50 Metres  
 Accident was reported at 20:30 in Leeds The weather was reported as Fine. Vehicles involved Car, Car. The Driver of the Car, a man aged 51, was injured.

Click to view

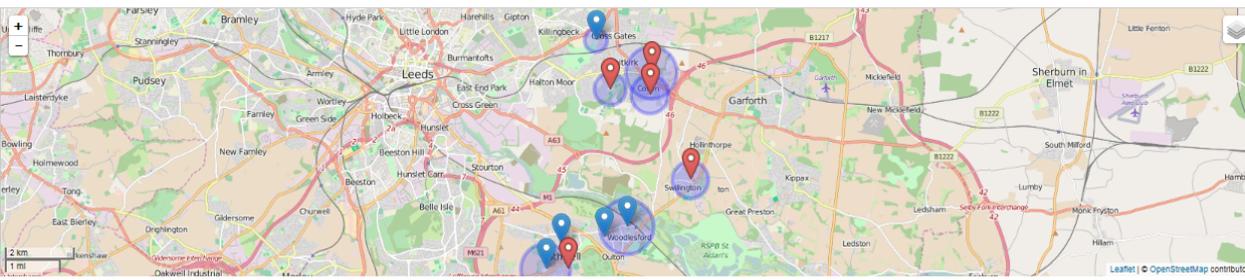
- Education
- Crime
- Eating out
- Sold Property
- Road accidents
- Properties for sale
- Available for rent
- TripAdvisor
- NHS Services

This website has been created independently of the council and uses data published by the council (and others) to provide citizens with local community news and information. In addition to the information already published, Business Rates and Planning Application data will soon be available.

## Appendix 3: Leeds Schools Admissions website

Your results

Schools close to 7, LS26 8PU

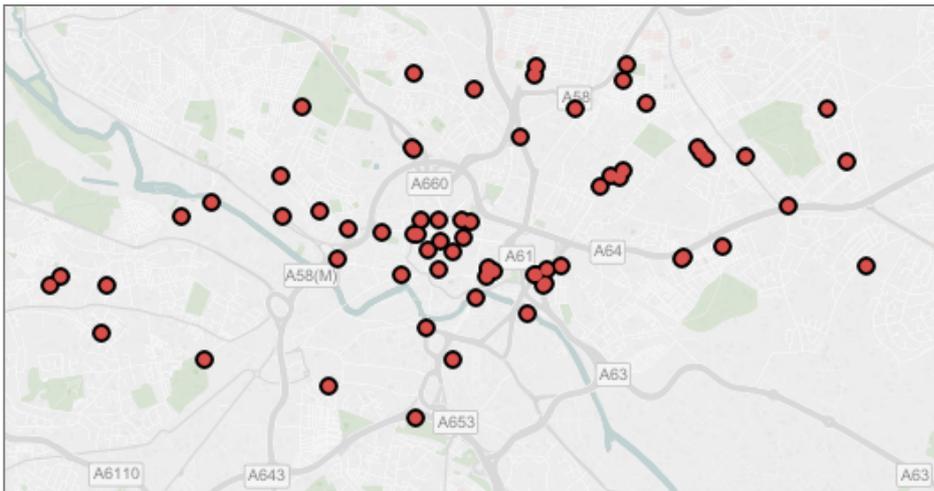


Community (council admission policy) Own admission policy

Oversubscribed?	Name	Address
Oversubscribed	Woodlesford Primary School	Church Street LS26 8RD
Availability	Oulton Primary School	Green Lea LS26 8NT
Availability	Rothwell Church of England Primary School	Queensway LS26 0NB
Oversubscribed	Rothwell Primary School	Carlton Lane LS26 0DJ
Oversubscribed	Cross Gates Primary School	Pooler Crescent LS15 7NB
Not all nearest allocated	Swillington Primary School (Foundation)	Church Lane LS26 8DX
Unknown	Rothwell St Mary's Catholic Primary School (Voluntary Aided)	Royds Lane LS26 0BJ
Not all nearest allocated	Colton Primary School (Foundation)	School Lane LS15 9AL
Oversubscribed	Whitkirk Primary School (Foundation)	Templegate Walk LS15 0EU
Not all nearest allocated	Austhorpe Primary School (Foundation)	Austhorpe Lane LS15 8TP

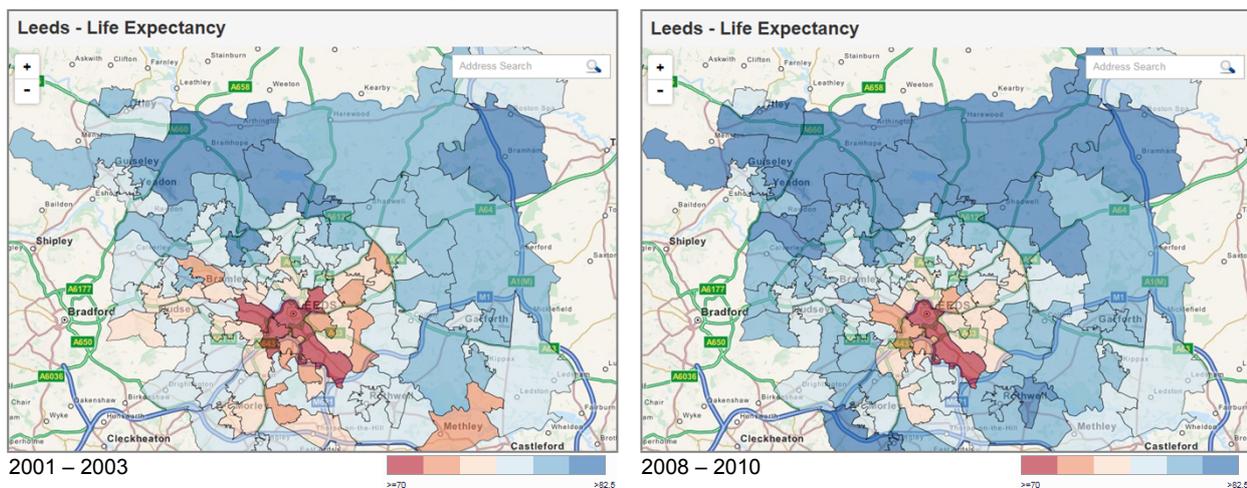
Website using open data published on Leeds Data Mill to provide parents with details about availability of pupil places for schools in their area. This website, once launched, will not only provide information which can automatically answer Freedom of Information requests, but also help parents make better informed choices of which schools to apply for in future.

## Appendix 4a: Serious and fatal road traffic accidents in Leeds City Centre, 2013



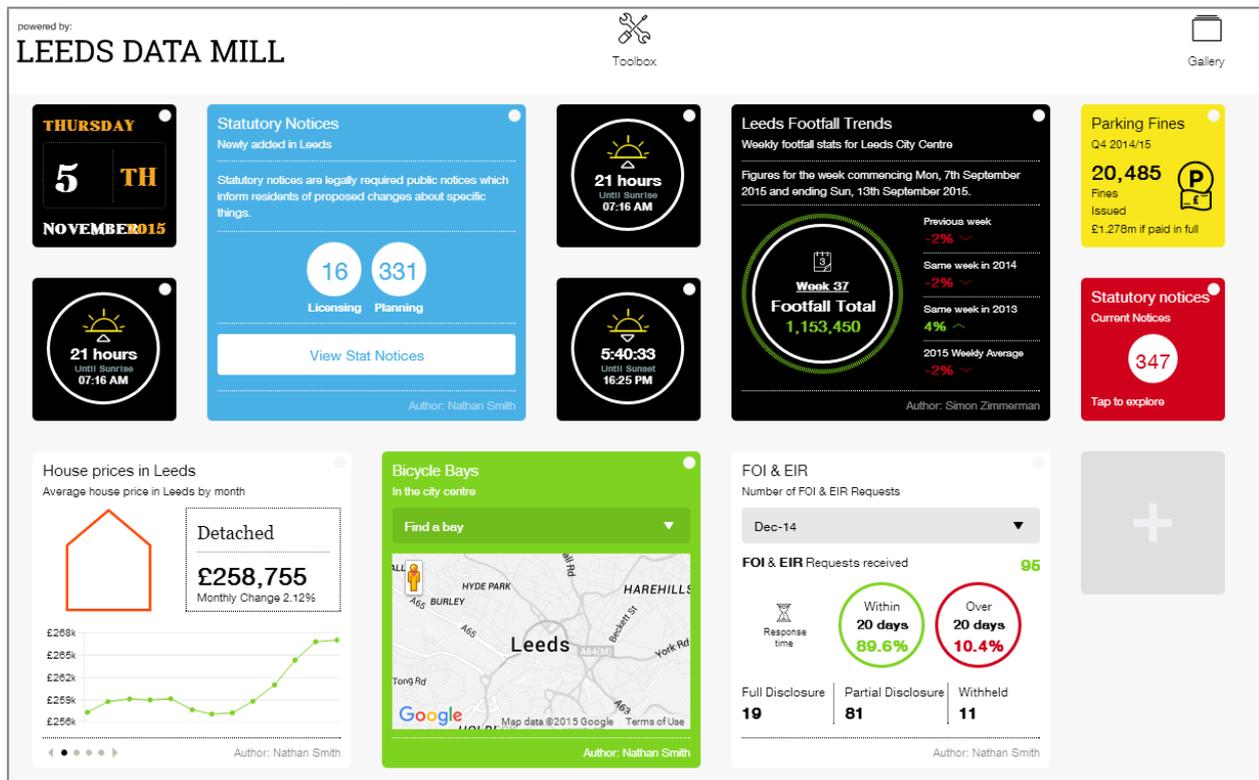
An independent analyst has plotted road traffic accident data onto a map for the whole of Leeds. The above visualisation shows serious and fatal accidents in the city centre. Viewing data in this way rather than in a spreadsheet format instantly shows accident 'hot spots' which can help council officers in their decision making.

## Appendix 4b: Life expectancy in Leeds



An independent analyst has used HMRC open data to map life expectancy in Leeds over a 10 year period. Use of data in this way clearly visualises how, as a city, we are living longer and in which areas there is still work to do. Use of data and visualisation tools in this way can help inform decision making and ensure resources are targeted in the right areas.

## Appendix 5: Leeds City Dashboard



The Leeds City Dashboard provides visualisations of data published on Leeds Data Mill for a variety of audiences. Publishing data and information as spreadsheets ensures we are compliant with legislation such as the Local Government Transparency Code. This platform however, aims to go one step further and ensure data more accessible to all and contributes to the council's value of being 'open, honest, and trusted'.