



Start publishing public sector data online

Gavin Wray
14th July 2010

Keep it simple



- Make data easy to find
- Make data easy to licence
- Make data easy to re-use

[From data.gov.uk]

Where's this coming from?



‘...we want Government information to be **accessible and useful** for the widest possible spectrum of people.

That is why the Prime Minister asked Sir Tim Berners-Lee to advise on how Government can best use the internet to make non-personal public data as widely available as possible.’

Stephen Timms, Minister for Digital Britain, 26 Oct 2009 [[link](#)]

Where's this coming from?

Putting the Frontline First: Smarter Government

- Establishing public data principles
- Data available via data.gov.uk
- Free for re-use and promoting transparency
- Formation of Local Public Data Panel
- 'Raw data now'

Gordon Brown's speech, 7 Dec 2009 [[link](#)]

Photo: Gordon Brown, Liam Byrne and Sir Tim Berners-Lee, 17 Nov 2009

Crown copyright [[view on flickr](#)]



Where's this coming from?



data.gov.uk beta
launched January 2010

The screenshot shows the data.gov.uk beta website. At the top, there's a header with the HM Government logo and the text 'data.gov.uk'. Below this is a navigation bar with links: Home, Blog, Data, SPARQL, Apps, Ideas, Forum, Wiki, Resources, and About. A search bar is on the right. The main content area features a large banner titled 'Unlocking innovation' with the subtitle 'Working with UK Public Sector information and data' and a blue molecular structure graphic. Below the banner is a section titled 'Latest datasets' with a list of updates: '2 July Public servants earning over £150,000 now also covers NDPBs', '25 June Costs and other data about central government websites', '18 June Estimated government workforce including consultants', and '14 June More COINS public spending data: now covers 2005 to 2010'. To the right of the main content are three sidebar boxes: 'Subscribe by RSS' with an RSS icon, 'Community Log in / Sign up', and 'Local Data Panel'. At the bottom right is a box titled 'What is the Semantic Web?' with a small graphic and text explaining the Semantic Web, followed by a 'Read more' button. A 'BETA' badge is in the top right corner of the website interface.

HM Government data.gov.uk

Home Blog Data SPARQL Apps Ideas Forum Wiki Resources About

Unlocking innovation
Working with UK Public
Sector information and data

Subscribe by RSS

Community
Log in / Sign up

Local Data Panel

What is the Semantic Web?
Combining different data sources has never been easy but the Semantic Web will enable data to be joined easily across boundaries.
Read more

Latest datasets

- 2 July [Public servants earning over £150,000](#) now also covers NDPBs
- 25 June Costs and other data about [central government websites](#)
- 18 June Estimated government [workforce](#) including consultants
- 14 June More [COINS](#) public spending data: now covers 2005 to 2010

What we do

data.gov.uk is a key part of the Government's [Transparency programme](#) for the UK public sector as a whole. Working with Sir Tim Berners-Lee, Professor Nigel Shadbolt and Tom Steinberg and other members of the Cabinet Office Minister's new [Public Sector Transparency Board](#) this site seeks to give a way into the wealth of government data becoming available. It's under constant

What are expectations of publishers?



‘Start with the “low-hanging fruit”. Whatever else, the raw data should be made available as soon as possible.’

Sir Tim Berners-Lee, Putting government data online, 30 June 2009 [[link](#)]

What are expectations of publishers?



‘Start with the “low-hanging fruit”. Whatever else, the raw data should be made available as soon as possible.’

Sir Tim Berners-Lee, Putting government data online, 30 June 2009 [[link](#)]

‘...ensure that any data published is made available in an **open format** so that it can be **re-used by third parties**. From July 2010, government departments and agencies should ensure that any information published includes the underlying data in an open standardised format.’

Prime Minister’s letter to Secretary of State, 1 June 2010 [[link](#)]

What are expectations of consumers?



‘It’s our data, we have a right to it’

Expectations have increased about access to data, through:

- Freedom of Information Act
- Office of Public Sector Information
- Advisory Panel on Public Sector Information
- Sites such as TheyWorkForYou.com and data.gov

Chris Taggart, OpenlyLocal.com

‘Why open up local government information’ [\[link\]](#)

What are expectations of consumers?



‘It’s our data, we have a right to it’

Expectations have increased about access to data, through:

- Freedom of Information Act
- Office of Public Sector Information
- Advisory Panel on Public Sector Information
- Sites such as TheyWorkForYou.com and data.gov

Chris Taggart, OpenlyLocal.com

‘Why open up local government information’ [\[link\]](#)

Momentum in 2010



Expectations of availability and presentation of data increasing

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed
- March: Guardian Datastore - open platform launched

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed
- March: Guardian Datastore - open platform launched
- April: Ordnance Survey launch OS OpenData

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed
- March: Guardian Datastore - open platform launched
- April: Ordnance Survey launch OS OpenData
- April: West Midlands workshop on opening public sector data

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed
- March: Guardian Datastore - open platform launched
- April: Ordnance Survey launch OS OpenData
- April: West Midlands workshop on opening public sector data
- May: Tackling worklessness: good practice in data sharing (I&DeA)

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed
- March: Guardian Datastore - open platform launched
- April: Ordnance Survey launch OS OpenData
- April: West Midlands workshop on opening public sector data
- May: Tackling worklessness: good practice in data sharing (I&DeA)
- June: Local authorities must publish data on all spending over £500

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed
- March: Guardian Datastore - open platform launched
- April: Ordnance Survey launch OS OpenData
- April: West Midlands workshop on opening public sector data
- May: Tackling worklessness: good practice in data sharing (I&DeA)
- June: Local authorities must publish data on all spending over £500
- June: Prime Minister's letter - opening government data to public

Momentum in 2010



Expectations of availability and presentation of data increasing

- Jan: Local Public Data Panel formed
- March: Guardian Datastore - open platform launched
- April: Ordnance Survey launch OS OpenData
- April: West Midlands workshop on opening public sector data
- May: Tackling worklessness: good practice in data sharing (I&DeA)
- June: Local authorities must publish data on all spending over £500
- June: Prime Minister's letter - opening government data to public
- June: New government's Public Sector Transparency Board set out 'draft public data principles'

Where to start



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

‘Get your data out - for others to consume. Sounds simple.

Just take the spreadsheet (or similar file) that you use to track information, post it on your web site and link to it from a description posted in an accompanying web page.’

Richard Wallis, Talis

The data publishing three-step [\[link\]](#)

Document properties



West Midlands
Regional
Observatory

www.wmro.org

Make data easy to find



Make data easy to licence



Make data easy to re-use

The screenshot shows a Google search interface. The search bar contains the text "recession west midlands data filetype:xls". Below the search bar, it says "About 79 results (0.32 seconds)". On the left side, there are filters for "Everything" and "The web". The search results are listed below, each with a file format icon (xls), a title, a description, and a URL.

Google

recession west midlands data filetype:xls

About 79 results (0.32 seconds)

Everything
More

The web
Pages from the UK
More search tools

recession data.
www.tutor2u.net UK's most popular blog for economics teachers and students

[xls] [Dataset for charts used in 'The West Midlands economy post ...](#) ☆
File Format: Microsoft Excel - [View as HTML](#)
2 Jul 2010 ... 3, Description, Supporting **data** used to create the charts in the report The **West Midlands** economy post **recession**: key issues and ...
www.wmro.org/.../west-midlands-economy-post-recession-2010-dataset.xls

[xls] [Download the survey in full - BBC NEWS | News Front Page](#) ☆
File Format: Microsoft Excel - [View as HTML](#)
9, Birmingham City Council, Metropolitan Borough Council, **West Midlands** to match the reduced demand on services which are affected by the **recession**. ...
news.bbc.co.uk/nol/shared/spl/hi/uk/10/bbc_survey/data/bbc_survey.xls

[xls] [View latest available NIS performance information \(Excel 335KB ...](#) ☆
File Format: Microsoft Excel - [View as HTML](#)
Given the sample size **data** is reported at Black Country level. The sample of **West Midlands** based employers was 8047 (with 1411 of these being in the Black ...
www.walsall.gov.uk/nis_quarter_update_all_measures_31032009-3.xls

Creator West Midlands Regional Observatory

Rights Creative Commons Attribution-ShareAlike 2.0 UK: England & Wales

Document properties



West Midlands
Regional
Observatory

www.wmro.org

Make data easy to find



Make data easy to licence



Make data easy to re-use

The screenshot shows a Google search for "recession west midlands data filetype:xls". The search results include a link to "recession data" on www.tutor2u.net and a link to a dataset for charts used in "The West Midlands economy post...". The dataset is a Microsoft Excel file titled "Dataset for charts used in 'The West Midlands economy post...'". The spreadsheet is open in Microsoft Excel, showing the title "Dataset for charts used in 'The West Midlands economy post...'" and the date created "02/07/2010".

Google search results for "recession west midlands data filetype:xls":

- recession data
www.tutor2u.net UK's most popular blog for economics teachers and students
- [xls] Dataset for charts used in 'The West Midlands economy post ...'
File Format: Microsoft Excel - View as
2 Jul 2010 ... 3, Description, Supporting
Midlands economy post recession: ke
www.wmro.org/.../west-midlands-econ
- [xls] Download the survey in full -
File Format: Microsoft Excel - View as
9, Birmingham City Council, Metropolita
reduced demand on services which ar
news.bbc.co.uk/nol/shared/spl/hi/uk/10
- [xls] View latest available NIS per
File Format: Microsoft Excel - View as
Given the sample size data is reported
based employers was 8047 (with 1411
www.walsall.gov.uk/nis_quarter_update

Microsoft Excel spreadsheet titled "Dataset for charts used in 'The West Midlands economy post...'":

Document Properties		Location: C:\D
Author:	West Midlands Regional Observ	Subject: Education, careers and employ
Title:	Dataset for charts used in 'The	
Status:	Version 1.3; published 2nd July	
Comments:	Published on wmro.org 2nd July 2010.	

B1	
A	B
1	Title
2	Date created

Describe and link your sources



Make data easy to find



Make data easy to licence



Make data easy to re-use

Describe and link to your sources

Describe and link your sources



Make data easy to find

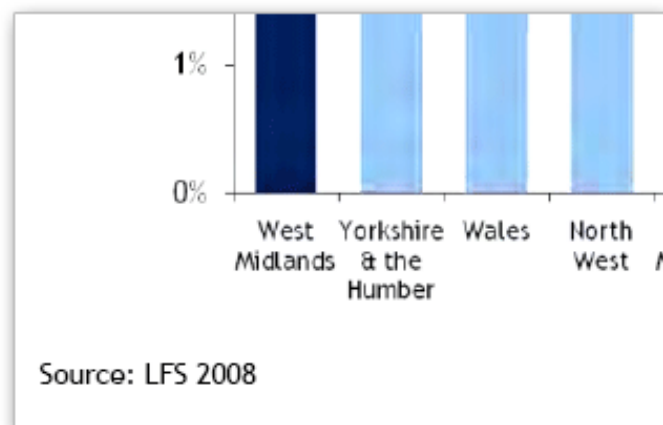


Make data easy to licence



Make data easy to re-use

Describe and link to your sources



Describe and link your sources



Make data easy to find

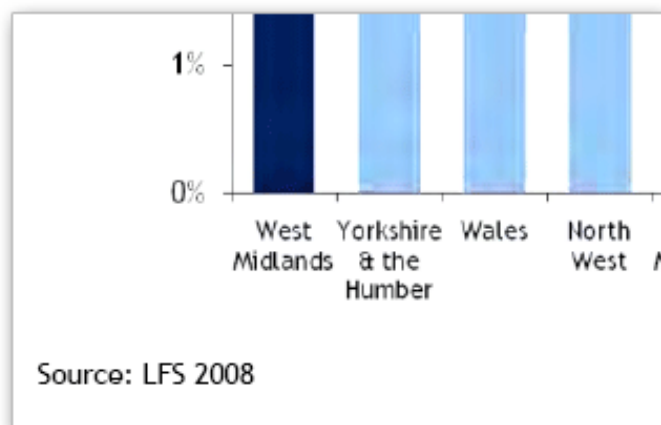


Make data easy to licence



Make data easy to re-use

Describe and link to your sources



Source: Office for National Statistics, Labour Force Survey 2008
<https://www.nomisweb.co.uk>

Describe and link your sources



Make data easy to find



Make data easy to licence



Make data easy to re-use

‘...when ONS data or National Statistics emanating from another source (eg other government departments or devolved administrations) are included in a WMRO publication, in addition to citing the source of the data, an acknowledgement that the Crown holds the copyright is also required.’

Office for National Statistics Regional Statistician, West Midlands

Describe and link your sources



Make data easy to find ● —> Make data easy to licence ● —> Make data easy to re-use

‘If a “national statistic” is cited in a report, an appropriate reference/note to accompany it would be:

Source: National Statistics website www.statistics.gov.uk

Crown copyright material is reproduced with the permission of the Controller of HMSO ’

Office for National Statistics Regional Statistician, West Midlands

Describe and link your sources



Make data easy to find



Make data easy to licence



Make data easy to re-use

‘Where national statistics have been transformed in some way or bespoke data have been obtained (eg from an ONS dataservice team, using Supercross within WMRO, or from the Regional Statisticians) and incorporated into tables, charts or maps produced in-house, an appropriate reference/note would be:

Source: Office for National Statistics, Annual Business Inquiry

Crown copyright material is reproduced with the permission of the Controller of HMSO

Table prepared by West Midlands Regional Observatory ’

Office for National Statistics Regional Statistician, West Midlands

Add to Resource Catalogue



Make data easy to find → Make data easy to licence → Make data easy to re-use

Submit dataset to the Resource Catalogue on wmro.org

onal Observatory and intelligence about the West Midlands region.

[Research & Data Enquiries](#) | [Blog](#) [Log in](#) | [Register with us](#)

[Go](#)

You are here: [Home](#) > [Resource Catalogue](#) > Dataset for places vulnerable to the recession

Regional Resource Catalogue

Title:	<u>Dataset for places vulnerable to the recession</u>	Get Resource
Type:	Dataset	
Date Created:	2009-05	
Description:	This dataset highlights the regions in the West Midlands that are most vulnerable from the recession.	
Geographic Coverage:	West Midlands Local Authority District and wards	
Time Period:	2009	

Why licence public data?



Make data easy to find ●→ **Make data easy to licence** ●→ Make data easy to re-use

‘...will potential consumers of the data be confident on their ability to use and/or reuse it?’

Richard Wallis, Talis

The data publishing three-step [\[link\]](#)

Why licence public data?



Make data easy to find ● —> **Make data easy to licence** ● —> Make data easy to re-use

‘Copyright is a BIG problem - we would like to release the data under an open license (e.g. OpenDatabase or Click-Use) but can’t, and could be forced to remove data by “rights holders”’

Chris Taggart, OpenlyLocal.com

‘Why open up local government information’ [\[link\]](#)

Why licence public data?



Make data easy to find ● —> **Make data easy to licence** ● —> Make data easy to re-use

Ideal, clear unambiguous examples give you confidence:

- Open Data Commons Attribution License (ODC-By)
<http://www.opendatacommons.org/licenses/by/1.0/>

Why licence public data?



Make data easy to find ● —> **Make data easy to licence** ● —> Make data easy to re-use

Ideal, clear unambiguous examples give you confidence:

- Open Data Commons Attribution License (ODC-By)
<http://www.opendatacommons.org/licenses/by/1.0/>
- Click-Use Public Sector Information Licence
<http://bit.ly/psiclickuse>

Why licence public data?



Make data easy to find ● —> **Make data easy to licence** ● —> Make data easy to re-use

Ideal, clear unambiguous examples give you confidence:

- Open Data Commons Attribution License (ODC-By)
<http://www.opendatacommons.org/licenses/by/1.0/>
- Click-Use Public Sector Information Licence
<http://bit.ly/psiclickuse>

Typical unclear example - I don't know if I can use this data:

- 'Crown copyright'
(No link to terms)

Examples in Observatory work



Make data easy to find ● —> **Make data easy to licence** ● —> Make data easy to re-use

‘Adopt an existing standard of intellectual property rights.
Management team have agreed adoption of Creative Commons.’

Investors in Excellence improvement plan
West Midlands Regional Observatory

Examples in Observatory work



Make data easy to find ● —> **Make data easy to licence** ● —> Make data easy to re-use

Reports

Publisher	West Midlands Regional Observatory Level 3, Millennium Point Curzon Street Birmingham B4 7XG Telephone: 0121 202 3250 Fax: 0121 202 3240 Email: enquiries@wmro.org web site: www.wmro.org
Rights	Creative Commons Attribution-Share Alike 2.0 UK: England & Wales http://creativecommons.org/licenses/by-sa/2.0/uk/
Document contact	Andy Phillips Head of Skills Research West Midlands Regional Observatory

Examples in Observatory work



Make data easy to find ● —> **Make data easy to licence** ● —> Make data easy to re-use

Reports

Publisher	West Midlands Level 3, Mill Curzon Street Birmingham Telephone: 0121 201 2011 Fax: 0121 201 2012 Email: enquiries@wmro.org web site: www.wmro.org
Rights	Creative Commons Attribution-Share Alike 2.0 UK: England & Wales http://creativecommons.org/licenses/by-sa/2.0/uk/
Document contact	Andy Phillips Head of Skills Research West Midlands Regional Observatory

Datasets

6	Coverage geographical	West Midlands
7	Source	Various. The source data for each chart is stated in each worksheet
8	Rights	Crown copyright material is reproduced with the permission of the Controller of HMSO. This dataset is prepared by the West Midlands Regional Observatory. The rights to the data rest with each source quoted above each table. http://www.opsi.gov.uk/advice/crown-copyright/copyright-guidance/copyright-and-publishing
9	Identifier URL	http://www.wmro.org/resources/res.aspx?p=/CmsResource/resource
10	About this dataset Contents (2) Executive summary (3) Regional economy	

Creator West Midlands Regional Observatory

Rights Creative Commons Attribution-ShareAlike 2.0 UK: England & Wales

Make data easy to re-use



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

Get data available in basic formats that can be used by people *and* machines

Make data easy to re-use



Make data easy to find ●————> Make data easy to licence ●————> **Make data easy to re-use**

Get data available in basic formats that can be used by people *and* machines

- CSV, XLS, XML, KML, JSON

Make data easy to re-use



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

Get data available in basic formats that can be used by people *and* machines

- CSV, XLS, XML, KML, JSON
- Google Spreadsheets

Make data easy to re-use



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

Get data available in basic formats that can be used by people *and* machines

- CSV, XLS, XML, KML, JSON
- Google Spreadsheets

Tabular data in Word or PDF files are useless

Use consistent identifiers



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

- ‘Is it open but opaque? The terms, codes, identifiers etc. you use may be meaningless, or worse still ambiguous, to those outside your organisation, or even your department.’

Richard Wallis, Talis

The data publishing three-step [\[link\]](#)

Use consistent identifiers



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

- ‘Is it open but opaque? The terms, codes, identifiers etc. you use may be meaningless, or worse still ambiguous, to those outside your organisation, or even your department.
- Could your data be made more **consistent** with other data you, or similar organisations, already publish?’

Richard Wallis, Talis

The data publishing three-step [\[link\]](#)

Use consistent identifiers



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

ONS Standard Names and Codes (SNAC) ids to describe wards

Use consistent identifiers



West Midlands
Regional
Observatory

www.wmro.org

Make data easy to find → Make data easy to licence → Make data easy to re-use

openlylocal making local government more transparent

ALL COUNCILS HYPERLOCAL SITES DIRECTORY OPEN DATA SCOREBOARD Search by postcode

Birmingham City Council: Billesley ward [official page](#)

Size	565.558 hectares
Ons Snac Ref	00CNGW
Ons Gss Code	E05001181
Ordnance Survey Ref	7000000000000089
Fix My Street Reports	http://fixmystreet.com/reports/00CNGW

Councillors for this ward

- **UPDATED Len Gregory** (Conservative)
- **UPDATED Colin Hughes** (Conservative)

Neighbourhood Police Team

- Acting Sergeant James Tunnicliffe
- PCSO Arlene Milwood
- PCSO Adam Wooldridge
- PC Michael Doyle

Map Satellite Hybrid

Map data ©2010 Tele Atlas - [Disk usage](#)

About this Ward

Experimental

10,860 dwellings, 25,874 people live in this

Use consistent identifiers



Make data easy to find → Make data easy to licence → Make data easy to re-use

openlylocal making local government more transparent

[ALL COUNCILS](#)

[HYPERLOCAL SITES DIRECTORY](#)

[OPEN DATA SCOREBOARD](#)

Search by postcode

Birmingham City Council: Billesley ward [official page](#)

Size	565.558 hectares
Ons Snac Ref	00CNGW
Ons Gss Code	E05001181
Ordnance Survey Ref	7000000000000089
Fix My Street Reports	http://fixmystreet.com/reports/00CNGW

WD_DEC_2009_EN_NC [Read-Only] - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J
1182	00CNGW	Billesley								
1183	00CNGX	Bordesley Green								
1184	00CNGY	Bournville								
1185	00CNGZ	Brandwood								
1186	00CNHA	Handsworth Wood								
1190	00CNHE	Harborne								
1191	00CNHF	Hodge Hill								
1192	00CNHG	Kings Norton								
1193	00CNHH	Kingstanding								
1194	00CNHJ	Ladywood								
1195	00CNHK	Longbridge								
1196	00CNHL	Lozells and East Handsworth								
1197	00CNHM	Moseley and Kings Heath								



Councillors for this ward

- **UPDATED Len Gregory** (Conservative)
- **UPDATED Colin Hughes** (Conservative)

Nei

- **Ad**
- **P**
- **P**
- **P**

Transferring data from www.google.com...

Use consistent identifiers



West Midlands
Regional
Observatory

www.wmro.org

Make data easy to find → Make data easy to licence → Make data easy to re-use

openlylocal making local government more transparent

ALL COUNCILS

HYPERLOCAL SITES DIRECTORY

OPEN DATA SCOREBOARD

Search by postcode

Birmingham City Council: Billesley ward official page

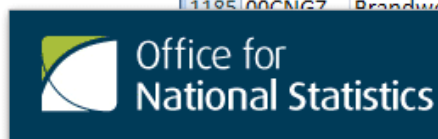
Size	565.558 hectares
Ons Snac Ref	00CNGW
Ons Gss Code	E05001181
Ordnance Survey Ref	7000000000000089
Fix My Street Reports	http://fixmystreet.com/reports/00CNGW

WD_DEC_2009_EN_NC [Read-Only] - Microsoft Excel

A	B
1182	00CNGW Billesley
1183	00CNGX Bordesley Gre
1184	00CNGY Bournville
1185	00CNGZ Brandwood

AWM-Vulnerable-Areas-for-web_V1.0_Dataset_KB-2

A	B	C
Ward code	Ward name	LAD
1		
2		
6	00CNGW Billesley	Birmingham
7	00CNHE Harborne	Birmingham
8	00CNHF Hodge Hill	Birmingham
9	00CNHG Kings Norton	Birmingham
10	00CNHH Kingstanding	Birmingham
	00CNHJ Ladywood	Birmingham
	00CNHK Longbridge	Birmingham
	00CNHL Lozells and East Handsworth	Birmingham
	00CNHM Moseley and Kings Heath	Birmingham



Councillors for this ward

- **UPDATED Len Gregory** (Conservative)
- **UPDATED Colin Hughes** (Conservative)

Nei

- A
 - P
 - P
 - P
- 1190 00CNHE Harborne
- 1191 00CNHF Hodge Hill
- 1192 00CNHG Kings Norton
- 1193 00CNHH Kingstanding
- 1194 00CNHJ Ladywood
- 1195 00CNHK Longbridge
- 1196 00CNHL Lozells and East Handsworth
- 1197 00CNHM Moseley and Kings Heath



Transferring data from www.google.com...

Use consistent identifiers



Make data easy to find ●→ Make data easy to licence ●→ Make data easy to re-use

Are there other consistent classifications you know of?

- Business sectors
- Other levels of geography
- ...?

Links



- Much of this presentation is adapted from [Chris Taggart's presentation](#) on opening up local government data
- Also indebted to Richard Wallis' post [The Data Publishing Three-Step](#)
- <http://blogs.cabinetoffice.gov.uk/digitalengagement/post/2009/12/07/Local-Government-Data.aspx>
- Prime Minister's letter to Secretary of State regarding transparency, 1 Jun 2010:
<http://www.cabinetoffice.gov.uk/newsroom/statements/transparency/pm-letter.aspx>
- <http://www.theyworkforyou.com/>
- <http://data.gov.uk>
- <http://www.guardian.co.uk/data-store>
- Tackling worklessness: good practice in data sharing: <http://www.idea.gov.uk/idk/aio/19221282>
- <http://data.gov.uk/blog/local-public-data-panel>
- West Midlands Local Public Data workshop April 2010: <http://localdata.citizenshipfoundation.org.uk>
- <http://data.gov.uk/blog/new-public-sector-transparency-board-and-public-data-transparency-principles>
- <http://www.opendatacommons.org/licenses/by/1.0/>
- <http://www.nationalarchives.gov.uk/information-management/our-services/psi-license-information.htm>
- ONS Standard Names and Codes (SNAC): <http://www.ons.gov.uk/about-statistics/geography/products/geog-products-area/snac/index.html>
- <http://delicious.com/gavinwray/opendata>
- <http://openlylocal.com>
- <http://www.w3.org/DesignIssues/GovData.html>

Contact



- Gavin Wray
Email gavin.wray@wmro.org
Direct tel: 0121 202 3252
- Communications Team
West Midlands Regional Observatory
Level 3, Millennium Point
Curzon Street
Birmingham B4 7XG
- Web: www.wmro.org
Blog: <http://wmro.wordpress.com>
Twitter: @thewmro