

Local Government Open Data Breakthrough Projects 2014/15 Evaluation Report

Project title: Open Flexible Geographies

Lead organisation: Cheshire East Council

Date report is submitted: 30 April 2015

Type of project: Open source tools and methodology for creating and using flexible geographies as linked open data

Total grant: £73,500

Summary of the project

The project extended the ideas behind the natural neighbourhoods tool to facilitate creation of hierarchies of more flexible and wider-ranging area types along with natural neighbourhoods within these area types. Once defined through an intuitive open source web-based interface, these areas can be recorded to common standards in human and linked data form and shared with anyone who cares to use them. Associated data about topical themes can then be collated and aggregated across these new areas for display, analysis and comparisons.

Areas where this feature is to benefit closer shared working and wider engagement is in applications across public and third-sector organisations. Thus, demographic data from Office of National Statistics published as output area (OA) spatial units and local government transactional or performance management data published as wards are able to be re-assembled for projects that use other spatial domains such as AgeUK community networks for digital inclusion that are scattered throughout the country or the Kings Fund support to Clinical Practitioning Groups.

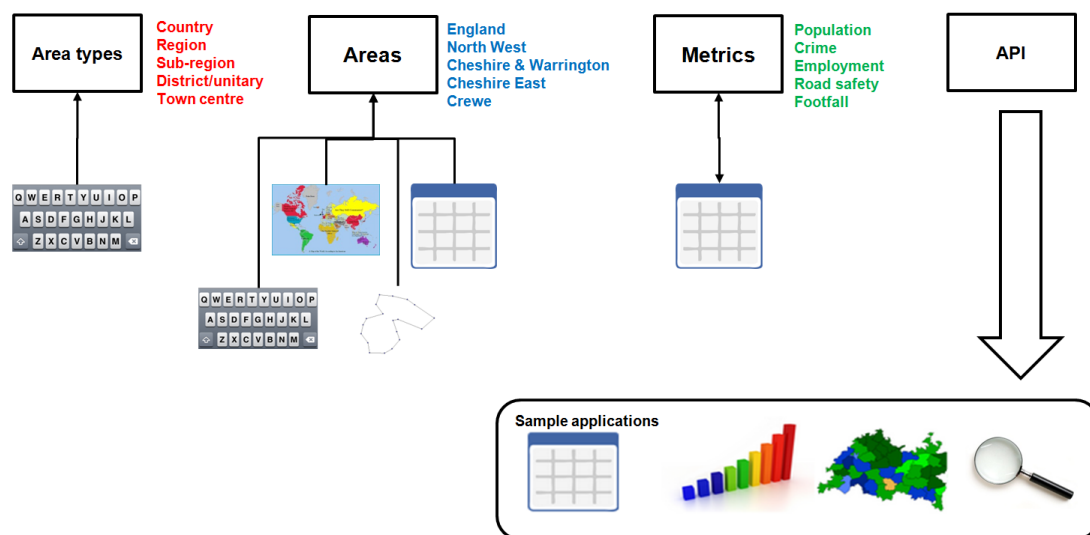
The project engaged with open data experts, regional partnerships and citizens responsible for community planning to devise a methodology that meets their needs to manage areas which do not match official statistical geographies.

Open source tools developed show how to:

- define new area types such as artificial geographical areas that do not pertain to normal public sector organisational lines such as “the Somerset Levels” or a one mile wide boundary around the No 88 London Transport bus.
- create areas of those types
- create metrics for new areas by on-the-fly aggregation of official open data
- provide an API on metrics for neighbourhoods with sample HTML pages
- Deploy these new area types in existing and new data applications to undertake analyses such as the extent and needs of vulnerable people or the location of health and local government support centres meeting citizens’ local needs

It is hoped for new tools to be developed by the developer community, by public and private information technology groups to harness access and make use of these available natural neighbourhoods in innovative and novel ways. Already, within the Local Government Association, tools are in development with early releases now being taken up for use as applications such as the LG Inform Plus small area reporting service at <http://reports.esd.org.uk/>. The availability of these areas held in the local government information standards pages with permanent URIs encourages wider take-up and sharing of data and analyses across different applications.

How the new area types can be created and deployed in open applications



View an area type

Select an area type to view its details. Select a bounding area to mark that area on the map and zoom in to it.

Area type: Sub-region
Link to area: Region
Name: Cheshire and Warrington

Data

You can query our SPARQL database by using our endpoint.

```
SELECT ?id ?title
WHERE
{
  ?s a <http://fos.id.esd.org.uk/NN2>
  ?s <http://www.uk3.org/2004/02/skos/core#prefLabel> ?title .
  ?s <http://purl.org/dc/terms/identifier> ?id
}
```

View an area

Select a type and an area to view details. Only 1000 areas will be displayed in the dropdown at a time. Start typing the area name to filter the list to ensure your area appears.

Sub-region
Cheshire and Warrington (NN2a)

Download metrics

Select which metrics you want to download.

Metic type: Population - Total resident population (mid year population)
 With data only
 Period: 2013
 With data only
 Parent area type: Sub-region
 Area: Cheshire and Warrington (NN2a)
 By: Unitary
 Include missing values
 Download

Challenge/opportunity:

The statistical geographies used by the Office of National Statistics apply set geographies in a hierarchy from Output Area through various levels to Local Authority, region and country. Cheshire East's Natural Neighbourhoods work has shown the need for locally defined geographies to sub-divide local authorities into town centres, partnership areas and other types of community areas.

However many geographies cut across local authority boundaries and apply their own hierarchies from local up to national. Whilst some geographies (e.g. clinical commissioning groups) are published, this is rarely in an open data format with URIs and machine readable boundary data. Statistical data is often hard to apply to such geographies.

The challenge was to develop a generic means of defining different types of geography used by public and community sectors where these often cut across the boundaries of single local authorities. This is done by open source tools that allow area types and areas to be published with parent/child hierarchies, shapes and other metadata. The power of the approach is shown by re-aggregating public metrics from

ONS areas up to freely defined geographies. An API is provided with some sample applications illustrating its use.

Data published and uses:

Engagement has been via:

- Workshop with local authority and community representatives and software developers The workshop was attended by:
 - Local Government Association Research and Transparency officers
 - Local authority representatives
 - Neighbourhood planning representative
 - Open Data Institute
 - Software developers
- Presentation to Cheshire and Warrington Research and Intelligence Collaborative conference on “Evidence based decision making” on 24 April 2015
- Mailshot newsletter articles
- Twitter communication with developers and local authorities
- Consultation with Local eGovernment Standards Body

The above involved meeting approximately 70 people and email communication to approximately 5,000.

The entry level Natural Neighbourhoods creation and dissemination tool that was released following Breakthrough Funding during 2013-2014, has now been available to public sector users for almost one year. Thus far a wide variety of users and organisations have applied this facility to develop 916 live natural neighbourhoods of 160 types. The funding and extension to last year’s capability provided by this programme has provided the capability to extend the complexity and wider audience able to benefit from the extended outcomes.

Work has commenced and continues through other LGA-delivered open data programmes to extend the outreach of these new features to encourage take-up and on-going promotion.

To-date, during the time periods of this projects, user groups have been identified with which to work on ongoing promotion and increasing take-up, as follows:

- Councils who need to report on specific non-official communities on wider areas such as the sub-regional partnership and local economic partnerships.
- Community planning organisations for areas such as Crystal Palace (covering 5 local authorities) that are not recognised by official geographies
- Local authorities who are combining services and resources and who wish to analyse performance information individually and in combination. Examples include: Adur & Worthing Councils, Chiltern and South Buckinghamshire Councils, Suffolk Coastal and Waveney Councils, Forest Heath and St Edmundsbury Councils, Breckland and South Holland Councils. There is now also scope to report as a single area for the London tri-borough initiative of Westminster, Hammersmith and Fulham, Kensington and Chelsea.
- Non-local government bodies with their own boundaries such as:
 - Health (inc commissioning groups)
 - Voluntary sector organisations
 - Insurance organisations
 - Constituency representatives such as MPs, MEPs
- Specialists wishing to define areas for planning, analysis and support of legacy systems

Approach to publishing data

A tool is provided whereby users can sign in to add their own areas and area types or add references against existing one. The tool is provided as generic open source

code that can be linked to various sign-in mechanisms. An instance of that tool is now being integrated within the esd-signin to form part of the esd.org.uk site.

Once created through the online open source tool, areas may then be accessed via the LGA open data information standards web pages for easy search and detailed download. Unique, permanent URIs are assigned against area type and each area to use in linked data applications and for auto find and redirect. The mechanism for creating and accessing area definitions and for using them in bespoke reports of metrics is described:

- At regional events on use of reporting tools
- At wider events on evidence-based policy
- In direct correspondence via the esd Support team
- Via newsletters and Twitter communication

Some users have needed assistance in creating neighbourhoods and lessons of usability are being built into future iterations of tools that will better address usability.

As part of its support to local government through the provision and upkeep of information sharing standards, the LGA team and its technical partners continue to perform monthly internal reporting on areas created and perform ongoing tidy-ups of test/junk data created as users learn the approach. Following full integration of the new tools into the LGA provided open data pages for the local government sector, further publicity drives will be held. Example tools for area analysis and the reporting of their metrics will be supported through ongoing services provided by the LGA and its partners in this area.

Benefits and impact

Neighbourhoods are:

- capable of being deployed for recording spatial coverage using their metadata (definitions) for Local Open Data publishing within local government and are encouraged in LGA schemas for datasets complying with the Transparency Code
- used to sub-divide large areas (e.g. Cornwall) into manageable sub-areas for reporting
- used to deploy generic reporting tools and generic performance or demographic data held at very low level granular levels such as Output Area to re-build reports into other less common geographical areas such as by parish (as was done for Milton Keynes Council)
- defined to allow reporting for partnership areas (e.g. in Cheshire East)
- defined to represent and report against proposed new wards before they formally come into existence

It is too early to assess impact of the more flexible geographies, but impact will be monitored as they are made available to the user groups listed above.

Further information:

Links

- Demonstrator application - <http://fog.esd.org.uk/>
- GitHub open source repository - <https://github.com/esd-org-uk/flexible-open-geographies>
- Sample pages using the API:
 - Table - <http://e-sd.org/9c3F1>
 - Chart - <http://e-sd.org/uj17D>
 - Map - <http://e-sd.org/whG3m>

Contacts

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