

Without access to LPS GI Consultancy & mapping this project would have cost BCNI up to **£230,000**.

GIS used to develop Parliamentary Constituency Boundary proposals

In accordance with the Parliamentary Constituencies Act 1986, as amended by the Parliamentary Voting System and Constituencies Act 2011, the number of Parliamentary constituencies across the UK will reduce to 600. In Northern Ireland, the number of Parliamentary constituencies would be reduced from 18 to 17. In the past this process was carried out using paper maps and the electoral register to produce boundary maps, a task that was time consuming.

Challenge

The role of Land & Property Services (LPS) Geographic Information (GI) Consultancy was to build a Geographic Information System (GIS) solution and provide on-going mapping support to The Boundary Commission for Northern Ireland (BCNI) to develop provisional proposals for the 2018 Review of Parliamentary constituency boundaries.



What is Geographic Information (GI)?

Over 80% of data used by our public sector services can be described as GI because it has a geographic element i.e. an address; and because of this, it can be mapped.

What is a Geographical Information System (GIS)?

(GIS) refers to a range of software packages that helps organisations harness the geographic element of data, not only to map the data, but to analyse it in new and more powerful ways.

LPS GI Consultancy Services

LPS provides a free GI consultancy service to the public sector in NI. The team provides tailored advice and assistance on how GI can improve processes and service provision; how to interrogate and present data and statistics using GIS.



Wards boundary layer showing number of parliamentary electors per ward.

The Solution

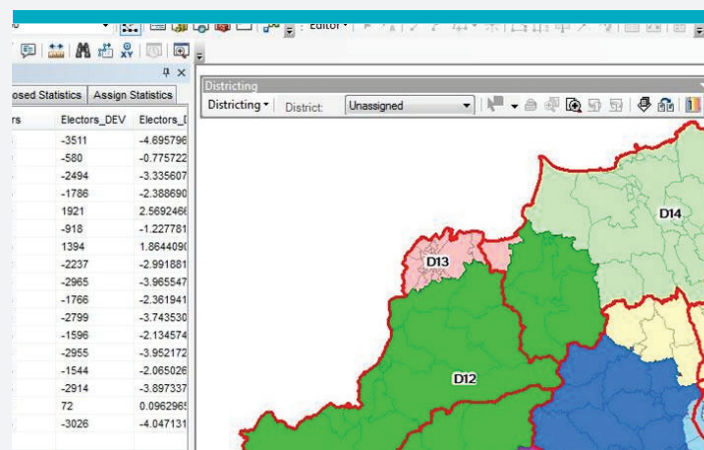
Using the register of parliamentary electors published by the Office for National Statistics for 1 December 2015, along with OSNI mapping data accessed through the Northern Ireland Mapping Agreement (NIMA). The LPS GI Consultant was able to prepare and create a wards boundary layer containing the number of electors per ward.

The Commissioners used this wards boundary layer to build the new Parliamentary Constituency model using ESRI software. As a result, they were able to accurately define new boundaries using LPS OSNI mapping data and GIS software to produce a provisional proposal map for Northern Ireland Parliamentary constituencies.

The Provisional Proposals Report and accompanying map is currently available for public consultation at various public display points, online, and at a number of public hearings.

Additionally, LPS GI Consultancy and BCNI collaborated with the LPS Spatial NI team to create an interactive web mapping application where users can view a range of mapping information, including the proposed new boundaries.

“The use of the GIS solution devised by LPS had a huge impact on the speed and accuracy of the boundary proposal process and has afforded us considerable savings in staff time & resources.”
BCNI



Screenshot of data and ESRI software.

The Benefits

- Access to LPS OSNI digital mapping facilitated improved decision-making throughout the process. Without NIMA the support of LPS GI Consultancy, access to the LPS OSNI digital data would have cost BCNI approximately £230,000.
- The GIS solution devised by LPS GI Consultancy allowed BCNI to quickly define new boundaries using LPS OSNI mapping and ESRI software. Previously using paper mapping and tables of electoral information, one proposal could have taken at least one month but using GIS a proposal could be created within one day. This has resulted in significant savings of potentially £60,000 on resources and staff time.
- This new process resulted in a significant improvement in the accuracy of the proposals compared with the previous process. This has also resulted in the removal of the need to use paper maps and spreadsheets.
- The web application created by the LPS Spatial NI team provides an excellent online platform for users to access the data available for this review.