

Improving access to sporting facilities in Wales

Sport Wales

The Challenge

- To better understand the locations of sports facilities and the number of people who are able to access them

The Benefits

- Greater insight into demand for sporting facilities in Wales
- Sound evidence to inform the allocation of sports funding
- A platform for supporting multi-party collaboration on sports planning



Sport Wales has gained a far deeper insight into the distribution and accessibility of sports facilities in Wales thanks to a geospatial analysis plug-in developed by the University of South Wales. Based on Esri's ArcGIS platform, the tool enables Sport Wales to provide the Welsh Government, local authorities and national sports governing bodies with clear evidence of where to invest to deliver health benefits for the widest number of people.

The Challenge

A key part of Sport Wales' work is to increase further the number of people who participate in sport and physical recreation on a frequent and regular basis, to have a positive impact on the physical health and happiness of people living in Wales. Recognising that people are more likely to engage in regular sporting activities if they have access to facilities close to their homes, the organisation sought to gain a better understanding of where sports facilities are available and how many people could potentially use them.

The Solution

The solution to this challenge was proposed and developed by Dr Mitchel Langford and Professor Gary Higgs based in the Wales Institute of Social and Economic Research, Data and Methods (WISERD) at the University of South Wales. The university team created a bespoke Add-In for Esri's ArcGIS Desktop and Network Analyst solutions to calculate the geographical accessibility of sports facilities.

Critically, the solution was designed to take users with absolutely no expertise in geographic information systems (GIS) through the analysis process in a series of simple-to-follow steps, making it possible for anyone to gain a clear, accurate understanding of the potential usage of sports facilities. The Add-In draws on Sport Wales' own ArcGIS database of sporting facilities and uses open source Ordnance Survey road network datasets that allows the organisation to perform analysis by travel distance, age, gender and socio-economic status to different types of sporting facilities for the first time.

The development of the Add-In built on the success of previous research projects at the University of South Wales that have used ArcGIS and Floating Catchment Area models to examine spatial patterns of accessibility to a wide range of public services. The use of Floating Catchment Area analysis gives Sport Wales greater flexibility in how it analyses demand for each different category of sporting facility. For example, the maximum drive time can be adjusted for each search, as appropriate, to reflect the fact that some people may be prepared to drive further to get to a swimming pool than a gym, while people in rural areas may be more accustomed to slightly longer journeys than people in cities.

Esri UK | Millennium House
65 Walton Street | Aylesbury
Buckinghamshire HP21 7QG
T 01296 745500 | F 01296 745544
E info@esriuk.com | www.esriuk.com

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“ We can perform highly nuanced analyses with ArcGIS, quickly and easily, to gain real evidence of the best places to allocate funding to benefit the largest number of people and specific sections of communities. ”

Dr Jonathan Radcliffe, Senior Data and GIS Officer, Sport Wales

Benefits

Greater insight into demand for sporting facilities

The ArcGIS-based solution will not only be used by Sport Wales, but could also be used by up to 40 separate sport governing bodies, providing all these organisations with greater insight into demand for facilities. It has, for example, been used by Welsh Gymnastics, to review the gymnastics facilities available across Wales and the range of coaching levels provided at each site. The solution revealed hot spots where the provision isn't ideal for the local population, and this evidence can now be used to inform the introduction of new gymnastics facilities in key locations.

Improved allocation of sports funding

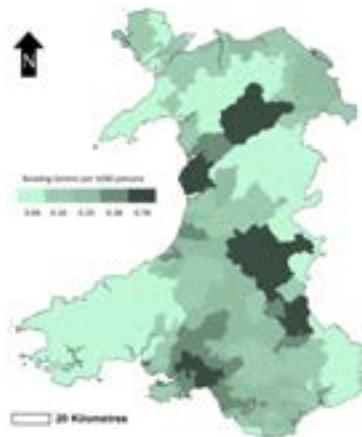
Significantly, Sport Wales can use the ArcGIS-based tool to advise the Welsh Government about where public sector funding should be invested in sports facilities, to deliver the greatest benefit. For instance, ArcGIS analysis has shown that although the database contains attribute data for 262 bowling greens in Wales, there is relatively poor provision in those areas of South West Wales within a 15km drive distance or 20 minute drive time for some demographic groups. “We can perform highly nuanced analyses with ArcGIS, quickly and easily, to gain real evidence of the best places to allocate funding to benefit the largest number of people and specific sections of communities,” says Dr Jonathan Radcliffe, Senior Data and GIS Officer at Sport Wales.

More collaborative approaches to long-term planning

Sports Wales anticipates that the clarity of the evidence presented in ArcGIS will help public sector bodies and private organisations collaborate more effectively on the provision of sports and recreational facilities. For instance, councils will be able to easily see where facilities exist in academies and FE colleges that could potentially be opened up to the public outside of school hours, making facilities available to the wider public. In this way, the solution strongly supports the Welsh Government's Wellbeing of Future Generations Act, important legislation that requires organisations to work together on initiatives to improve health and other social issues.

A healthier, happier nation

Although the new ArcGIS-based tool for analysing sports facilities is still in its infancy, Radcliffe anticipates that it will have a profound impact on Sport Wales' ability to lead the maintenance, enhancement and creation of sports facilities across Wales. “ArcGIS will help Sport Wales to ensure that sports facilities are accessible, fit-for-purpose, sustainable and in the best locations,” he says. “In this way, we can play a key role in encouraging people to become more active and help to improve the health and happiness of everyone in Wales.”



Accessibility to bowling greens across Wales, analysed using ArcGIS and Floating Catchment Area models

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