

Mapping Northern Ireland's greenspaces and trails

Outscape

The Challenge

- Create a single authoritative map of parks and trails in Northern Ireland
- Better understand the accessibility of these greenspaces
- Support the planning and creation of new greenspaces

The Benefits

- Evidence of inequitable access to greenspaces
- Objective measurement of greenspaces targets
- Improved local area planning and community engagement
- Better information for promoting healthier lifestyles

Outscape (formerly known as Outdoor Recreation Northern Ireland) has created the country's first ever digital map of greenspaces and trails and revealed compelling evidence of the inequality of access to greenspaces in rural areas. Built using Esri's ArcGIS system, the GreenspaceNI Map will be used to inform planning policies, empower communities and focus attention on the need for more greenspaces to improve public health and wellbeing.

The Challenge

Within Northern Ireland, there was growing awareness of the need to give people better access to greenspaces to help improve public health and wellbeing. However, there was no single map showing all publicly accessible natural greenspaces and trails throughout the country. Consequently, it was difficult for government bodies, local authorities and other groups to ascertain which communities had poor access to greenspaces, identify where investment was needed and monitor change over time.

With backing from funders including the Department of Agriculture, Environment and Rural Affairs and the Department for Infrastructure Northern Ireland, the not-for-profit organisation Outscape set out to rectify this and create the first ever country-wide map of greenspaces and trails.

The Solution

Before Outscape could create its map, it first had to amass, collate, cleanse and process up to 50 different datasets from more than 20 data providers. Supported by the consultancy Geolytical, the organisation used Esri's ArcGIS Pro on the desktop to refine polygons, points and lines, gradually building up an authoritative record of all public greenspaces over 0.5 hectares, trails and access points (such as gates into parks).

Through this process, Outscape began to create new datasets that hadn't existed before. For example, the organisation created the first ever dataset of beaches at polygon level, and there are plans to make these ancillary resources available as open source datasets to download from the Northern Ireland data sharing platform SpatialNI.

Once the greenspaces data layer had been created and validated, Outscape used ArcGIS Online to create the digital GreenspaceNI Map, which currently records 96,470 hectares of publicly-accessible greenspace and just under 2,000 miles of off-road trails. A fully interactive web app, the map allows people to easily find publicly accessible, quality greenspaces and trails near them.

In tandem, Outscape used the spatial analysis tools within ArcGIS Pro to calculate distances between where people live and their nearest trails or greenspace, taking into account walking routes and the locations of gates and other access points into parks. The results of this analysis were aggregated at local authority area, Super Output Area (SOA) and 1km² hexagon level and also published to the app. Therefore the app not only provides insights into where trails and greenspace are, but also where they are not, and where there is a lack of provision.

The key metrics from this geospatial analysis were also published to ArcGIS Online using Operations Dashboards and interactive ArcGIS StoryMaps. As Emma Taylor, GIS Technician at Outscape, explains, "ArcGIS Dashboards and StoryMaps bridge the gap between those with advanced GIS skills and those with no prior knowledge, making information easily accessible to everyone."

The entire project was completed within months and unveiled at a launch event at the Armagh Planetarium. "ArcGIS provided us with a platform with which we could carry out complex geospatial analysis and rapidly share the results in a variety of engaging ways, without the need for coding or development work," observes John Hewitt, Principal GIS Consultant at Geolytical.

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Elizabeth Annett, Communications and Training Specialist, Outscope

“ ArcGIS Dashboards and StoryMaps bridge the gap between those with advanced GIS skills and those with no prior knowledge, making information easily accessible to everyone. ”

Emma Taylor, GIS Technician, Outscope

“ ArcGIS only requires configuration—not development or coding—so it enables organisations to do quite complex geospatial analysis and share the results very quickly, in a variety of ways. ”

John Hewitt, Principle Consultant, Geolytical

The Benefits

Evidence of inequitable access to greenspaces

The GreenspaceNI Map and proximity analysis conducted with ArcGIS Pro provides clear evidence of inequitable access to greenspaces in Northern Ireland. It reveals that while 59% of people living in urban areas are within 400 meters of a greenspace, less than 10% of people in small towns and villages in rural areas have this same level of access. “ArcGIS has given us the evidence required to demonstrate precisely where investment in more greenspaces is most needed,” says Elizabeth Annett, Communications and Training Specialist at Outscope.

Objective measurement of greenspaces targets

The Northern Ireland Executive has set a target of achieving an annual increase in the number of people who live within 400m of a greenspace or off-road trail, and the ongoing development of the GreenspaceNI Map will enable progress to be monitored over time. “Improving access to greenspaces has become an important policy priority,” Annett explains. “There was no way of quantifying greenspace before, but now we can monitor whether greenspace development is heading in the right direction and hold the government to account.”

Improved local area planning and community engagement

As the ArcGIS web app, dashboards and StoryMap are easy to use and explore, Outscope anticipates that they will prove incredibly valuable in local planning processes. Local authorities and landowners can use them to understand the need for greenspaces in specific locations, while community groups can easily make comparisons between the provision in different areas and campaign more effectively for better access to greenspaces in their towns and villages.

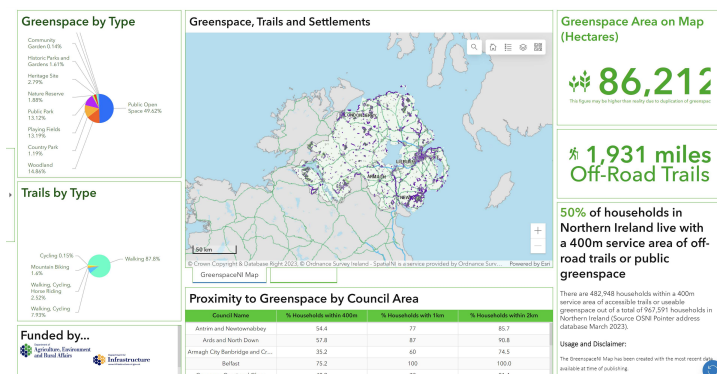
Better information for promoting healthier lifestyles

Outscope will be adding greenspace and trails from the GreenspaceNI Map to outmoreni.com, a website that encourages people to get ‘out more’ to improve their health and wellbeing. The organisation believes that the GreenspaceNI Map will help people to become more active, by making them more aware of the nearby greenspaces and trails that they can use for recreation, walking to school or cycling to work.

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Created by Outscope with ArcGIS Online, the GreenspaceNI Dashboard provides a user friendly platform for viewing information about greenspaces and trails in Northern Ireland

Learn more at: esri-ireland.ie