Reflections of a NORWEGIAN-KIWI human geographer

David Hill, a Senior GIS Specialist at Boffa Miskell, talks about his experiences using GIS data both here and overseas.

I'm reasonably new to the GIS scene in New Zealand, having moved back just last year after a decent part of my adult life spent in Norway.

It was there that I earned a Master's in Human Geography before spending 10 years working in the urban development analysis team at Oslo Council. In Norway, 'Human Geography' fits under the umbrella of the social sciences in tertiary education, rather than together with physical geography; a noticeable difference compared to here.

I've been impressed by the availability of open GIS data readily available for use in New Zealand, particularly through ArcGIS servers provided by councils and other organisations.

Being able to easily access national datasets of address points, property parcels and building footprints (thanks LINZ!) or the in-depth social data at SA1 level that the census provides (thanks Stats NZ!) is exciting stuff for a human geographer. Norway has a long way to go in this respect.

There, downloading data, if you can get hold of it, is often still what's needed. While I seldom had to access data from other councils, I can promise that it was harder for consultants to access geodata from Oslo as easily as we are able to access geodata from Auckland.

As part of a team of human geographers, we placed a lot of emphasis on social analysis and its relationship with urban development; something that is reflective of a wider systematic focus in the Scandinavian countries. New Zealand has its share of good social analysis, to be sure, but the difference is that in Norway it is firmly ingrained in the planning framework by law.

Every five years or so a council revises its municipal master plan, which by law must have two parts to it – a social element and a land-use element. In the case of Oslo, the social element is developed on the back of a thorough analysis: mapping such diverse themes as health statistics, immigration background, access to public transport, building development and ownership of electric cars.

This is all put together in a single 200-page report. The social analysis also feeds into the development of the land-use element; such as identifying how much area is needed for social services and where residential and commercial development should be targeted given current transport accessibility and frequency.

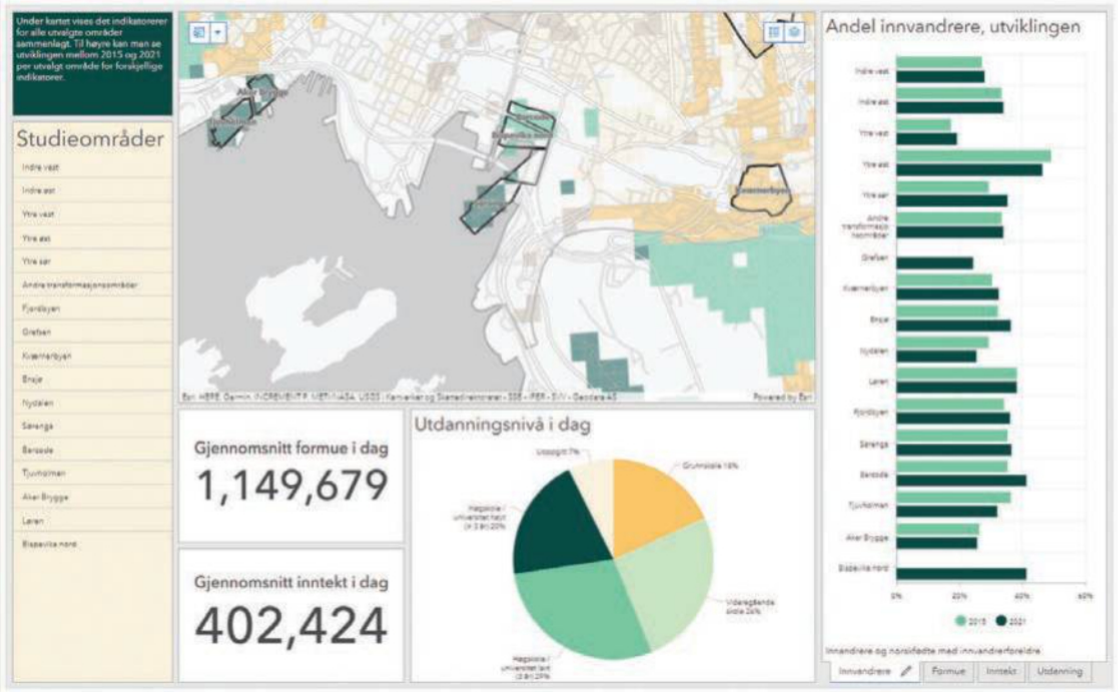
A highlight of working with GIS data in the public sector was having access to three central registries at address level – population, workplaces and buildings.

These registries are governed by laws that make it compulsory to register a wealth of standardised information for each of these, providing GIS analysts with regularly updated geodata on a low geographical level.

This can be particularly helpful for monitoring how things are going in a city or region and objectively deciding whether a policy is working the way it should be.

A goal of successive Oslo administrations has been to attract and keep more families in central areas, where apartment sizes have traditionally been small and unsuitable for families. I was involved in a revision of the 'apartment norm', which regulated the distribution of the size of apartments in new building projects.

Through the use of geographic data



Analysis dashboard for the Fjord City project, looking at demography patterns in newly developed areas by the waterfront compared with other transformation areas. The map shows income levels (dark green for high income), with the other indicators for immigrants per area 2015 -2021 (right) and a pie chart showing education levels for the map extent.

at address level we were able to show that a far greater proportion of families were moving into new projects where the norm was enforced compared with other areas of the central city. As a result, the norm still stands, despite a fair bit of political debate.

We also used social data in an assessment of how things were going in a much-talked-about area known as the Fjord City, an urban renewal of the city's waterfront. Early on there was talk of providing a mix of affordable and private market-based housing. This never really eventuated, leading to an impression of the area becoming an enclave for mainly white, affluent Oslo-siders. With demographic data derived from the population register we could show that despite residents having a higher economic status than in other urban transformation developments in Oslo, the proportion of residents with another background than ethnic Norwegian was similar, albeit with a composition leaning more towards Western Europe. Using ArcGIS Survey123 we could also point to a larger variation in social groups that used the urban room without residing there.

A more formal use of social data was the requirement to adopt and follow up regional spatial plans. This is a reasonably new part of the planning framework (2008), and of particular relevance to New Zealand as we look towards the Spatial Planning Bill and the implementation of regional spatial strategies.

For the Oslo region this has meant the adoption of a regional spatial plan together with 19 surrounding councils, which is no easy task when considering the differing political persuasions of administrations that this entails. With that in mind, monitoring whether councils are doing their bit to achieve the plan's goals becomes important.

Through annual geographic analysis of factors such as densification levels, green space per resident, access to public transport for residents and workplaces, distribution of workplaces among sectors, traffic indicators and air quality, decision-makers and the public are kept continually informed of developments, all in the form of a publicly available ArcGIS storymap.

The practice of using up-to-date social data to map the existing situation in an urban or regional setting; then quantify the situation we would like to have; and finally measure the situation we have gotten to so far in the years after implementing a plan or policy, results in a dynamic planning environment and a largely fact-based public debate.

In New Zealand, we don't generally have the same access to up-to-date social data, but we do have rich, new human geographic statistics to look forward from of the upcoming census data.

Now is the time to plan how we can best use this data to see how things have been going in our cities and regions, particularly those areas newly-developed since the last census.

We also have the opportunity to put GIS-based analysis systems in place for monitoring regional spatial strategies' effect on the community once they are adopted.

We're good at making GIS data openly available in New Zealand. Let's continue to develop our publicly available social and building data in a way that helps everyone understand the urban and regional development around us. **LG**

Dave Hill is a Senior GIS Specialist at Boffa Miskell. He has a degree in human geography with an emphasis on urban geography, particularly spatial analysis at the citywide and regional level. He spent nine years as a GIS analyst and planner at the Agency for Planning and Building Services in Oslo, and returned to New Zealand two years ago.