

Clydeforth: Scotland's megalopolis?

Professor Roy Thompson, School of GeoSciences, University of Edinburgh

"A city is more than a place in space, it is a drama in time." Patrick Geddes, 1905

Patrick Geddes, the pioneering ecologist, RSGS Council member, community activist and renowned father of town planning, argued that Scotland's biggest industrial centre and its capital would one day be absorbed into a single city region. Geddes foresaw a megalopolis reaching right across Scotland's Central Belt. Although this amalgamation and transformation didn't happen in Geddes' lifetime, current analysis of satellite images and historical cartography provides a powerful new tool for assessing patterns of urban growth and reveals that Geddes' prediction was remarkably prescient.

When Geddes first conceived of Clydeforth, more than 90% of its area was countryside. Today Clydeforth is over half established, and the entwined countryside has shrunk so much that remaining greenspaces have fallen to levels common in metropolitan cities such as Shenzhen, Singapore, Sydney and Vienna, where they constitute 40-45%. Already it is home to 3.6 million people, three airports and 172 golf courses. Remaining grass and farmland are disappearing at a rate of three football pitches a day. Geddes perceptively identified the main locations of change. He foresaw how suburban, exurban and new-town developments would be hemmed in by hills to the north and south. Of course, today's average density of under 2,000 individuals per km² is an astonishing improvement on the 23,000/km² that crowded into Scotland's cities in the 1800s.

As a homely example of Clydeforth's ever-continuing build-up, consider a stealthy urban fox with a den behind Eastfield in North Lanarkshire. Today it could easily trot to Seton Sands on the East Lothian coast – a distance of 40 miles – without having to encounter any of its country cousins. Its fox-safe, urban route passes through old coal workings, the vast Heartlands regeneration area, and housing and trading estates to cross the M8 near Redmill. The route then weaves onwards through Bathgate, Uphall and Broxburn, across three derelict shale-bings, the M9-M90 interchange and Edinburgh Airport to gain Edinburgh city centre. Thereafter it crosses through more suburbs, the Strawberry Corner pinch-point, and Prestonpans to terminate at Seton Sands. Similarly another 30-mile trail leads west through fully-connected urban, suburban and brownfield landscapes to the coast at Dalreoch. Beginning at nearby Newhouse, the trail proceeds through Holytown, Bellshill, the M73-M74 interchange, Broomhouse and Baillieston to Glasgow city centre. Next, by way of Partick, Clydebank, the old Bowling shipyards, Milton and Dumbarton, it enters Dalreoch.

A more formal, quantitative approach to evaluating urban sprawl is to contrast early land-utilisation maps with today's surveys. In the mid-

1930s the indefatigable L Dudley Stamp marshalled large numbers of volunteers into documenting their immediate

surroundings. The results of their huge undertaking were extensively cross-checked by Stamp. With his wife as chauffeur, Dudley covered thousands of miles standing up on the front seat of his car – head poking through the sunshine roof – as he checked what lay beyond the hedgerows. A stark contrast is revealed for the Central Belt, between the expanses of meadow, permanent grass and arable land mapped by Stamp's survey and the remnants found on contemporary land-use maps produced by the Centre for Ecology & Hydrology. As a second approach to assessing expansion, a digitization of the urban footprint of 59 cities and towns, ranging in area from Glasgow, Edinburgh and Motherwell down to Kilsyth and Kirkcaldy, has been effected on a sequence of Ordnance Survey maps (1855 to 2016). A seven-fold areal enlargement in human settlement is revealed since Geddes' day. A third approach, examination of spatially consistent satellite imagery (1990 to 2015), uncovers the same rapid rate of transformation and urbanisation.

Once the conurbation principle is conceded and Clydeforth's impending arrival accepted, it can be seen as a grand challenge for Scotland. A strategic vision is needed in which the twin centres of Glasgow and Edinburgh, along with their minor neighbours, retain their defining characteristics and cultures and yet complement one another so as to realise their full potential. An overarching vision for the region as a whole is required. I suggest that the Scottish Government should take the lead by promoting closer integration and in nurturing a forward-looking urban development policy aimed at reducing disparities and achieving greater cohesion. It will be necessary to plan radically for Clydeforth. A more active urban development programme than mere patching and infilling will be required. In particular, maximising the capacity of fast public transport systems will be key to solving the coming crisis of the Central Belt and to reshaping its component parts.

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Clydeforth (updated from Geddes, *Cities in Evolution*, 1915).