WAYS TO WORK

by Benjamin Hennig

How do you usually travel to work? Question 41 in the last UK Census asked employed people to indicate which mode of transport they used for the longest part of their usual journey to work. In combination with information about participants' home and workplace, this resulted in a dataset of travel-to-work patterns.

The Census documents approximately 2.4 million trips between respondents' homes and workplaces generalised at so-called Middle Layer Super Output Areas (MSOAs), a statistical unit that geographically organises the Census outputs. Due to slightly different approaches to the Census, this data is only available for England and Wales.

The resulting geographic patterns of these work-related interactions show the dominating commuting patterns. In a normal map (shown to the above right), this draws a picture of the geographic distribution of towns and cities as the main destination of commuters in a cobweb of commuter belts that surround these places. London dominates this map, from where sub-centres are concentrically spread out, before the larger cities in the other regions take over the main commuter travels.

The larger cartogram pictured to the right re-imagines these patterns by providing a population-weighted perspective of people's ways to work. This and the maps to the left are gridded population cartograms where each area is proportional to the number of people who live there, with the larger map on the right combining major modes of transport, giving the dominating mode in each area most prominence.

The smaller cartograms to the left dissect these different journeys into (from the top) driving, buses, cycling and walking. In order to declutter the myriad of flows in the data, connections of below 25 journeys between two different MSOAs are filtered out entirely, and lower magnitude connections are generally shown in thinner lines than more frequently mentioned flows. This makes it possible to see which connections dominate where.

Driving dominates widely in rural to urban commuting flows. But it is interesting to observe that outside London driving dominates work journeys extensively, even in the denser populated urban areas of the Midlands and the North. Commuting by train and metro (as shown in the large map) is more dominant in London. The most common non-individual transport across England and Wales within the most densely populated areas are bus journeys. And while walking is a common occurrence for shorter 'commutes' in many central locations, cycling patterns are more common only in the relatively smaller towns and cities (apart from London). Places such as Oxford, Cambridge, Bristol or York display some observable cycle commutes, whereas in larger areas they appear less noticeable, even when the focus is put on the most densely populated less-rural areas.

Recent debates about the impact of individual transport on the environment and on people's health has started to make people rethink their transport choices. Yet, changing behaviour also requires measures to encourage people to switch. Better and safer cycleways, and more reliable and affordable trains outside the capital area are needed if we want to see some of these patterns change in future Censuses. ●

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Legend:
- Walking
- Cycling
- Bus travel
- Train/Metro
- Driving