

DATA INSIGHTS

The health and economic benefits of active commuting in Scotland

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WHAT WE DID

Active commuting, predominantly walking and cycling for journeys to work or study, provides a range of benefits to individuals and societies.

Research in this area is often challenging given the availability of data sources which allow for detailed and focused investigations. In 2016, Scottish Census data were made available, via application, for the first time for research purposes. Our work uses these data to examine the health and economic benefits of walking and cycling for commuting purposes at a national level in Scotland.

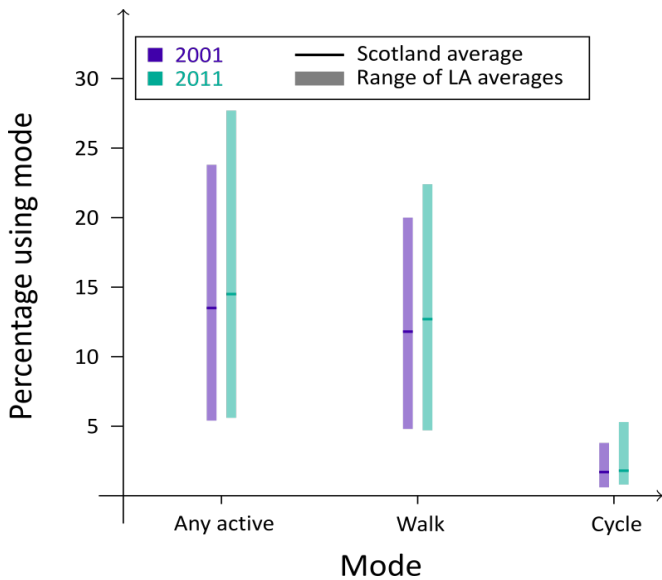
The Scottish Census collects information on where people live and work or study, and how respondents usually travel between these two locations. Thus, it is possible to estimate proportions of the Scottish population who perform their commute 'on foot' or by 'bicycle', and the distance of this journey.

Using data from the 2001 and 2011 waves of the Scottish Census, we sought to answer three research questions designed to provide insight into benefits of active commuting in Scotland:

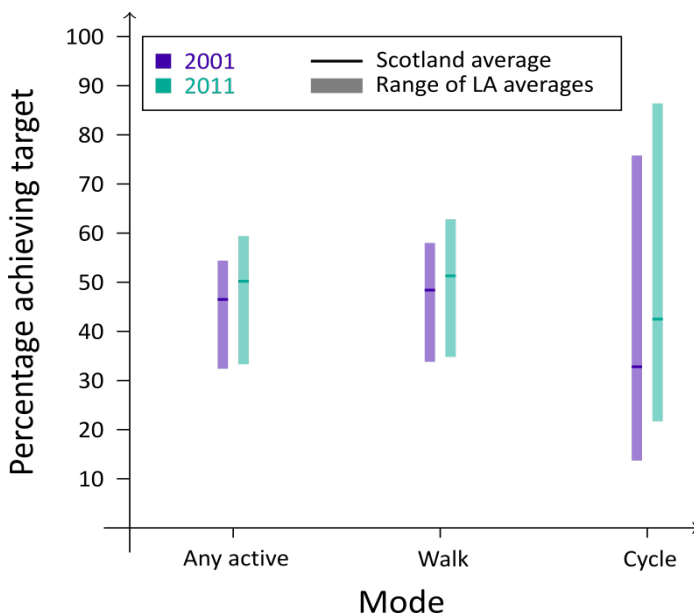
- What are the levels of active commuting (walking and cycling) to work and study in Scotland and how have they changed between 2001 and 2011?
- How many of these active commuters walk or cycle a minimum of 30 minutes per day (meeting a daily equivalent of the weekly target for moderate intensity physical activity)?
- Using the WHO's Health Economic Assessment Tool (HEAT) what are the population-level economic values of the health benefits associated with these levels of commuter walking and cycling?

WHAT WE FOUND

- Nationally, active modes of commuting accounted for a modal share of 13.5% (n=244,009) in 2001, and 14.5% (n=286,145) in 2011, with less than 2% of the population choosing to cycle at each time-point.
- There was considerable variation across local authorities for active commuting, with the main cities in Scotland having the highest levels at around one in four commuters choosing an active mode.
- We estimated that in 2011, half of all active commuters in Scotland would meet the UK recommended amount of physical activity (150 minutes of moderate intensity activity per week) through their commute alone if this was performed on 5 days per week.
- Despite low modal shares of active commuting in both 2001 and 2011, we found that approximately 200 deaths per year could be prevented from current levels of walking and cycling commuting.
- This equates to health benefits with annual economic values of approximately EUR 0.9 billion in 2001 and approximately EUR 0.8 billion in 2011. The majority of the benefit was due to walking.



Graph 1: Percentage of sample (working/studying adults aged 16-74) using each active travel mode by year, grouped by mode.



Graph 2: Percentage of active commuters achieving a minimum 30 minutes per day moderate intensity activity, grouped by active travel mode.

WHY IT MATTERS

This work highlights the utility of making administrative data available for research purposes.

For the first time it was possible to estimate, using individual level data, benefits to Scotland of active commuting.

In the recovery from Covid-19, it is likely that mobility patterns will change and levels of active commuting may be impacted. These findings provide clear evidence of the substantial benefits which can be generated from even modest levels of active commuting. They can be used by local authorities, and other organisations, to continue to champion for greater promotion of active travel.

WHAT NEXT?

This work has created a baseline set of active travel and health metrics for Scotland, which can be used for monitoring and comparison over time using following waves of Census data, and for comparison with other data sources of active commuting in Scotland.

Further analysis could be undertaken with these data to examine the contribution of different durations of commuting journeys to achieving recommended levels of physical activity.

Our planned further analyses using these data will provide further insight into the sociodemographic patterning of active commuting in Scotland.

Further Information:

Co-authors of this paper: Dr Rebecca Pillinger, Dr Paul Kelly and Mr Bruce Whyte.

This project was a collaboration between the Physical Activity for Health Research Centre, University of Edinburgh and Glasgow Centre for Population Health.

The Scottish Centre for Administrative Data Research (SCADR) analyses public sector data, using new data sources and novel methodologies to deliver cutting-edge applied research with real-world impact. We work with partners to provide evidence-based insights to inform policy and practice and benefit the public.

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