

Application of Aged in Place Classification (AiPC): Enhancing Spatial Microsimulation Models



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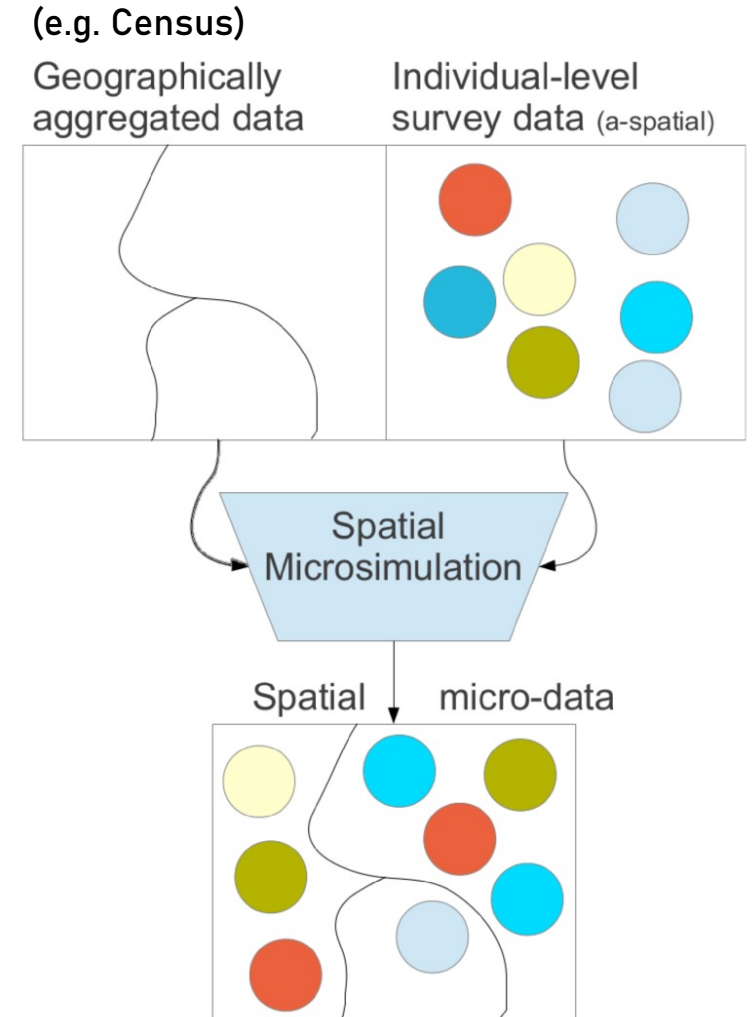
Spatial Microsimulation (SMS)

Spatial microsimulation has been widely used in various fields such as transport, health and education. Related applications help to solve social science and policy problems.

Fundamental to the approach are approximations of individual level data at high spatial resolution: **people allocated to places**.
(Lovelace, R., & Dumont, M. (2016))

SMS typically involves cloning and matching people in individual-level surveys with small-area census data. SMS models are normally well behaved and very robust, but **“they can struggle to capture the *diversity* of spatial variations shown by observed data”** (Birkin & Clarke, 2012).

Enhancement using geodemographic classification?

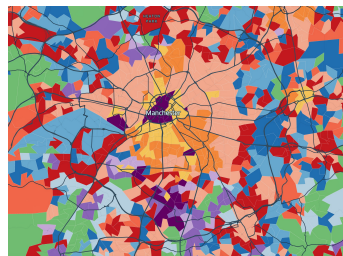
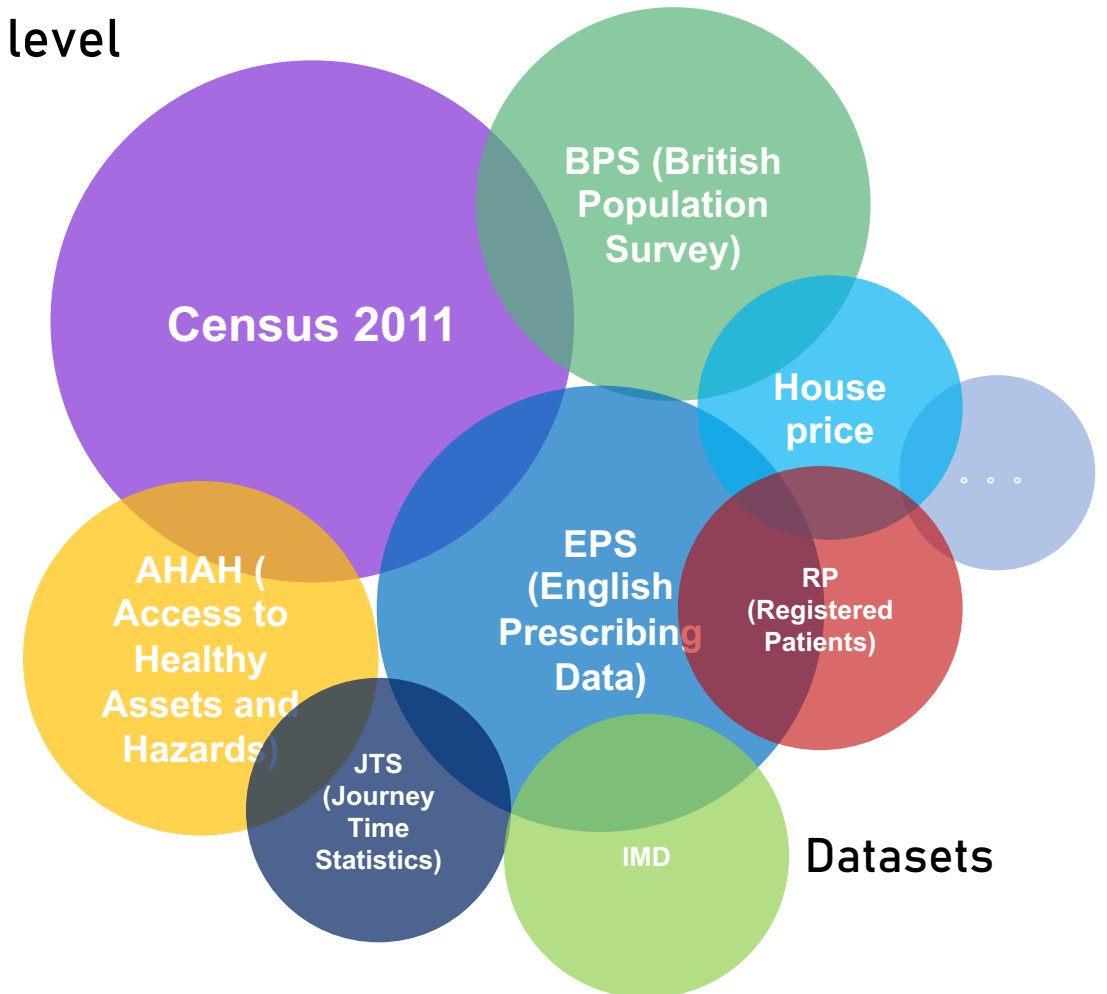
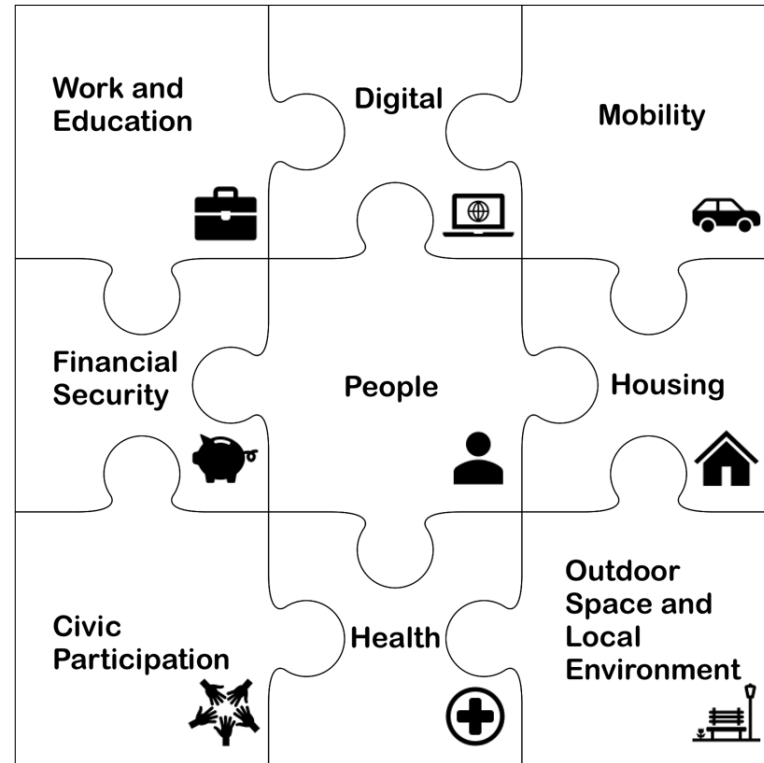


Source: Lovelace, R., & Dumont, M. (2016)

Aged in Place Classification (AiPC):

a geodemographic classification of older people (Age 50+) in England at LSOA level

9 Domains, 71 Variables



First tier : 5 Supergroups
Second tier: 13 Groups

SMS and SAE



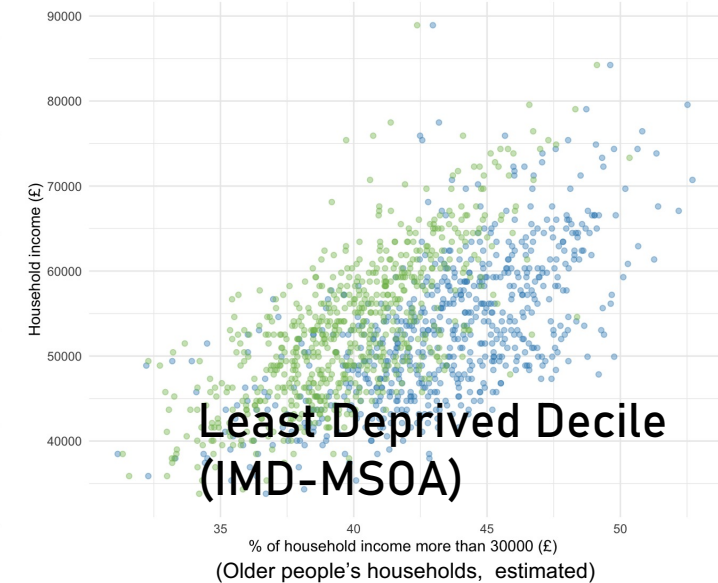
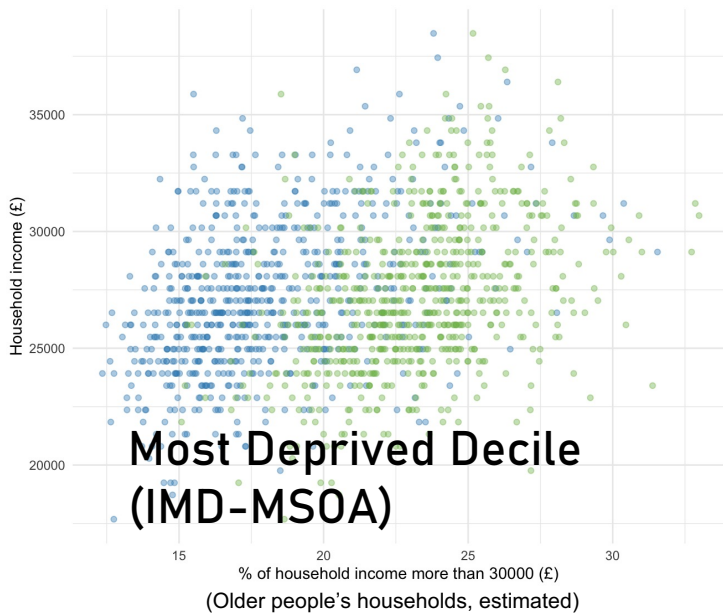
Without AiPC

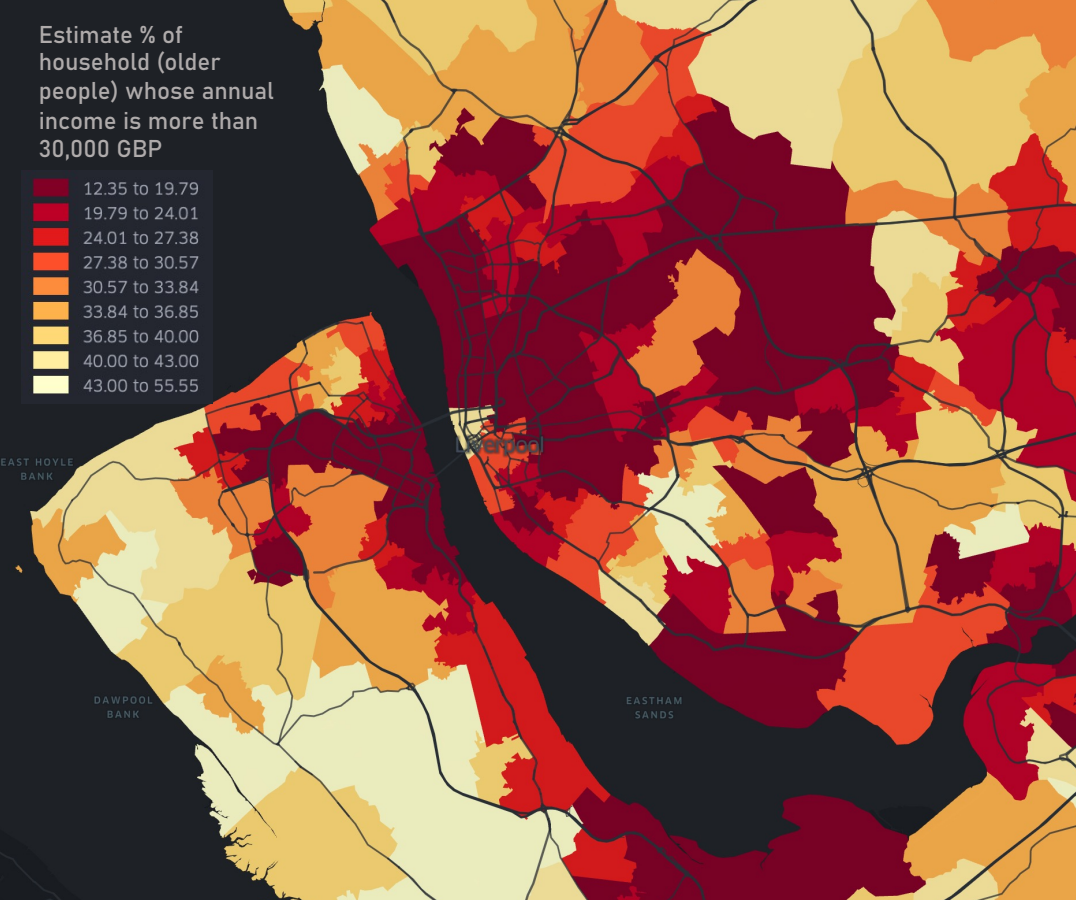
Constraint variables:

- Age + Sex: Cross tabulate
- Qualification
- Economic activity
- Social Grade
- AiPC supergroup categories

With AiPC

Estimate pct of household (older people) whose annual income is more than 30,000 GBP in MSOA





Future Works

English
Census + Housing+ AiPC
Survey

Better understand older people's housing need

Census + ELSA + AiPC

Better understand older people' social isolation

Reference:

- Birkin, M., & Clarke, G. (2012). The enhancement of spatial microsimulation models using geodemographics. *The Annals of Regional Science*, 49(2), 515-532.
- Lovelace, R., Dumont, M., Ellison, R., & Založnik, M. (2017). *Spatial microsimulation with R*. Chapman and Hall/CRC.

Acknowledgement

This research is funded by the Nuffield Foundation. The Nuffield Foundation is an independent charitable trust with a mission to advance social well-being. It funds research that informs social policy, primarily in Education, Welfare, and Justice. It also funds student programmes that provide opportunities for young people to develop skills in quantitative and scientific methods. The Nuffield Foundation is the founder and co-founder of the Nuffield Council on Bioethics and the Ada Lovelace Institute. The Foundation has funded this project, but the views expressed are those of the authors and not necessarily the Foundation. Visit www.nuffieldfoundation.org.

2011 Census data is openly available from Nomis and the Office for National Statistics, it is licensed under the terms of the Open Government Licence (<http://www.nationalarchives.gov.uk/doc/opengovernment-licence/version/3>). The BPS (British Population Survey) data in this research has been provided by the Consumer Data Research Centre (CDRC), an ESRC Data Investment, under project ID CDRC 119, ES/L011840/1; ES/L011891/1. Images and Icons are openly available from Age-positive image library (<https://ageingbetter.resourcespace.com/pages/home.php>) and flaticon (<https://www.flaticon.com>)

