



Housing Careers Briefing Note 3

Housing space

Bin Chi, Paul Longley, Rory Coulter



Linking administrative and consumer data to understand housing space consumption in England and Wales

EXECUTIVE SUMMARY

- Little is known about households' housing space consumption or the ways in which this changes when people move home.
- Linking administrative total floor area data from lodged domestic Energy Performance Certificates (EPCs) with estimates of individuals' residential moves from the Linked Consumer Registers (LCRs, described in Briefing Note 1) provides a novel way to estimate housing space consumption for people who make a residential move across England and Wales.
- This can be done on a more frequent basis and at more localized scales than is possible with census or survey data.
- An example application of these methods to all residential moves (i) within and (ii) into London in 2012 provides insights on disparities in space consumption among new residents of London boroughs.
- This analysis can be extended to other calendar years from 2012 to 2020 and to any Local Authority District (LAD). Estimates of space consumption are also available at migrants' origin addresses with further work underway to estimate (1) how space changes when people move from an origin to a destination, (2) to produce estimates for owner-occupied moves and (3) to link space changes to housing transactions data.

INTRODUCTION

Having adequate dwelling space is important for comfort and health. However, the price people must pay to obtain a given amount of dwelling space varies geographically and there are major disparities in how much space different social groups can afford. Formulating policies to address these disparities and encourage more efficient and sustainable use of the housing stock therefore requires robust evidence on households' consumption of housing space and how this changes when people move.

In Britain, our knowledge of housing space consumption is limited by a dependence on data gathered from either the census or surveys. While valuable, neither resource can provide the timely and geographically detailed estimates required by many analysts and policymakers. These limitations can be overcome by taking population estimates from CDRC's Linked Consumer Registers (LCRs, described fully in Briefing Note 1) and enriching them with linked dwelling space data obtained from domestic Energy Performance Certificates (EPCs).

LINKING LCR AND EPC DATA

A valid EPC is required for recently constructed newbuild dwellings and since October 2008 has been necessary for all UK house sales and rental listings. Address-level data on lodged EPCs for England and Wales are openly accessible from the Ministry of Housing, Communities and Local Government. Crucially, lodged EPC data contain a wealth of information about dwellings, including their estimated total useable floor area in m² plus the number of habitable rooms. While it is possible to opt-out from the public release of a dwelling's EPC record, this is thought to occur in only a very small minority of cases.

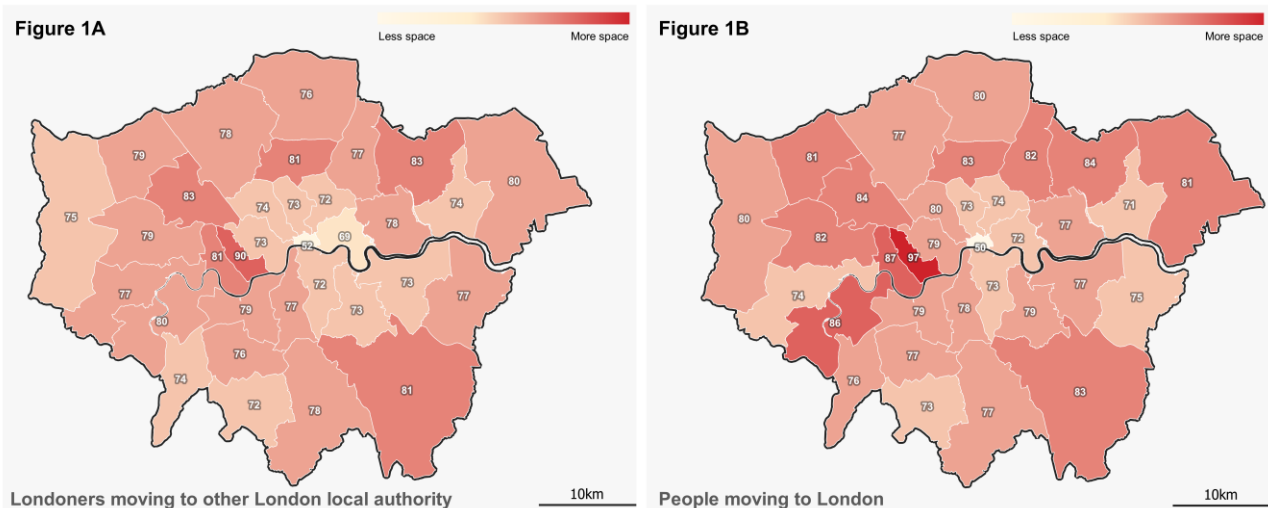
Using the text of each EPC's address, all EPCs were first geo-referenced to a Unique Property Reference Number (UPRN) using OS AddressBase Plus. 94% of EPCs have currently been geo-referenced and efforts to improve this rate are currently ongoing.

Next, EPCs were linked to UK individual migration flows estimated from the LCRs (41.3 million moves between 1997 and 2020). We focus on movers as addresses that either (i) have no change in occupants or (ii) where only one household member changes will not necessarily have an EPC. The flow data were restricted to pertain only to the 2009-2020 period, were restricted to England and Wales and EPCs were then initially linked separately to each mover's origin and destination address. Over the entire period, a valid EPC record was attached to 64% of origin and 69% of destination addresses. Although no account is taken of EPC dates here, around 81% of geo-referenced EPCs were deposited before the person had moved into their destination address and the elapsed time between EPC deposition and a residential move occurring was typically very low.

SPACE CONSUMPTION AMONG MOVERS

Figures 1A and 1B map the median housing space in m² consumed by people moving into each London LAD in 2012 from (A) other London LADs and (B) from outside London. Similar estimates can be derived for all LADs in England and Wales, for all years from 2012-2020, for people moving within LADs, for people moving between any origin-destination LAD pairing, and for space consumption at origin addresses.

Figure 1. Median dwelling space in m² for people moving (Figure 1A) within London and (Figure 1B) into London in 2012.



Estimates of dwelling space consumption can also be produced at other geographic scales subject to outputs meeting disclosure control requirements. Furthermore, space consumption could be adjusted to a per adult measure using data on household size derived from the LCRs. The Scottish Government recently released EPC records from 2012 and we are hoping to integrate these with the LCRs in our future work.

CONCLUSIONS

Linking administrative EPC records with the Linked Consumer Registers provides a novel way to understand the housing space consumption of people who moved between addresses between 2009 and 2020. These estimates can be customized to measure housing space in different ways (in terms of habitable rooms, m² and metrics adjusted for household size), across various spatial scales, and for specific years of interest.

Work to further improve and validate these linked datasets is ongoing (see Further Reading for this note and its companions). Although users need to be aware that these repurposed consumer and administrative datasets are not the same as scientifically designed statistical resources, if used carefully (with an examination of possible biases coupled with sensitive interpretations) the linked EPC-LCR dataset could provide a rich tool for understanding housing space consumption at more frequent intervals and at more localized scales than has hitherto been possible.

Subject to them satisfying further checks and validity assessments, the LAD-level data resources discussed in this note will be made available in due course with appropriate licenses at <https://data.cdrc.ac.uk>. Estimates at smaller geographies will be deposited as Safeguarded resource available to interested users upon successful application to CDRC.

FURTHER READING

Chen M, Chi B, Van Dijk J, Longley P A (2021). The use of Linked Consumer Registers to understand social and residential mobility. In: **Proceedings of the 29th Annual GIS Research UK Conference (GISRUK)**. GIS Research UK: Cardiff, UK. <https://discovery.ucl.ac.uk/id/eprint/10125998/>.

AUTHORS

Bin Chi is a Research Data Scientist/ Data Engineer in the UCL Department of Geography. Her research focuses on enriching and enhancing administrative datasets to better understand and address housing challenges.

Paul Longley is Professor of Geographic Information Science at the UCL Department of Geography, where he also directs the Economic and Social Research Council-funded Consumer Data Research Centre (CDRC).

Rory Coulter is a Lecturer in Quantitative Human Geography at the UCL Department of Geography. His research examines how people move between different types of homes and neighbourhoods over the life course. Rory is the Principal Investigator on the ESRC project 'Modelling Housing Career Trajectories in Great Britain': <https://www.geog.ucl.ac.uk/research/research-projects/modelling-housing-career-trajectories>.

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CONTACT

Rory Coulter
UCL Department of Geography, Gower Street, London, WC1E 6BT
r.coulter@ucl.ac.uk

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