



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Urban Mobility, Consumer Data Research Centre (CDRC), Faculty of Environment



**Salary: Grade 7 (£36,333 – £43,155 p.a.)**

**Reference: ENVGE1211**

**Fixed-term until 30 September 2024 – due to external funding**

**We will consider flexible working arrangements**

## **Research Fellow in Urban Mobility, Consumer Data Research Centre (CDRC) School of Geography, Faculty of Environment**

**Are you an ambitious researcher and fascinated by urban mobility data? Are you interested in supporting social science research in a growing, multidisciplinary centre committed to using consumer data for the public good? Would you like to further your career in one of the UK's leading research-intensive Universities by making consumer- and "digital footprint" data more accessible to academics, policymakers and the public?**

First established in 2014, [the Consumer Data Research Centre \(CDRC\) at Leeds](#) delivers insights into human behaviour using consumer and commercial datasets. The Centre continues to grow, and is seeking a Research Fellow in Urban Mobility who can help us deliver greater impact from our data assets and projects in this specific theme.

Since February 2023, the Centre has been working in partnership with [Wejo](#) to make connected vehicle data more readily available for research purposes. The first phase of activity has focused on the launch of a unique, high-quality dataset on the Centre's [data store](#), supplied by Wejo, which contains GPS trajectories for around 50,000 vehicles during the month of July 2022, representing real-time insights over 1.8 million vehicle journeys and encompassing 400 million individual records. This is one of the first times such detailed, in-depth data on connected vehicle trajectories has been made available for academic research.

In parallel, the Centre has also since 2020 been partnering with mobility and location data provider Spectus, leading to the creation of anonymised, aggregated daily counts of journeys between UK local authorities. During the COVID-19 pandemic in particular, use of this type of opted-in mobile phone- and GPS data enhanced a wide number of studies and policy responses that measured adherence to stay-at-home policies, alongside trends in the return to in-person workplaces.

The value of these data lies in how they show activities and choices varying across space and time, how they indicate underlying regional, demographic or behavioural influences, and the way in which they enable assessment of impacts of new policies, disruptions, or other interventions. Beyond mobility, these data have the potential to



be applied to a wide range of disciplines and further policy issues, including income segregation, food consumption, crime risk, and use of urban green spaces. As a Centre, we want to use data such as those provided by Wejo and Spectus as the source(s) for multiple future outputs that address wider technological and methodological challenges conventionally associated with research into “digital footprints”-data.

We are therefore looking for a researcher to support work on advancing theory and methods relating to urban mobility and, most crucially, work on emerging insights that ultimately have impacts on policy. You will work closely with the PI, Professor Ed Manley, to develop new ideas and approaches for modelling urban mobility. You will have an approach to research and level of technical expertise that allows you to draw out new insights and models of mobility behaviour from large datasets. You will gain experience in a rapidly developing, interdisciplinary field that will benefit a future career in academia or data science.

We will consider flexible working arrangements. Please get in touch to discuss.

## **What does the role entail?**

As a Research Fellow in Urban Mobility, your main duties will include:

- Undertaking advanced analyses of large-scale real-world mobility and trajectory data, exploring pertinent issues relating to urban mobility behaviour;
- Development of explanatory and predictive models of mobility behaviour using statistical and machine learning techniques where relevant;
- Interacting with and supporting collaborations with data scientist colleagues and named external partners;
- Generating and pursuing independent and original research ideas in urban mobility;
- Producing reusable code, made available to the wider research community;
- Developing research objectives and proposals as part of contributing to setting the direction of the Centre’s urban mobility research, including preparing proposals for funding in collaboration with colleagues;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Creation of data products, visualisations, and blogs that explain research findings to a wider audience;



- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

## What will you bring to the role?

As a Research Fellow in Urban Mobility, you will have:

- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in Geography/GIScience, Transportation, Quantitative Social Science, Data Science, Mathematics, Computer Science, or related discipline;
- A strong background in spatial and/or behavioural data science, including the application of machine learning methods for generating measures and models of human behaviour;
- Good understanding of theories and models of human behaviour, spatial decision-making, and/or cognition;
- Deep knowledge of data science methods and processes, and strong expertise in associated programming languages (preferably Python);
- A proven ability to work closely with a small group of data scientists and also to collaborate effectively with a wider, multidisciplinary team;
- An understanding of the ethical principles associated with tracking human behaviour and knowledge of appropriate data security procedures;
- An ability to think creatively when standard techniques or libraries are not suitable, in order to develop novel, innovative solutions to complex problems;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- Excellent written and verbal communication skills, including presentation skills;



You may also have:

- Strong understanding of spatial data formats, analysis techniques, and visualisation approaches;
- A proven track record of peer-reviewed publications in high-impact journals.

## How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

## Contact information

To explore the post further or for any queries you may have, please contact:

**Professor Ed Manley**

Tel: +44 (0)113 343 3356

Email: [E.J.Manley@Leeds.ac.uk](mailto:E.J.Manley@Leeds.ac.uk)

## Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Find out more about the [Faculty of Environment](#)

Find out more about the [School of Geography](#)

Find out more about our [Research and associated facilities](#)

Find out more about [equality](#) in the Faculty

## Our University

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where



all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Environment we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Environment has received a prestigious Athena SWAN silver award from [Advance HE](#), the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

### **Working at Leeds**

We are a campus based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

### **Candidates with disabilities**

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at [disclosure@leeds.ac.uk](mailto:disclosure@leeds.ac.uk).

### **Criminal record information**

A criminal record check is not required for this position, however, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be, in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information.

