



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Mobility Data Science, Faculty of Environment



**Salary: Grade 7 (£39,105 – £46,485 p.a. depending on experience)**

**Reporting to: Professor Ed Manley**

**Reference: ENVGE1257**

**Fixed term for 48 months to complete specific time limited work**

**Location: University of Leeds**

**We are open to discussing flexible working arrangements**

# Research Fellow in Mobility Data Science, School of Geography, Faculty of Environment

## Overview of the Role

**Would you like to be part of a major collaborative research programme to help tackle transport's contribution to the climate crisis? Are you looking to apply your research skills to design transitions towards sustainable mobility systems? Do you thrive on working in an exciting and creative environment committed to making a difference?**

Inspiring Futures for Zero Carbon Mobility ([INFUZE](#)) is a major £7.8m five-year research grant funded by the Engineering and Physical Sciences Research Council. Working across the Universities of Leeds, Lancaster and the Royal College of Art INFUZE is seeking to achieve transformative change in how transport works, addressing the climate challenge whilst improving fairness and quality of life. INFUZE is an exciting new collaboration which will work with citizens and businesses to re-imagine our transport systems. The programme will build an increasingly ambitious suite of real-world trials with communities, transport providers and government partners.

We are looking to recruit a driven and passionate researcher to lead our research activity on mobility data science. The candidate will work on bringing together datasets that describe the characteristics of places and the people within them, building a deeper understanding of mobility. This research will involve working with a range of data sources – from surveys and censuses to trajectories and transactions. We anticipate that the candidate will bring a strong track record in urban or mobility data science, and able to apply statistical, spatial, and machine learning methodologies where needed to gain deeper understanding of geographic systems.

This role will be located in the School of Geography's [Institute for Spatial Data Science \(ISDS\)](#), as part of the [Mobility Science Lab](#). As well as working closely with Prof Ed Manley and Dr Roger Beecham, and the wider INFUZE team, there will be opportunities to engage with and contribute to research activities within ISDS, the Institute for Transport Studies (ITS) and the Leeds Institute for Data Analytics (LIDA). This role will benefit from close links to the datasets being collected through the ESRC Healthy and Sustainable Places (HASP) Data Service, launching in 2025.





## Main duties and responsibilities

- Analysis and modelling of data relating to mobility behaviours, from a variety of primary (e.g. National Travel Survey) and secondary sources (e.g. GPS trajectories), to understand activity patterns and dependence on transport modes;
- Creating analyses and benchmarks of places and their mobility characteristics – based on population, behaviours, transport service, and other data sources;
- Production of data visualisations that explain changing travel demand patterns, based on the outcomes of participatory design and agent-based modelling;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- 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;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

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.

## Qualifications and skills

### Essential

- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in geography, urban analytics, transportation, social



science, or relevant technical discipline, with a significant component of programming and/or data science;

- In depth understanding of the opportunities and challenges associated with spatial and/or mobility data, both from primary and secondary sources;
- Experience of application of advanced analytical methods in predicting or explaining spatial behaviour and/or systems;
- A strong, demonstrable understanding of determinants of mobility behaviour;
- Deep knowledge of a programming language appropriate for mobility data science (e.g. Python);
- Experience of multidisciplinary working, and proven ability and interest in working across traditional disciplinary boundaries;
- A clear personal motivation for the goals of the project;
- 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;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

### Desirable

- A proven track record of peer-reviewed publications in high impact factor journals;
- Experience in processing and analysing large-scale movement trajectory data, activity data, or similar
- Experience of interfacing or working with agent-based models.

## **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.

Please note that due to Home Office visa requirements, this role may only be suitable for first-time Skilled Worker visa applicants if they are eligible for salary concessions. For more information please visit: [www.gov.uk/skilled-worker-visa](https://www.gov.uk/skilled-worker-visa)



For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: <https://www.gov.uk/global-talent>

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.

