

SGSSS Academic Placements Placement Information

Placement Title	UK Transport Accessibility Online Tool
Project Host contact	Dr J Rafael Verduzco Torres
Host team	The Urban Big Data Centre (UBDC) University of Glasgow
Full time/part time	Either
In person/remote/hybrid	Most of it is expected to be remote. The expected in-office work is approximately once a week; this can be adjusted based on the interests of the intern.
Duration	3 months (full time) or 6 months (part time)
Eligibility	This placement is open to all ESRC funded students whose funding began after October 2024. Eligible students should seek funding permission directly from their funder as required.
To apply	Please contact J Rafael Verduzco Torre, (JoseRafael.Verduzco-Torres@glasgow.ac.uk) to submit an application.

Placement Details

Project Description:

The Urban Big Data Centre (UBDC) promotes the use of big and novel data for innovative research, with the aim of improving social, economic and environmental well-being in our cities.

The PhD student will be based in the UBDC, part of the newly-established Urban Analytics Subject Group (UASG) within the Division of Urban Studies & Social Policy, University of Glasgow. Together, UBDC and UASG offer extensive experience with large-scale and non-traditional datasets, which, combined with the robust IT infrastructure and advanced tools available, support the technical requirements of the project.

Research context:

Geographic accessibility reflects the efficacy of transport systems in relation with the location of essential services, e.g. the ease of reaching employment, hospitals, schools, parks, or supermarkets by public transport.

In 2022 and 2023, the UBDC developed a collection of [accessibility indicators for each neighbourhood in Great Britain](#) (Verduzco Torres & McArthur, 2022). This work has supported key research outputs, e.g. assessing urban transport poverty in UK cities,

examining the [correlation between accessibility and COVID-19 vaccination uptake rates](#) (Chen et al., 2023), and [validating the indicators](#) (Verduzco Torres & McArthur, 2024).

Main output:

This project will develop a user-friendly web interface (i.e. a web dashboard) which streamlines the use of accessibility measures into local city and transport planning and policy design.

This resources seeks to maximise the value of modelled travel times and accessibility, originally developed for academic research at the UBDC. This tool will be tailored for city and transport planners, enabling more evidence-based and efficient decision-making by minimising technical and computational challenges. Specifically, the tool will enable any city and transport planner to interactively visualise, explore, and download the precomputed data.

The tool is expected to amplify the research impact. This web tool will be publicly available online and will benefit both rural and urban areas. This means that the most under-sourced city and transport planning bodies will see important benefits.

Additionally, it is expected to support interdisciplinary research by easing the visualisation for researchers less familiar with quantitative approaches.

This opportunity offers the following benefits for the student:

A major benefit of this placement is the opportunity to collaborate closely with UBDC's specialist data science team and data researchers, gaining hands-on experience and guidance from professionals working at the forefront of urban analytics. This offers the student valuable insight into the practical implementation of data-based projects and exposure to industry-relevant workflows, tools, and standards.

The student will also contribute to a live, externally facing project with demonstrable impact—building on existing relationships with non-academic partners including local authorities and transport agencies.

Throughout the placement, the student will develop a range of highly transferable and industry-relevant skills, including:

- Data management – Organising, standardising, and enriching complex datasets, essential in fields such as consultancy, public policy, and technology.
- Problem-solving – Translating academic research into actionable solutions, a skill sought across sectors.
- Geospatial visualisation – Designing intuitive tools to communicate data, in high demand in planning, mobility services, and digital industries.
- Stakeholder collaboration – Working with non-academic users, enhancing communication and co-design capabilities.

- Technical development – Gaining practical experience in web platform development using interactive data tools.

This placement offers a unique opportunity for the student to bridge academic research and practical application, expand their professional network, and build a profile well-suited to roles in data science, urban analytics, digital consultancy, and public sector innovation.

Experience and Skills Required:

Essential skills	Desirable skills
<ul style="list-style-type: none"> • Background with strong quantitative component, e.g. geography, computer science, or similar. • Proficiency in R or Python • Experience working with geospatial data, including processing, visualisation, and spatial analysis 	<ul style="list-style-type: none"> • Experience building interactive maps or interactive dashboards • Familiarity with version control and collaboration using Git-based workflows • Understanding of API integration and database connectivity

Further information

SGSSS coordinate the promotion of this placement only and would expect placement administration to be completed by the placement students’ funder and HEI. Please contact the host J Rafael Verduzco Torre (JoseRafael.Verduzco-Torres@glasgow.ac.uk) directly with any queries or to apply for this placement.