



School of Computing, Engineering, and the Built Environment Edinburgh Napier University

PHD STUDENT PROJECT

Funding and application details

Funding status: Self-funded students only

Application instructions:

Detailed instructions are available at <https://www.napier.ac.uk/research-and-innovation/research-degrees/how-to-apply>

Prospective candidates are encouraged to contact the Director of Studies (see details below) to discuss the project and their suitability for it.

Project details

Supervisory Team:

- DIRECTOR OF STUDY: Prof. Patrick Langdon (Email: p.langdon@napier.ac.uk)
- 2ND SUPERVISOR: Dr Jorge Eslava-Bautista

Subject Group: Built environment

Research Areas: Business, Transport studies, Engineering, Geography

Project Title: Achieving changes in private car ownership and use in rural areas of Scotland and the role of car sharing schemes as an instrument to achieve sustainable transport

Project description:

Disincentivising car ownership and car use have been deployed as strategies to reduce the Greenhouse gas (GHG) emission from transport sector. Shared mobility and practices such as: Car sharing systems (CSS) are supposed to reduce car ownership, reduce the private car fleet, improve mobility, and traffic congestion. They also offer advantages for drivers as Car-sharing systems present benefits against traditional total cost of ownership (TCO) and flexibility such as: diversity in type of car depending on clients' needs, short use period. CSS, as an approach to holistic and technology-led integration of mobility options is typically associated

with urban and sometimes suburban mobility. While most research and practical projects focus on services operating in densely populated areas, the advantages, and disadvantages of individual, flexible, and shared transportation services in non-densely populated areas have not been explored yet.

There is a need for a renewed focus on understanding the barriers to the implementation and growth of CSS in rural locations. This research proposes to investigate aspects of automobile use by applying a conceptual framework of consumer “automobile use engagement”, which focuses on consumer engagement with aspects of automobile use related to car ownership and usage in rural Scotland. Also, the dependence of Scottish rural population on private car can be examined.

Currently scenarios for adoption of CSS appear limited in current Rural transportation since this will depend on how well suppliers of the services segment the market. Finally, from the supplier side the most complex challenge is to determine whether there is a business model that aligns with the rural communities’ objectives that should adopt the value of CSS.

In this project, data will be analysed focused on the characteristics of car sharing in rural Scotland cities and compared to Urban Scotland and examine whether introducing such schemes could affect car ownership. This research will analyse management policies to evaluate the economic potential of CSS services and will explore the dynamic of private car ownership in rural Scotland. Also, this study could assess the impact of changes in location, age, and income on other factors such as predisposition to use.

This project expects to employ a mix-methods approach. Surveys, interviews, and focus group workshops are expected to be the main data collection methods to employ. It is also expected to conduct some desktop research to find the number of people car-sharing in Scotland and also the number and location of car sharing services. A GIS analysis is feasible to examine whether there was any recognisable pattern in the geographical coverage of car sharing systems, as other studies suggest a lack of available data in other European geographies.

References:

- [1] GIS, interest in qualitative research

Candidate characteristics

Education:

A second class honour degree or equivalent qualification in Business, Transport studies, Engineering, Geography, or any other relevant discipline

Subject knowledge:

- Research methods,
- Economics, or
- Business studies

Essential attributes:

- Proficiency in English language

Desirable attributes:

