

## **PhD Topic: Design of urban transport systems to meet the needs of an older population**

**Researcher:** Carlo Luiu

### **Research background**

Issues concerning ageing are recently receiving particular focus. By the next years, the increased life expectancy and declining birth rates will determinate a considerable demographic change in the developed countries. The British population, in the same way, is undergoing a significant demographic process of changes related to ageing. It looks clear that these changes will have impacts on both individuals and society. Living independently is a crucial condition for the older population, and mobility plays a key role in this sense. Indeed, not only it is necessary to keep and achieve healthy and active conditions, but also take part in social, cultural, and leisure activities. It is likely that these changes in population trends will have significant repercussions on the transport system, in relation to the potential growing demand of transport provision and consequently on transport planning and management. For these reasons, the research is aimed at investigating if the current UK urban transport system is adequate and prepared to meet the mobility needs of the British older population. In order to meet this aim five main objectives have been set:

- To analyse current and past mobility patterns of the British elderly people in order to understand how and why they move and if it is possible to forecast future patterns.
- To investigate which are the reasons leading to car dependence and attitudes, factors and barriers affecting the use of alternative travel modes among the older population;
- To undertake a spatial analysis in order to understand if there is a relationship between the built environment, mobility choices and levels.
- To investigate the point of view of transport professionals towards the elderly and their needs, and if there is awareness of the demographic changes our society is forecasted to face, considering older population may represent a potential sizeable market.
- To undertake a case study through the development of a transport system model and urban design solutions, customised on elderly people needs and able to provide performance and characteristics similar to private transport mode.

### **Research methodology**

The methodology proposed for the investigation is an integrated mixed method. More specifically, it will consist in: 1) a structured quantitative questionnaire and a travel diary developed to assess experiences and travel behaviour in everyday mobility; 2) a spatial analysis to understand more specifically if and how land-use and built environment affects and influences mobility among the older population; 3) a qualitative survey developed through focus group to identify more in depth factors and barriers affecting mobility; 4) a semi-structured interview with transport professionals to understand their point of view and attitudes towards the mobility needs that ageing population has.

### **Contribution**

The research will produce both theoretical and empirical notions on transport culture and rationales, mobility coping strategies and identification of values and attitudinal factors that drive the elderly people in their own mobility. It will be used to understand questions concerning the efficiency of existing transportation options, whether they meet the needs of the elderly and their mobility behaviours, whether and how they have to be improved. Visions and scenarios of the future that will allow exploration of the consequences of the possible choices and changes regarding ageing, physical activity, urban design and well-being will be outlined. It will also permit to optimise and improve transport decision-making operations within daily routines of the older population, in addition to their mobility conditions.