## An analysis of mobility patterns among elderly residents of Milan and their effects on self-perceived well-being

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One of the most pressing challenges related to contemporary urban living is certainly the progressive ageing of the population globally, and particularly in high-income countries (van Hoven et al., 2012). Improvements in nutrition, sanitation and medical care have increased life expectancy to a level never experienced by previous generations. Nowadays, more people get to live out a full life span and die of old age. Virtually every country in the world is experiencing an increase in the number and proportion of older people in their population. Despite it being a global phenomenon, some areas seem to require more immediate interventions. Older population is growing faster in urban areas than in rural areas. Currently, Europe is the region with the biggest percentage of older people over the total population. By 2050, almost 35% of the European population will be aged 60 years or more. Within European countries, Italy has one of the oldest population in the world (United Nations, 2015) and its demographic structure is characterized by high longevity (life expectancy at birth is 80.1 years for men and 84.7 for women) and very low fertility (in 2015 the average number of newborns per woman was 1.35, way below the replacement rate of 2.1 children).

In such context, European cities are facing the main challenge of providing satisfactory life conditions and equal opportunities for transportation to older people. Current demographic shifts are expected to have far-reaching consequences on urban mobility, social cohesion and the overall well-being. In fact, the foreseen change in the composition of the world population is a radically new event in the history of humankind and it pairs with other radical transformations in terms of technological innovation and social organization. The current generation of people turning old is healthier, more highly educated and more active than any previous generation. The profile of elders, their background and preferences play a key role in shaping their decisions in terms of mobility. As consumers, older people have much higher spending capabilities. They are increasingly becoming the focus of marketing and commercial campaigns aimed at tapping on their growing spending capacity and sense of independence. As citizens, they are more proficient in the use of modern technology and, with increasing financial pressures on public spending, they tend to be part of the productive system until a very late age, to the point that even the very definition for 'old age' is not as clear-cut as before.

Finally, as travelers, today's elders have grown up experiencing the great expansion of individual means of transportation such as cars.

Mobility refers to the ensemble of decisions related to moving from one place to another with the help of transport network and services (Beimborn et al., 1998). This general definition encompasses a mix of different dimensions, from the psychological aspects of travelling to the benefits of physical activity and the ability to maintain a social network. Indeed, the whole range of aspects related to mobility are better expressed by the concept of motility (Kaufman et al., 2004) which looks at the potential for mobility that is available to an individual or a community and how these actors take advantage of the possibilities of mobility in order to pursue their personal projects. Therefore, this definition provides a broader perspective to interpret mobility that includes its social dimension and treats mobility as a capital, a mix of access, skills and cognitive appropriation which define how the subject will make use of a determined set of possibilities for mobility. This is also the definition that we will adopt throughout our analysis as it better illustrates the complexity of mobility's decisions and outcomes.

The aim of the present research is to study the different patterns of mobility found among elderly residents of Milan and how these patterns affect daily errands, social activities and, ultimately, well-being. The analysis concerns the elderly residents of the city of Milan in 2017 and, specifically, a cross-sectional survey is carried out within the administrative borders of the city. The study area includes any of the 88 neighborhood (NIL, Nuclei d'identità locale) which make up the city. The study population comprises all the people residing in the study area, aged 65 years or more, subsequently divided in in three age classes (65 – 69 yrs., 70 – 74 yrs., and 75≥ yrs.). The sampling methodology is two-fold: in a first phase, 10 different neighborhoods are selected randomly, taking into account the income level and the degree of accessibility. In the second phase, community spaces and meeting places are selected according to different categories (recreational, service, religious, transport). The sample size is calculated according to a desired stratification by gender and age class. Potential study participants are approached during their everyday activities in different public places. In particular, the total sample of elders interviewed for each neighborhood is derive from different sources: recreational places (i.e. cinema, park, and swimming pool), services (supermarket, post office), community (church, trade unions, and cultural associations), transport (bus stops, public bikes station). Participants are administered a questionnaire which has been developed in two phases. Firstly, we conducted a focus group with around 30 elderly people, drawn from a convenience sample.

This focus group has provided important insights for adjusting the questions to the specific context and experience of Milan. The main questionnaire, developed together with researchers at University of Genoa, is composed of five different sections (Socio-demographic background; Education, economic background and use of means of communication; Health status and well-being; Housing and surrounding environment; Mobility habits) which try to take account for the different dimensions and variables involved when looking at mobility.

The current study is expected to generate evidence on the link between built environment features related to mobility and health outcomes among elderly residents. In particular, the research will focus on the overall dimension of well-being as a variable that is better able to capture the complex interactions operating at the individual and community level and at the level of physical space. More specifically, the findings are expected to reveal different mobility patterns according to factors such as place of residence, public transport accessibility and socio-economic background. Moreover, by collecting information regarding physical activity and self-perceived well-being it will be possible to assess the overall impact of mobility. The results will highlight the extent to which local public services can contribute to diverse and constant social interactions, among elderly residents, and how these aspects influence self-perceived well-being. The paper is structured in five sections. The introduction is followed by a literature review. Data and methodology are presented in section three. Section three is dedicated to statistical analysis while the last section is devoted to conclusions and interpretation of results.

## References

Beimborn, E., Horowitz, A., Vijayan, S., & Bordewin, M. (1999). An Overview: Land Use and Economic Development in Statewide Transportation Planning.

Kaufmann, V., Bergman, M. M., & Joye, D. (2004). Motility: mobility as capital. *International journal of urban and regional research*, 28(4), 745-756.

UN (2015) World Population Prospects: The 2015 Revision. *United Nations Department of Economic and Social Affairs/Population Division.* 

van Hoven, B., Brouwer, A., Meijering, L., & McCann, P. (2012). Demographic Change, Ageing and Societal Challenges in Europe. *European Spatial Research and Policy*, 19(1), 5.