

# On the consistency between travelers' satisfaction and utility: the case of the University of Luxembourg

Sprumont Francois <sup>a\*</sup>, Astegiano Paola <sup>b</sup>, Viti Francesco <sup>a</sup>

<sup>a</sup> Faculty of Science, Technology and Communication, University of Luxembourg, L-1359 Luxembourg, Luxembourg  
<sup>b</sup> L-Mob Leuven Mobility Research Center, KU Leuven, Celestijnenlaan 300,, 3001 Heverlee, Belgium

---

## Abstract – Paper 155

During the 20<sup>th</sup> century, car use has constantly increased and became the dominant travelling mode. Some authors argue that, for the first time in history, car use might have reached a peak especially in major European cities and for the commuting trips.

The Grand-duchy of Luxembourg and its capital, Luxembourg-city are far from major European capitals standards, and are not aligned to the above trends. Indeed, the country is the 7<sup>th</sup> smallest European country and its population barely reaches 550 000 inhabitants. At the national level, the cross-border workers occupy nearly 43% of the available jobs in the country. Because of longer commuting distances, 86% of the cross-border workers commute by car while this figure reaches 74% for the resident workers. This high car use contrasts with the strong modal split targets set up by the Luxembourgish government, which expects in 2020 to obtain a reduction of the overall car use to 60%.

The University of Luxembourg is welcoming everyday more than 6500 students and 1500 staff members on 3 main campuses. Thus, the university is an important trip attractor. In 2012, a total of 397 staff members, representing 36.38% of the University employees, filled-in a travel.

In this study, we adopted a discrete choice modelling approach to quantify the relevant variables on the commuting behavior of the respondents. In addition to more common model input variables such as trips time & cost, specific variables relevant to this case study will be used (education, nationality, work position). This allows to quantify the utility related to modal choice of the respondents.

The innovation of this paper lies in the comparison between revealed satisfaction of the respondents and the modeled utility. Respondents were in fact asked with a Likert scale to rank their mode choice in terms of overall satisfaction. Preliminary analysis shows that long commuting distances or a poor public transport accessibility might lead into a lower class of satisfaction, which is clearly in line with the concept of utility. On the other hand, some statistics are less straightforwardly linked to the utility concept. For instance, only 60% of the car commuters are satisfied of their commuting trip compared to 74% for the public transport users and 100% for the soft modes users. We argue therefore that utility and satisfaction are two rather distinct concepts. The relevance of this is that, when applying transport policy solutions one should question whether the target should be an increase number of people satisfied or to increase the overall utility. As result to answering this question, travel demand management measures integrating both utility and satisfaction aspects might lead to better results than the one dealing only with utility.

**Keywords:** Commuting Behavior; Discrete Choice Modeling; Satisfaction; User Benefits; Travel Survey

---

\* Presenting author

E-mail address: Francois.sprumont@uni.lu