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Tackling mobility environmental impacts through the promotion of student active travel

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Abstract

Concern about sustainability is rooted in the growing awareness that human activities have significant environmental impacts. Tackling impacts generated by mobility practices can pass through active mobility promotion. However, this requires knowledge of travel choices of different population groups, in order to be successful. Students are an interesting travelers group with particular living and mobility conditions. Lately, mobility issues have gained an increasing attention within educational institutions. This mobilization may be of benefit for their overall host area. Students can become trend-setters, creating a multiplying effect with their travel choices. Thus, student mobility characteristics require attention. In Serres, Greece, an action plan for active travel promotion was developed and there has been a recent investment on walking and cycling infrastructure. In this framework, the detection of travel patterns and attitudes of local student community can be really helpful for targeting relevant interventions. This paper departs from a research aiming at recording mobility choices of students of the Technological Educational Institute of Central Macedonia (TEI), located in Serres, through a web-based travel survey and at making suggestions for more sustainable travel behaviour. Results demonstrate that students are largely in favor of bicycle, they would welcome a joint bus and bicycle promotion and measures in favor of intermodality, e.g. properly equipped buses in order to have bikes on board. Also, students call for both hard and soft measures, like more cycling paths, additional bicycle parking equipment throughout the city, bike sharing schemes as well as incentives, like discounts in buying and maintaining a bicycle or reduction in bus tickets. This small scale effort is enriched by other recent works concerning Serres in the field of sustainable mobility and attempts to adjust their suggestions to students target group, as a starting point for an active travel strategy for the city.

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1. Introduction

The dominance of private car use contributes significantly to environmental problems on a global as well as a local and individual level. Emissions of toxic and harmful substances contribute to global warming, local air pollution (e.g., emissions of particles in urban areas), and smog, thereby threatening ecosystems and human health (Van Wee, 2007). Moreover, car use threatens urban quality of life, e.g., because it is noisy and yields traffic accidents (Miedema, 2007, Rottengater, 2007). Furthermore, the accessibility of economic important destinations is endangered. Decades of car-centric planning worldwide have led to recent systems which make driving convenient and cheap (Hiatt, 2006; Shoup,

2011), but pose obstacles to public transport use and active travel practices, walking and cycling: lack of sidewalks, crosswalks and bikeways; lack of connectivity of pedestrian or bike infrastructure; actual and perceived dangers of walking and cycling and poor supply of public transport (Buehler et al., 2016).

The price to pay is high not only in environmental degradation but in terms of not healthy living in general. Driving is a major source of physical inactivity and is associated with overweight and obesity. In a review of 10 studies, 8 provided evidence suggesting that higher levels of driving (either as time or distance in a motor vehicle) are associated with a higher risk of increased weight (McCormack and Virk, 2014).

To respond to both environmental as well as to personal health risks, European policy dictates a mobilization towards a new mobility culture, which will soothe urban settings and their population from excessive car use (EC, 2001). Environmental psychology has an important role to play in understanding travel choices and helping to develop more sustainable forms of transport. It can provide a better and more in-depth understanding of the real costs and benefits of driving and mode choices. It can help inform transport policy by providing insight into when and how people make transport decisions (Gatersleben, 2012).

Nowadays it is widely advocated that sustainable mobility policy making requires knowledge of travel choices of different population groups (Anable, 2005, Dawney and Shah, 2005), students included. These last constitute a special traveler group with particular living and mobility conditions, often underrepresented in travel surveys for methodological and attitudinal reasons (Behrens et al, 2008). However, lately there is an increasing interest within educational institutions as regards mobility issues (Lipscombe and Knight, 2006, Overton, 2011), which may contribute to the overall urban mobility management. After all, student mobility can be an important development lever for a city and not a burden to urban environment (Cooper and Meiklejohn, 2003).

In the city of Serres, where a local action plan for active travel promotion was developed (Zisopoulou, 2012), the detection of travel patterns and relevant attitudes of local student community would be really helpful for targeting relevant interventions (Mikiki and Papaioannou, 2012) in order for the city to meet current and future challenges (Volosin, 2014). No matter, good practices already implemented abroad like car sharing or bike sharing systems (Krueger and Murray, 2008), Volosin (2014) advocates that more attention should be placed on student mobility characteristics. A useful means to detect these last is web-based travel surveys which enable a user friendly way of understanding student choices (Bicikova, 2014).

This work joins recent relevant research production of other academic institutions in the field of mobility management of Greek universities, focusing on all involved parties, as well as students (Gavanas and Tsakalidis, 2015, Pitsiava-Latinopoulou et al., 2013). It focuses only on active travel and not to environment friendly travel as a whole, which includes public transport as well, for the following reasons:

- it attempts to have a starting point of sustainable mobility policy within the competences of local policy making: public transport is operated by private sector who is not necessarily sharing the same vision
- it falls within the area of responsibility of local administration to create and maintain infrastructure related to walking and cycling
- it ambitions to take advantage by the potential offered of another public institution (an academic one) to study mobility practices and preferences in order to extrapolate measures to the overall population
- last but not least, it attempts to gather knowledge from different existing works that focus on active travel, academic research, municipal projects and field interventions in order to turn this experience in favor of Serres citizens.

2. Active travel promotion to meet environmental impact of travel choices

Technological solutions aimed to reduce the negative impact of cars (e.g., energy efficient cars) do not appear to sufficiently reduce these problems of car use, so as to make it compatible with sustainability (OECD, 1996). Also, although, in general, many people acknowledge the negative consequences of car use (such as environmental problems, traffic noise, traffic unsafety, congestions), they do not act accordingly. That is, for many, the individual advantages outweigh these collective problems. However, some people try to use their car use as little as possible out of environmental concern.

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