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Analysis of the modal choice of transport at the case of university: Case of University of the Basque Country of San Sebastian

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ABSTRACT

Transportation has significant and long lasting economical, social and environmental impacts, and so is an important dimension of urban sustainability.

Any effort that is made to achieve sustainability must take into account that universities are unique places functioning in specific contexts.

Any university working towards sustainability must deal with the issue of transportation as students, staff and visitors commuting to and from campus represent one of the most important impacts a university has on the environment and society.

Through the analysis of a specific experience, the main reflection of this paper is to improve the mobility patterns of the University of the Basque Country of San Sebastian in favor of the most secure, sustainable, fair and efficient ways of transport.

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1. Introduction

The City of Donostia/San Sebastián sits within 6000 hectares of Basque Country on the north coast of Spain, 20 km from the French border. Although 34% of the territory is urban and 66% rural nearly half the population (185,000) live within the City itself.

Thirty years ago there was a steep increase in the use of private cars, with considerable impact on the environment and town planning, which led to a new mobility and urban quality policy to be launched in 1990 to promote more walking, cycling and public transport and recover public space. The City's objectives for sustainable transport were laid down in the Urban Development Master Plan that was passed in 1995. Within the framework of the general plan, several action plans were approved including The Civic Mobility Pact (1999); The Bicycle Plan (2000); Donostia is Walking (2001); the Public Transport Plan (2004); and the Plan for Traffic Safety and Security (2007). In 2007 the different plans and actions for sustainable urban transport were integrated into "The Plan de Movilidad Sostenible". In 2008 the CIVITAS ARCHIMEDES project provided an opportunity to further promote sustainable mobility in the city. The CIVITAS ARCHIMEDES project brings together the six European cities Aalborg (DK), Donostia-San Sebastián (ES), Brighton & Hove (UK), Iasi (RO), Monza (IT) and Ústí nad

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Labem (CZ). They are approximately of the same population size and another similarity is that all the cities seem to have a large population of young people. The cities are all facing challenges in mobility that they want to address to make the city a better place for the citizens.

In this context, in Donostia-San Sebastián, the University of the Basque Country (UPV/EHU) has formed a Mobility Management Team with the aim to promote changes in the organisational model of University, in order to ease the use of corrective transport and other energy-saving transport means. In this paper we have taken the opportunity to work hand in glove with our students. Obviously, college campuses are privileged places to communicate sustainability and to help reshape society's transportation patterns (Balsas, 2003).

This work is motivated by the following considerations.

College must be reference of sustainability. Any university working towards sustainability must deal with the issue of transportation as students, staff and visitors commuting to and from campus represent one of the most important impacts a university has on the environment and society (Miralles-Guasch and Domene, 2010).

Students are more open-minded and have the potential to become 'movers and shakers' if properly motivated, they can become powerful forces for the establishment of a sustainable transportation.

Any effort that is made to achieve sustainability must take into account that universities are unique places functioning in specific contexts. Some universities are beginning to include sustainability as a strategic priority in their plans and programmes. The main objectives of these plans are to increase the level of accessibility without increasing individual mobility in private modes of transport. Most of the actions adopted in these universities can be included in transportation demand management (TDM).

The real purpose of TDM action is to change individual travel behaviour which is driven by many factors including structural variables such as distance, time, cost in terms of money, urban density, road characteristics, public transport services; and individual variables such as purpose for trip, work schedule and time constraints, environmental concern, number of people, age, income, gender, attitudes and lifestyles (Pooley and Turnbull, 2000; Miralles-Guasch, 2001; Thoegersen, 2006; Collantes and Mokhtarian, 2007; Eriksson et al., 2008; Sandow, 2008).

In this way, this investigation project sticks to improve the mobility patterns of the students of the UPV/EHU of San Sebastián, giving advantage to those transports that are safer, sustainable, equitable and efficient. Thereby, the main objective of this investigation is the production and implementation of a safe and sustainable displacement plan for the different collectives that daily move about the different campuses of the UPV/EHU. The ultimate goal is to change mobility habits towards more sustainable transport modes.

So, with our study we aim to answer questions that, to date, are under-treated and not solved properly. We need an in-depth understanding of the factors influencing these travel patterns and the extent to which these measures can change these conditions.

This paper should be of interest to transportation city planning, campus planners, transportation demand management coordinators, environmental advocates, and professionals engaged in implementing alternative strategies. Our reflections should also be relevant to other campus environments.

2. Methodology

To achieve the basic objective, it is estimated the need for a complete analysis and diagnosis of the UPV/EHU of San Sebastián, from the different angles of a Comprehensive Mobility, and at the same time, if necessary, propose strategies and possible actions that favor those transportation safer, sustainable, equitable and efficient.

The study will focus on the students who attend UPV/EHU. For data collection instrument used was a questionnaire, designed in the UPV/EHU. The questionnaire covers questions about habits, attitudes and desires of the people interviewed. To get the results, teachers of the University were interviewed personally with students. Once the data was collected, the next step was to write a report which contained the results and conclusions of the study.

Once given the current situation of students taking UPV/EHU, we proceed, using the results of the questionnaire, to analyze the group, in order to take radiography of the school to be able to act for the benefit of the university community, the city in which it is located and citizens live there.

3. Analysis of the current situation of students UPV/EHU

This section aims to diagnose student's situation of UPV/EHU of San Sebastian. The situation of these students is as follows (see Table 1).

Table 1
Sex of the students surveyed.

	Women	Men
Sex	68.2	31.8

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