

**PhD topic:** Developing Urban Transport in Turkey with Much Higher Dependence on Walking and Cycling

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### **Introduction and Background**

The transportation sector plays an important role in Turkey. The country is recently the sixth largest motor vehicle producer in Europe. Moreover, the number of automobiles in Turkey has been rapidly rising during the last decade. For example, according to Turkish Statistic Institute (2014), the number of passenger car increased from 4.4 million in 2000 to 9.4 million in 2013.

The sharp increase in passenger car number has created a variety of problems, particularly safety and environmental problems. For example, in 2000, nearly 4000 pedestrians and cyclists were killed in Turkey as a consequence of road crashes, contributing 26.0 percent of all road death (23.9% pedestrians; 2.1% cyclists). In addition, according to World Bank Data (2013), CO<sub>2</sub> emissions from road transport have increased by 37% from 33.3 to 45.7 million metric tons between 2000 and 2013.

Many Turkish cities have not set modal share goals for urban sustainable transport. Developing urban transport politically and publically in Turkey may mitigate road safety concerns for pedestrians and cyclists; reduce the number of passenger vehicles and thus lower local pollutions.

In order to meet this goal three objectives have been set:

- To make a local survey with pedestrians and cyclists in order to examine all sustainable transport indicators which affect the use of non-motorized transport mode and research to what extent the factors are effective in different cities.
- To specify three walking and cycling visions for transport and assess the feasibility of the visualisation images and animations with a set of people from different disciplines.
- To examine how different futures may be achieved for the real Turkish urban areas and develop local and national sustainable transport policies based on time series.

## Research Method

The methodology will consist of a mixed methodology and my approach consisted of: 1) a face to face questionnaire developed specifically for pedestrians, cyclists and non-cyclists; 2) a set of interviews with practitioners, historic and current transport experts, stakeholder, policy makers and public; 3) a software visualisation for observing and exploring walking and cycling commuting behaviour and mechanism in more depth throughout the research process.

## Contribution

Walking and cycling visions include public involvement in vision development, assess implications and reliability of the visions and identify key milestones of the visions in this research. This research finding also explores the general behavior of commuters and technological change and development progress in the Turkish transport system. Finally, allowing for greater knowledge and understanding of how sustainable transport policies are impacted as a result of sharp increase in the number of passenger car within the safety and environmental context that will allow this project to develop future sustainable transport policy based on time series.



Figure1: Turkish Cycling Protesters Call for Better Road Safety (Embarq, 2014)



Figure2. Present (left) and Future (right) Urban Design Model to Restrict Vehicles in Istanbul (Hurriyet, 2014)