

# Analyzing the effects of transport initiatives on the quality of urban environment: empirical results from Oporto Metropolitan Area

**Sandra Melo, Miguel Pimentel, Álvaro Costa**

CITTA – Research Centre for Territory, Transports and Environment. Faculty of Engineering, University of Porto  
smmelo@fe.up.pt, miguel.pimentel@hotmail.com, afcosta@fe.up.pt  
Phone/fax numbers: 00 351 225081512 - 00 351 225081486

The negative side of transport activities on the quality of life and on the attractiveness of urban areas has largely contributed to an increasing concern about the sustainability of these activities. Therefore, public authorities, assisted by urban planners and road managers, are currently faced with complex operational, design and management challenges. Traffic congestion makes cities less pleasant and reduces the efficiency of the transport system by increasing journey time, fuel consumption and driver stress. Thus, environmentally, economically and politically, it is important that the transport system is designed and used in the most effective way so that it satisfies the needs for personal and freight transport without creating unacceptable conditions. The paper presents the evaluation of some transport initiatives applied to Porto Metropolitan Area (Portugal) through the use of transport planning software. The objective is to analyze the mobility environmental impacts, with a special focus on freight transport, induced by some major European tendencies and policies. Results indicated that the analyzed policies can lead to social and environmental benefits and thus, increase the welfare of the society. Benefits at the operational level can also be achieved with the implementation of some of the scenarios, although more detailed studies should be carried out.

**Keywords:** freight transport; environment; traffic management.