



## Options for road user charges – two Italian case studies

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### Abstract

This paper discusses the impact that tolling schemes with a higher degree of differentiation of tariffs among demand categories can have on road demand. The question addressed in the paper is whether the differentiation of inter-urban road tolls can help to manage demand and meet targets like alleviating congestion, reducing emissions or making feasible project financing schemes, where toll revenues are used to cover construction and operating costs. The paper is mainly based on the results of the DIFFERENT research project, co-funded by the European Commission DG TREN, where a number of modelling tests have been carried out using two different transport network models. Based on modelling results we conclude that a trade-off between alternative targets of toll differentiation exists and that results vary according to the specific context of the application. In non-congested corridors charge differentiation can raise money, but there is little room for social benefits, whereas in congested areas travel speed on the road network can be improved by introducing charges on congested non-motorway links. Additionally, achievement of benefits from differentiated charges may require the co-ordinated introduction of charges on ordinary roads as well as on motorways.

*Keywords:* Road charging; Modelling; Project financing; Transport externalities.

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### 1. Introduction

Motorways tolls are already applied in many European countries to contribute to finance the total operating cost, including investment and return on investment, for the various concessionaires. Countrywide toll schemes, with some levels of differentiation, have been recently introduced on German, Czech and Austrian motorways and on the road network of Switzerland. Rules for road charges in Europe are going to be changed on the basis of the EC strategy for the internalisation of external costs of all modes of transport, as specified in the Greening Transport Package issued on July 2008. It is then expected that higher degrees of tolls differentiation will be soon introduced in the European road network.

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