

Chapter 16

Assessing Urban Transportation Development: Sustainable Transportation Perspectives for Istanbul, Turkey

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ABSTRACT

UN Population Revisions indicate that more than 50% of the world's population has lived in 'urban' areas since 2008 and much of the future 'urban' population increase will be absorbed more by the few metropolitan areas of rapidly growing developing countries (UN, 2008). Due to the accelerated urban growth and uncontrolled urban dispersion through naturally significant peripheral areas, sustainable urban growth management becomes a critical urban development policy in Istanbul. In this respect, the interaction among urban growth, urban transportation, rational land use allocations and sustainable transportation policies has an important role to achieve more sustainable urban development in Istanbul. Istanbul set a unique example of urban spatial development/urban transportation interaction with Bosphorus bridges and the connecting highways. This chapter first addresses urban spatial dispersion and transportation development interaction with special emphasis on the existing and proposed Bosphorus Bridges, and then correlates the results with the recent Transportation Master Plan and Environmental Master Plan. Although the latest Environmental Master Plan prepared by Istanbul Metropolitan Municipality foresights the progression of public transit systems and no third bridge

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crossing on Bosphorus, there is a top-down impact for the third bridge crossing and a road tunnel on Bosphorus by the Central Government. Due to the interaction among spatial dispersion, transportation development and existing infrastructure, proposed bridges, their connected highways and flyovers – as well as recent transportation investments of the Istanbul Metropolitan Municipality – are assessed under the light of sustainable urban transportation policies.

INTRODUCTION

‘The battle for sustainable development will be won or lost in cities’ (UNCHS, 1996)

The UN Commission on Sustainable Development (CSD) gives the framework of ‘the mission of sustainable development’ with comprehensive goals to be achieved by the world states. Because of unsustainable development and consumption habits which have originated in urban areas, global policies need to be related to local level programs. The Sustainable Cities Program, the Local Agenda 21, the Healthy Cities Program, the Ecocity Program, the Green Cities Network and many other initiatives are pursuing programs on the environment and sustainable development. This is because the earth requires immediate and more sustainable experiences – especially in relation to the urban way of life – as a result of climate change, and the lack and extinction of resources. There is growing concern about ways to improve urban resilience and sustainability, and the vulnerability of urban spatial and social environments in regard to urban development uncertainties is being exposed (Berkes *et al.*, 2008). Under these circumstances, being one of the major resource consumption and pollution sources, transportation is of growing concern in the sustainable development paradigm. CSD ‘urban planning’ and ‘urban transportation’ reports declare that transportation is a key consideration in achieving more sustainable developments in a rapidly urbanizing world (UN CSD, 2005).

The Amsterdam Treaty has had a significant role in promoting the integration of environmental

and sectoral policies as the way forward to sustainable development in the EU members or associated countries. At the Cardiff Summit in 1998 the European Council requested the commission and the transport ministers of the member states to focus their efforts on developing integrated transport and environmental strategies in keeping with policies and programs for sustainable transportation. This effort resulted in the establishment of the Transport and Environment Reporting Mechanism (TERM) at the European Environment Agency (EEA), and enabled policy-makers to adapt their future policies and programs in accordance with these strategies and to monitor the progress of their integration with measurable criteria. In this document, 31 key indicators were identified to address the most important aspects of transport and the environment system – Driving forces, Pressures, State of the environment, Impacts, and societal Responses, known as the DPSIR framework. These were identified under the framework of seven key integration questions related to: environmental performance; transport demand and modal split; coordination of spatial and transport planning; better use of existing transportation infrastructure; efficient pricing system; technological improvements; and environmental management and monitoring. These questions were put forward to better understand the interaction between environment and transport by including eco-efficient (more welfare from less nature) and accountable indicators. Some of these key indicators which are related to environmental quality, social equity and economic efficiency are selected to outline the base of the comparative assessment of Istanbul’s sustainable urban transportation network planning policies (Table 1, EEA, 2000).

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