

# TeMA

Journal of  
Land Use, Mobility and Environment

There are a number of different future-city visions being developed around the world at the moment: one of them is Smart Cities: ICT and big data availability may contribute to better understand and plan the city, improving efficiency, equity and quality of life. But these visions of utopia need an urgent reality check: this is one of the future challenges that Smart Cities have to face.

Tema is the Journal of Land use, Mobility and Environment and offers papers with a unified approach to planning and mobility. TeMA Journal has also received the Sparc Europe Seal of Open Access Journals released by Scholarly Publishing and Academic Resources Coalition (SPARC Europe) and the Directory of Open Access Journals (DOAJ).



CITIES, ENERGY AND MOBILITY



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3 (2015)

**Published by**

Laboratory of Land Use Mobility and Environment  
DICEA - Department of Civil, Architectural and Environmental Engineering  
University of Naples "Federico II"

TeMA is realized by CAB - Center for Libraries at "Federico II" University of Naples using Open Journal System

Editor-in-chief: Rocco Papa  
print ISSN 1970-9889 | on line ISSN 1970-9870  
Licence: Cancelleria del Tribunale di Napoli, n° 6 of 29/01/2008

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Cover image is from <https://www.pexels.com/photo/london-telephone-booth-long-exposure-lights-6618/>

TeMA. Journal of Land Use, Mobility and Environment offers researches, applications and contributions with a unified approach to planning and mobility and publishes original inter-disciplinary papers on the interaction of transport, land use and environment. Domains include: engineering, planning, modeling, behavior, economics, geography, regional science, sociology, architecture and design, network science and complex systems.

The Italian *National Agency for the Evaluation of Universities and Research Institutes* (ANVUR) classified TeMA as scientific journal in the Area 08. TeMA has also received the *Sparc Europe Seal for Open Access Journals* released by *Scholarly Publishing and Academic Resources Coalition* (SPARC Europe) and the *Directory of Open Access Journals* (DOAJ). TeMA is published under a Creative Commons Attribution 3.0 License and is blind peer reviewed at least by two referees selected among high-profile scientists. TeMA has been published since 2007 and is indexed in the main bibliographical databases and it is present in the catalogues of hundreds of academic and research libraries worldwide.

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## EDITORIAL PREFACE:

### CITIES, ENERGY AND MOBILITY: STRATEGIES FOR CONSUMPTIONS' REDUCTION

ROCCO PAPA

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Transport energy consumption accounts for about one third of total energy consumption in the EU. Despite significant advances in technology, energy consumption in transport sector has increased in most EU countries in the last three decades. Long-term forecasts (up to 2030) estimate that energy consumption will further increase in all economic sectors, experiencing the most rapid growth in the transport one.

This issue of TeMA is focused on approaches, methods, techniques and tools related to urban and regional mobility with regards to energy consumption reduction and saving. In details the issues proposes articles on strategies and practices for energy consumptions' reduction, low carbon emissions for public and individual transport modes.

The section "Focus" collects four articles. The first one, titled "A Markov Chain Model of Land Use Change" by Michael Iacono, David Levinson, Ahmed El-Geneidy, Rania Wasfi, presents an example of a modelling framework based on Markov chain approach. The model assumes that land use at any given time, which is viewed as a discrete state, can be considered a function of only its previous state. To illustrate this process, a Markov chain model is estimated for the Minneapolis-St. Paul, MN, USA (Twin Cities) metropolitan region. Using a unique set of historical land use data covering several years between 1958 and 2005, the model is tested using historical data to predict recent conditions, and is then used to forecast the future distribution of land use decades into the future.

The second article, titled "A Tool For Appraising Mobility Environment With A Percept Based Index Measure" by Abdulmajeed Olaremi Shittu and Muhammad Zaly Shah (Universiti Teknologi Malaysia) addresses the issues of complexities and data dirtiness in mobility analysis and proposes a new methodology to assess travelers' perception of "mobility environments". The proposed methodology involved a two-pronged survey of transport professionals and randomly sampled travelers. Authors propose an application to the metropolitan area of Ilorin in Nigeria. The results of the methodology's implementation reveals that a high activity mix, high road and pedestrian network density are perceived by travelers as a good mobility enhancing qualities a city should possess. However, aggregate indexing indicated that enhancing development characteristics, mode characteristics, travel and economic attributes, are the most important for the study area. The methodology laid out in this paper is targeted at facilitating the development of cost effective means of identifying urban mobility challenges by local authorities and can provide an alternate

assessments procedure aimed at simplifying mobility planning decision making, especially where the normal range of required data and information to run sophisticated mobility evaluations are lacking.

The third article, titled "A Land-Use Approach for Capturing Future Trip Generating Poles" by Iraklisis Stamos, Aifadopoulou Georgia, Evangelos Mitsakis, Maria Morfoulaki and Iasonas Tamiakis (Centre for Research and Technology, Hellas) deals with the integration of land-use and transportation planning and proposes an integrated methodology for estimating trip generating poles. The proposed methodology consists of three steps: i) the identification of trip-generating poles; ii) the development of scenarios related to the probability of these changes occurring and their potential magnitude and iii) an estimation of future trends in passenger flows. Authors apply the methodology to the Metropolitan area of Thessaloniki, Greece. Using a wide range of data obtained from different sources including development plans, national statistical services and research projects' and studies' findings, the study estimates trip-generation subsequent to land use changes within the study area. The results of the application in the case study of Thessaloniki reveals that the creation of new trip generating poles and the increase of trips' generation and distribution is correlated with the type of land use development and modifications as well as changes in provided transport services. The results of the study is assessed by local experts, representing various key-disciplines of the area's planning stakeholders, resulting in useful outcomes. The methodology laid out in this paper can be applied as a useful evaluation tool that can support planners and decision makers in the development of integrated land-use and transportation policies.

The fourth article titled "Tourism and Mobility. Best Practices and Conditions to Improve Urban Livability" presented by Rosa Anna La Rocca. This paper considers the relation between tourism and mobility and tries to highlight how tourism can act as a driving urban function in order to promote more sustainable lifestyles. Tourism and mobility are strictly connected: moving from the usual residential place for leisure or entertainment represents the essential condition of tourism. There is no tourism without physical displacements, as the WTO definition affirms, highlighting that the movement of people is connected to two different mobility forms.

The section "Land Use, Mobility and Environment" contains the article "Council tax policies and territorial governance: analysis and outlook of a difficult relationship" by Simone Rusci from University of Pisa in Italy. The article examines the connections between fiscal policies and urban planning, focusing on different types of taxes and discussing the aspects that have come to influence planning practice. In particular, the article analyzes from an urban planning viewpoint the consequences of new fiscal instruments on planning, paying special attention not only to problems, but also to unexpressed potential in management tools: urban equalization above all, transfer of development rights, and land consumption mitigation measures.

The section "Review Pages" defines the general framework of the issue's theme, with an updated focus on websites, publications, laws, urban practices and news and events on the subject of energy reduction consumption in the transport sector. In particular, the Web section by Raffaella Niglio describes three web resources: i) the Transport Research and Innovation Portal; ii) the Bump mobility website and iii) the Eltis portal. The Books section by Gerardo Carpentieri briefly reviews three relevant books related to the Issues' theme: i) "50 BIG IDEAS - Shaping the Future of Electric Mobility"; ii) "Urban Mobility in the Smart City Age" and iii) "Smart and Sustainable Logistics for a Competitive Europe". The Law section by Laura Russo keeps readers up to date with recent European directives on sustainable mobility. The Urban Practices section by Gennaro Angiello presents two relevant case studies of sustainable city logistic solutions: i) The Cityporto of Padova in Italy and ii) the Elcidis Urban Consolidation Center of La Rochelle in France. Finally, the News and Event section by Andrea Tulisi reports on five conferences related to the Issue's theme that will be held in 2016.