

# 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 CLIMATE CHANGE

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1 (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 realised 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: digital processing Raffaella Niglio, image Paolo De Stefano

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.

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## EDITORIAL PREFACE:

### CITIES, ENERGY AND CLIMATE CHANGE

ROCCO PAPA

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Urban population is rapidly reaching two thirds of the global population; thus, cities are the core of a change that need to be driven: the rapid urban population growth involve a large energy consumption and high greenhouses gas emissions which drive cities to face environmental challenges like as climate changes and energy resources' scarcity. As remarked by the last Report of the United Nations on Sustainable Development, climate change is one of the greatest challenges of our time and adequate strategies capable of mitigating and adapting to its impacts represents an immediate and urgent global priority. This issue of the TeMA focuses on the topic of Cities, Energy and Climate Change, focusing on current strategies addressed to mitigation and adaptation.

The first article of this issue, titled "The Padanian LiMeS. Spatial Interpretation of Local GHG Emission Data" by Michèle Pezzagno and Marco Rosini focuses on the relevant role of spatial planning in the enforcement of climate change mitigation that could have a part in managing the development of new low-carbon infrastructures and increasing system-wide efficiencies across sectors, has been addressed at global level (IPCC, 2014 WGIII). The paper then stress on the role of local GHG inventories as a tool towards the definition of a coherent, inter-sectorial background for local planning, mitigation, and adaptation policies. Taking advantage of consistent GHG emissions data availability in the Lombard context, the article links local maps of direct GHG emissions with geographic data, including municipal boundaries, population data, and land-use information, produced and organized within the research PRIN 2007 "From metropolitan city to metropolitan corridor: the case of the Po Valley Corridor". The results of this mapping exercise have been evaluated on the background of consolidated knowledge about northern Italy urban patterns, including the Linear Metropolitan System – LiMeS – and preliminary observations about characteristics, potential, and limits of the tool are proposed.

The second article titled "Smart and Resilient Cities. A Systemic Approach for Developing Cross-sectorial Strategies in the Face of Climate Change" by Rocco Papa, Adriana Galderisi, Maria Cristina Vigo Majello and Erika Saretta focuses on the Smart City and Resilient City concepts. The article, based on the review of existing literature, analyses the synergies between the two concepts, highlighting how the Smart City concept is more and more widely interpreted as a process addressed to make cities "more liveable and resilient and, hence, able to respond quicker to new challenges" (Kunzmann, 2014). Nevertheless, current initiatives to improve cities' smartness and resilience in the European cities are very fragmented and

operational tools capable to support multi-objective strategies are still at an early stage. To fill this gap, embracing a systemic perspective, the paper identifies and arranges into a conceptual model, main characteristics of a smart and resilient urban system. The latter represents a preliminary step for the development of an operational tool capable to guide planners and decision-makers in carrying out multi-objective strategies addressed to enhance the response capacities of complex urban systems in the face of climate change.

The third article by Thomas Hartmann and Tejo Spit titled, "Implementing European climate adaptation policy. How local policymakers react to European policy", uses two Dutch cities as an empirical base to evaluate the influence of two EU climate adaptation projects on both the experience of local public officials and the adaptive capacity in the respective cities. The main conclusion is that EU climate adaptation projects do not automatically lead to an increased adaptive capacity in the cities involved. This is due to the political opportunistic use of EU funding, which hampers the implementation of climate adaptation policies. Furthermore, these EU projects draw attention away from local network building focused on the development and implementation of climate adaptation policies. These factors have a negative cumulative impact on the performance of these transnational policy networks at the adaptive capacity level in the cities involved. Therefore, in order to strengthen the adaptive capacity in today's European cities, a context-specific, integrative approach in urban planning is needed at all spatial levels. Hence, policy entrepreneurs should aim to create linkage between the issues in the transnational city network and the concerns in local politics and local networks.

The section Land-use, Mobility and Environment collect two articles. The first one titled Interactivity of Web GIS for the Simulation of Land Development by Tullia Valeria Di Giacomo focuses on the spatial data knowledge and the development of new ICT solutions, which can guide the planner towards strategic, reliable and shared decisions. The paper proposes a methodology useful to specialize the special approach established in previous projects developed by extending and implementing GIS technology Geographic Information System towards online interoperability. The control of the effects of changes in land use in environmental quality, particularly in the water resources management, can thus become operational in the network through the application of innovative tools able to meet the new challenges of urban regeneration. In the same section, the article titled "Cycle sustainability" by Francesca Pirlone and, Selena Candia shows the sustainability of cycling according to socio-economic (social and economic sustainability) and environmental terms (environmental sustainability), thought a CBA (Cost and Benefits Analysis) methodology specific to evidence the advantages of investments in cycling made by public authorities or private companies both, to promote and realize ecological infrastructures.

Finally, the Review Pages define the general framework of the theme of Smart City Environmental Challenges with an updated focus of websites, publications, laws, urban practices and news and events on this subject.

## REFERENCES

Kunzmann, K.R (2014). Smart Cities: A New Paradigm of Urban Development. *Crios*, 1/2014, pp. 9-20, doi: 10.7373/77140.