

TeMA

Journal of
Land Use, Mobility and Environment

The 10th volume of the TeMA Journal will promote the debate on the definition and the implementation of methods, tools and best practices aimed at improving energy efficiency at the neighbourhood level while increasing the capacity of urban systems to adapt to natural changes and/or man-made changes.

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).



METHODS, TOOLS AND BEST PRACTICES TO INCREASE THE CAPACITY
OF URBAN SYSTEMS TO ADAPT TO NATURAL AND MAN-MADE CHANGES

Vol.10 n.2 August 2017

print ISSN 1970-9889 e-ISSN 1970-9870
University of Naples Federico II

METHODS, TOOLS AND BEST PRACTICES TO INCREASE THE CAPACITY OF URBAN SYSTEMS TO ADAPT TO NATURAL AND MAN-MADE CHANGES

2 (2017)

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

Editorial correspondence

Laboratory of Land Use Mobility and Environment
DICEA - Department of Civil, Architectural and Environmental Engineering
University of Naples "Federico II"
Piazzale Tecchio, 80
80125 Naples
web: www.tema.unina.it
e-mail: redazione.tema@unina.it

Cover Image: Tabiat pedestrian bridge in Tehran, Iran by Leila Araghian from Diba Tensile Architecture – Photo by Mohammad Hassan

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.

EDITOR IN-CHIEF

Rocco Papa, University of Naples Federico II, Italy

EDITORIAL ADVISORY BOARD

Mir Ali, University of Illinois, USA

Luca Bertolini, University of Amsterdam, Netherlands

Luuk Boelens, Ghent University, Belgium

Dino Borri, Polytechnic University of Bari, Italy

Enrique Calderon, Polytechnic University of Madrid, Spain

Roberto Camagni, Polytechnic University of Milan, Italy

Derrick De Kerckhove, University of Toronto, Canada

Mark Deakin, Edinburgh Napier University, Scotland

Aharon Kellerman, University of Haifa, Israel

Nicos Komninos, Aristotle University of Thessaloniki, Greece

David Matthew Levinson, University of Minnesota, USA

Paolo Malanima, Magna Græcia University of Catanzaro, Italy

Agostino Nuzzolo, Tor Vergata University of Rome, Italy

Rocco Papa, University of Naples Federico II, Italy

Serge Salat, Urban Morphology and Complex Systems Institute, France

Mattheos Santamouris, National Kapodistrian University of Athens, Greece

Ali Soltani, Shiraz University, Iran

ASSOCIATE EDITORS

Rosaria Battarra, National Research Council Institute of Studies on Mediterranean Societies, Italy

Luigi dell'Olio, University of Cantabria, Spain

Romano Fistola, University of Sannio, Italy

Carmela Gargiulo, University of Naples Federico II, Italy

Thomas Hartmann, Utrecht University, Netherlands

Markus Hesse, University of Luxemburg, Luxemburg

Seda Kundak, Technical University of Istanbul, Turkey

Rosa Anna La Rocca, University of Naples Federico II, Italy

Houshmand Ebrahimpour Masoumi, Technical University of Berlin, Germany

Giuseppe Mazzeo, National Research Council Institute of Studies on Mediterranean Societies, Italy

Nicola Morelli, Aalborg University, Denmark

Enrica Papa, University of Westminster, United Kingdom

Dorina Pojani, University of Queensland, Australia

Floriana Zucaro, University of Naples Federico II, Italy

EDITORIAL STAFF

Gennaro Angiello, PhD student at University of Naples Federico II, Italy

Gerardo Carpentieri, PhD student at University of Naples Federico II, Italy

Stefano Franco, PhD student at Luiss University Rome, Italy

Marco Raimondo, Engineer, University of Sannio, Italy

Laura Russo, PhD student at University of Naples Federico II, Italy

Maria Rosa Tremitera, PhD student at University of Naples Federico II, Italy

Andrea Tulisi, PhD at Second University of Naples, Italy

METHODS, TOOLS AND BEST PRACTICES TO INCREASE
THE CAPACITY OF URBAN SYSTEMS TO ADAPT TO
NATURAL AND MAN-MADE CHANGES
2 (2017)

Contents

- 137** EDITORIAL PREFACE
Rocco Papa

FOCUS

- 139** **The End-Use Electric Energy Consumption in Urban Areas: a GIS-Based Methodology**
Gerardo Carpentieri, Federica Favo

LAND USE, MOBILITY AND ENVIRONMENT

- 157** **Between Community Spaces: Squares of Minor Centers of Calabria**
Mauro Francini, Rosario Chimirri, Annunziata Palermo, Maria Francesca Viapiana
- 179** **Urban Green Network Design: Defining Green Network from an Urban Planning Perspective**
Andrea Tulisi
- 193** **Decision-Making Tools for Urban Regeneration Processes: from Stakeholders Analysis to Stated Preference Methods**
Marta Bottero, Giulio Mondini, Giulia Datola
- 213** **Metropolitan Governance for Territorial Cohesion**
Francesca Pirlone, Ilenia Spadaro, Selena Candia

229 REVIEW PAGES

Gennaro Angiello, Gerardo Carpentieri,
Maria Rosa Tremiterra, Laura Russo, Andrea Tulisi

TeMA

Journal of
Land Use, Mobility and Environment

EDITORIAL PREFACE: TEMA JOURNAL OF LAND USE MOBILITY AND ENVIRONMENT 2 (2017)

METHODS, TOOLS AND BEST PRACTICES TO INCREASE THE CAPACITY OF URBAN SYSTEMS TO ADAPT TO NATURAL AND MAN-MADE CHANGES

ROCCO PAPA

DICEA - Department of Civil, Architectural and Environmental Engineering

University of Naples Federico II

e-mail: rpapa@unina.it

The 10th volume of TeMA Journal, given the relevance of the topics, dedicates the three issues of 2017 to promote the scientific debate on the definition and the implementation of methods, tools and best practices aimed at improving, in the forthcoming decades, the capacity of the urban areas to cope a range of climate, technological and socio-economic challenges that will require the development of integrated and adaptive strategies. The articles published in this second issue address some themes, such as the resilience capacity of urban system, the energy consumption, the geographical information system, the community spaces, the urban green network design, the urban regeneration processes and the territorial cohesion.

The section "Focus" contains the article "The End-use Electric Energy Consumption in Urban Areas: A GIS-based methodology. An application in the city of Naples." by Gerardo Carpentieri and Federica Favo (University of Naples Federico II) offers a GIS-based methodology that allows the knowledge, classification and representation of end-use electric energy consumption by the use of Big and Open Data. The results constitute a cognitive asset that local administrations can use to improve the energy sustainability, by providing the classification and representation of electric energy consumption for domestic and non-domestic users.

The section "Land Use, Mobility and Environment" collects four articles. The first one, titled "Between Community Spaces. Squares of Minor Centers of Calabria", by Mauro Francini, Rosario Chimirri, Annunziata Palermo and Maria Francesca Viapiana (University of Calabria), analyse the theme of "community spaces" or public spaces has led, in recent years, to important interdisciplinary issues also if the reading of smaller towns, in city planning, historical-anthropological and geographical terms appears less extended. For this reason, the paper introduces the first results of a research that want to reinterpret the specific characteristics of these areas in small towns placing the region of Calabria. Through this reading the authors want to emphasise how urban planning, in synergy with other disciplines, can operate to give back to these spaces the meaning of "center", or urban-community landmark.

The second article, titled "Urban Green Network Design: Defining green network from an urban planning perspective", by Andrea Tulisi (University of Naples Federico II), provides a lexical analysis of the literature on the urban green network from an urban planning perspective. In order to overcome the ambiguities of the literature in handling both terms of the concept "green network", the paper suggests a unique definition

of the terms that takes into account both the network system theory and greenspaces as public services in the wider perspective of ecosystem services

The third article, titled "Metropolitan Governance for Territorial Cohesion", by Francesca Pirlone, Ilenia Spadaro and Selena Candia (University of Genoa), analyses in deep the case of the Italian metropolitan cities proposing a new governance approach to increase the capacity of urban systems to adapt to natural and man-made changes, considering the hinterland as a strong point rather than a disadvantage. Strategic and spatial plans drive the growth of metropolitan areas in a competitive space-economy and support sustainable development policy by ensuring a balance between urban areas with strong competitiveness and inland areas.

The fourth article, titled "Decision-making tools for urban regeneration processes: from Stakeholders Analysis to Stated Preference Methods", by Marta Bottero, Giulio Mondini and Giulia Datola (Politecnico di Torino), proposes an integrated evaluation approach for addressing decision problems in the context of urban regeneration operations. Starting from the real case of the regeneration programme of the city of Collegno (Italy), the contribution proposes an original evaluation model based on the combined use of Stakeholders Analysis and Stated Preference Methods.

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 Maria Rosa Tremiterra describes three web resources of: (i) European Climate Adaptation Platform; (ii) U.S. Climate Resilience Toolkit and (iii) Resiliencetools.org – Empowering Resilient Cities. The Books section by Gerardo Carpentieri briefly reviews three relevant books related to the Issues' theme: (i) Evaluating Urban Resilience to Climate Change: A Multi-Sector Approach; (ii) Urban Perspectives: Climate Change, Migration, Planning and Finance - A New Generation of Ideas and (iii) Integrating Land Use, Transport and Energy Planning. The Law section by Laura Russo keeps readers up to date with comparison between two legislative documents, in order to highlight the main innovations and present the key planning instruments (England and Nederland). The Urban Practices section by Gennaro Angiello presents two Car-Sharing Italian case study: (i) Milano and (ii) Rome. The News and Event section by Andrea Tulisi, proposes a selection of conferences on the topic of decision support tools where developed for supporting adaptation and mitigation policies at urban scale.