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NEW CHALLENGES FOR XXI CENTURY CITIES

Multilevel scientific approach to impacts of global warming on urban areas,
energy transition, optimisation of land use and emergency scenario

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TeMA Journal was established with the primary objective of fostering and strengthening the integration between urban transformation studies and those focused on mobility governance, in all their aspects, with a view to environmental sustainability. The three issues of the 2025 volume of TeMA Journal propose articles that deal with the effects of Global warming, reduction of energy consumption, immigration flows, optimization of land use, analysis and evaluation of civil protection plans in areas especially vulnerable to natural disasters and multilevel governance approach to adaptation.

TeMA is the Journal of Land Use, Mobility and Environment and offers papers with a unified approach to planning, mobility and environmental sustainability. With ANVUR resolution of April 2020, TeMA journal and the articles published from 2016 are included in the A category of scientific journals. The articles are included in main scientific database as Scopus (from 2023), Web of Science (from 2015) and the Directory of Open Access Journals (DOAJ). It is included in Sparc Europe Seal of Open Access Journals, and the Directory of Open Access Journals.

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The cover image shows a composition of two photos of the Temple of Serapis in Pozzuoli (Italy). Giuseppe Mazzeo took them in January 2009 and March 2025. At the top, the 2009 image shows the temple flooded, with the pavement not visible. In the down, the 2025 image shows the temple's pavement dry and exposed. The Temple of Serapis is one of the leading visual indicators of the bradyseism phenomenon in the Phlegraean Fields. The bradyseism phase, highlighted by comparison, started in the first years of this century, as shown by the data published by the National Institute of Geophysics and Volcanology (INGV) on the website dedicated to the phenomena (<https://www.ov.ingv.it/index.php/il-bradisismo>).

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.

With ANVUR resolution of April 2020, TeMA Journal and the articles published from 2016 are included in A category of scientific journals. The articles published on TeMA are included in main international scientific database as Scopus (from 2023), Web of Science (from 2015) and the *Directory of Open Access Journals* (DOAJ). TeMA Journal has also received the *Sparc Europe Seal* for Open Access Journals released by *Scholarly Publishing and Academic Resources Coalition* (SPARC Europe). TeMA is published under a Creative Commons Attribution 4.0 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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TeMA – Journal of Land Use Mobility and Environment

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TeMA Journal was established with the primary objective of fostering and strengthening the integration between urban transformation studies and those focused on mobility governance in all their aspects, with a view to environmental sustainability. In other words, the mission of this initiative is to contribute to developing a novel theoretical and methodological framework that transcends the boundaries separating these research domains and develops innovative solutions for issues currently being addressed with methods and techniques rooted in the scientific culture of the last century.

The three issues of the 2025 volume of TeMA Journal propose articles that deal with the effects of Global warming, reduction of energy consumption, immigration flows, optimization of land use, analysis and evaluation of civil protection plans in areas especially vulnerable to natural disasters and multilevel governance approach to adaptation.

In this issue, the section "Focus" contains three researches.

The first paper, titled "Situating walkability examining walkability elements of recurring routes" by Jani Tartia (Tampere University in Finland), highlights that the walkability elements can act as important anchoring points in the study of the body-environment relations in the context of the habitual everyday urban mobility. The importance of 'imageability' and 'complexity' elements is discussed, as well as the role of temporality and 'rhythm' in the walking experience.

The second contribution is "Definition of spatio-temporal levels of accessibility. Isochronous analysis of regional transport networks", by Annunziata Palermo, Gaetano Tucci, and Lucia Chieffallo (University of Calabria in Italy) analyses analytically the levels of accessibility of individual administrative units to the main transport networks. To this end, a semi-automated method in GIS environment for the definition of municipal levels of space-time accessibility is proposed based on an isochronic analysis conducted on access nodes to major transport, motorway and rail networks, at the territorial scale.

The last contribution of the section is "The impact of transportation planning on agricultural areas and plant health: a case study of Antalya/Konyaaltı West Ring Road" by Engin Kepenek, Engin Kepenek, and Şerife Betül Çetinkaya (Akdeniz University in Turkey). This research analyzes the West Ring Road in the Konyaaltı district (Antalya), where a similar situation is experienced, and the surrounding agricultural areas. It is claimed that the agricultural lands around the West Ring Road have lost their agricultural quality.

The section "LUME" (Land Use, Mobility and Environment) contains three articles.

The first contribution is "Campi Flegrei and the Metropolitan Area of Naples. Emergency" by Giuseppe Mazzeo (Pegaso University in Italy). This study analyzes and evaluate the emergency planning tool developed for the Red Zone of Campi Flegrei. To achieve this result, a comparative methodology is used. This approach is based on the analysis of various national and international sources, from which the main elements that

should be included in an emergency plan are extracted. These general elements are then compared with the contents of the emergency plan for the Campi Flegrei.

The second contribution is "Revitalising abandoned historical districts. Application of an incremental and adaptive approach to regeneration" by Diksha Dody, Daniele Ronsivalle, and Maurizio Carta (University of Palermo in Italy). The article addresses the challenge of balancing heritage conservation with contemporary urban innovation. Previous approaches have often overlooked the need for integrated strategies. This study applies the Cityforming Protocol, an incremental methodology that reconnects urban infrastructures (blue, green, grey, brown, and red systems) to restore urban metabolism.

The third article, "Mobilising equity. Emerging evidence for integrating vulnerable communities" by Irina di Ruocco (University of Insubria in Italy), throughs a literature review, analyses emerging research evidence on transportation for vulnerable groups, emphasizing the need to integrate technological solutions for individuals with reduced mobility into digital mobility platforms and land-use planning. The study highlights the lack of focus on rural regions and diverse vulnerable groups, stressing the importance of better integrating technology and land-use planning to improve transportation accessibility.

The fourth article of the section, "Multilevel governance approach to adaptation. The construction of the Italian mid-Adriatic green infrastructure", by Rosalba D'Onofrio, Timothy Daniel Brownlee, Chiara Camaioni, Jonatha Cecchi, Roberta Cocci Grifoni, Simone Malavolta, Graziano Enzo Marchesani (University of Camerino in Italy), aims to investigate the enabling factors and obstacles of a multilevel approach in adaptation governance in the Life+A_GreeNet project territory and possible public and private strategies to be deployed to overcome the criticalities of possible integration and to enhance the potential of network governance at the territorial and urban scale, with possible forms of replicability in other Italian and European contexts.

The Review Notes section proposes five insights on the themes of the TeMA Journal. The Urban planning practice section of Review Notes, "Urban energy transition between regulatory evolution and scientific production: a bibliometric analysis", by Valerio Martinelli, explores how scientific research on urban energy transition has evolved alongside European climate policies. It highlights the role of urban governance and planning in supporting decarbonisation through tools like Positive Energy Districts and Renewable Energy Communities. These models integrate innovation with citizen engagement and local energy autonomy. The second section, "Digitalization in urban planning: a framework to realize smart cities", by Annunziata D'Amico, illustrates the key strategies and main programs implemented by the European Union and other International Organizations to promote the digital transformation of cities to make them "smart" and sustainable. The third contribution, "Competitive climate adaptation. Italian startups leading the way to adaptation to climate change in cities", by Stella Pennino, examines the role of climate-oriented startups in fostering urban adaptation and competitiveness, outlining their strategic potential and discussing key Italian case studies. The fourth section, "Exploring open and green space characteristics for climate change adaptation: a focus on the urban heat island", by Tonia Stiuso, provides an in-depth analysis of emerging issues in urban planning, mobility and the environment. This issue aims to explore how different characteristics of open and green spaces contribute to climate adaptation. By examining recent books, journals and reports, the aim is to shed light on effective approaches and innovative strategies to deal with heat islands (UHI). The last section, "Global warming reports: a critical overview of IGOs publications", by Laura Ascione, aims to examine reports produced by International Governmental Organizations (IGOs), analyzing their approach, findings, and potential limitations.

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