

# A FRAMEWORK OF THERMAL SENSITIVE URBAN DESIGN BENCHMARKS: POTENTIATING THE LONGEVITY OF AUCKLAND'S PUBLIC REALM

A. Santos Nouri<sup>1 2</sup>

<sup>1</sup> Faculty of Architecture, University of Lisbon – Doctoral Candidate

<sup>2</sup> School of Architecture and Planning, University of Auckland – Visiting Doctoral Fellow

One of the key objectives of contemporary urban design is to ensure the quality and activity within urban public spaces. Presented as a progressively emerging paradigm in this process, the effects of urban climatology are increasingly elucidating the need for further climate responsive environments.

Having the possibility to contribute to the quality of life within cities, there is a strong developing interest in the quality of urban public spaces due to their role in establishing microclimatic thermal comfort levels (Katzschner, 2006). Moreover, this interest is one that shall increase along with the progression of climate change effects upon outdoor environments.

Nevertheless, it is often that climatic assessments lack bottom-up climatic indicators, tools and practical benchmarks (Matzarakis and Amelung, 2008). As a result, this obstructs local decision making, and practices of localised adaptive design.

This paper is launched with the view that the sustainable development of a city primarily depends on the capacity of architects and urban designers to offer outdoor urban spaces with high environmental quality. In this scope, the multifaceted practice of microclimatic attenuation plays a fundamental role (Reiter and Herde, 2011).

Accordingly, these interdisciplinary professions are now challenged with overcoming the distinct fissure between climatic knowledge and physical application. In an effort to address such discrepancies, the paper launches a framework of international precedents of built and conceptual projects that address thermal comfort levels in public spaces. This organisation will be cross-referenced with theory that supports its structure and typological division.

With Auckland as the focal case study, the solutions that are extracted from the framework will be hypothetically scrutinised in terms of options for alleviating given events of increased temperature and heat waves within the city. In this way, microclimatic concerns are hence framed into an opportunity to potentiating the use, and longevity, of Auckland's public realm.

---

Andre Santos Nouri – [andrenouri09@live.co.uk](mailto:andrenouri09@live.co.uk)

300 words

Katzschner, L. (2006). Microclimatic thermal comfort analysis in cities for urban planning and open space design London, Network for Comfort and Energy Use in Buildings NCUB.

Matzarakis, A. and B. Amelung (2008). Physiological Equivalent Temperature as Indicator for Impacts of Climate Change on Thermal Comfort of Humans Seasonal forecasts, climatic change and human health. Advances in global research 30. T. M. e. al. Berlin, Springer: pp. 161-172.

Reiter, S. and A. d. Herde (2011). Qualitative and quantitative criteria for comfortable urban public spaces. Proceedings of the 2nd International Conference on Building Physics, ORBi.