Wednesday, February 26, 2025

ADEPT President's Awards 2025

Entry form

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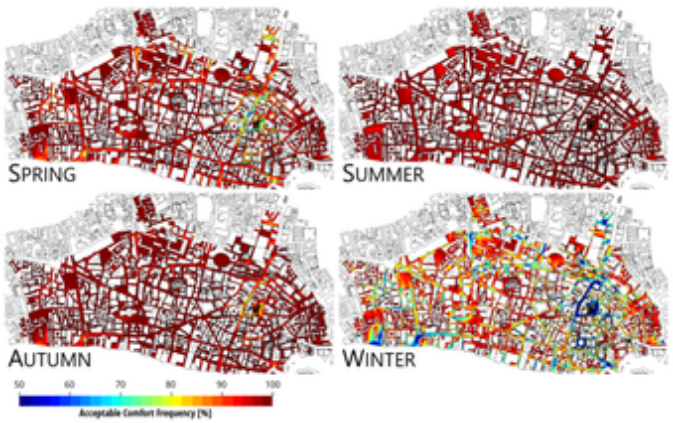
Phone Number	(07872) 007972
Award category	Innovation in Place-shaping
Project Title	Thermal Comfort Modelling and Guidelines
Local authority entrant	City of London
Partner/s if applicable	RWDI

Please note we need at least one supporting image per award submission. Upload your image/s below.



Video - please paste links to any video evidence here. (Leave blank if not relevant.)

https://www.youtube.com/watch?v=ShJKxR-l_mg

Innovation in place-shaping: How has this project used digital innovation and/or the imaginative use of new or existing technology? (150 words max.)

The City's Thermal Comfort Guidelines is an internationally ground-breaking new planning tool, new to the British Planning system. It is a digital, algorithm based technical holistic tool which enhances the understanding of the microclimatic qualities of public spaces and provides methodology to assess the impact of developments on the microclimate.

The technique involves merging complex wind, sunlight, temperature and humidity microclimate data at a seasonal level to obtain a holistic understanding of Thermal Comfort, how a microclimatic character of a place actually feels to the public.

The data is collated through 3D Digital modelling, Computer Fluid Dynamics, climatic data, Wind Tunnel testing and humidity modelling which are combined in an algorithm-based series of metrics and criteria. It is innovative and imaginative as it quantifies how a human experiences the microclimate, the "real feel"

factor across seasons. The criteria is used to ensure decisions address future heat stress from Climate change.

Innovation in place-shaping: How has this project shown evidence of improved outcomes for users? (150 words max.)

The Thermal Comfort Guidelines enables the City to proactively negotiate schemes by ensuring the scale and massing of buildings do not diminish public realm such as sunlight levels or causes undesirable wind conditions and other microclimatic impacts. It is also a key planning tool in negotiating free to visit elevated public spaces.

It enables the City to ensure developments exploit, enhance and enlarge high quality sunny tranquil public spaces ensuring dwell uses such as parks, cafes and play areas are located to exploit such areas minimizing both heat and cold seasonal stress. After initial piloting the technique, Thermal Comfort is now an integral part of the planning process on applications, policy and public realm schemes. Schemes which have been developed through Thermal Comfort modelling are delivering public realm of the highest quality microclimatic conditions, prioritising pedestrians and cycling delivering a more humane, gentler City whilst being resilient to Climate Change.

Innovation in place-shaping: How has this project shown evidence of the transformation of a service/department/organisation by changing behaviours, delivering savings or improving ways of working? (150 words max.)

The development of the internationally ground-breaking, award-winning Thermal Comfort Guidelines was a product of many years of microclimatic impact research by the City's Planning Team. This began with the City publishing the UK's first and award-winning Wind Microclimate Guidelines to improve the rigour of assessments. This research heralded a cultural transformation as the City developed a breed of planning officers who were proactive (not reactive) with an appetite for innovation, risk and groundbreaking research to enable better quality and resilient planning decisions, creating clarity to applicants.

The Thermal Comfort Guidelines deliver the highest possible quality of public realm, both at ground floor and elevated levels and forged the City's radical and award-winning policy to re-imagine the public realm delivering free to visit inclusive elevated public roof gardens and terraces, democratising the best views for all to enjoy. A major social transformation of the City as an inclusive place for all.

Innovation in place-shaping: How can the innovation/technology in this project be applied in multiple sectors/areas? (150 words max.)

Thermal Comfort modelling was initially intended to be a ground-breaking tool to deliver better outcomes in negotiating planning schemes. It soon became obvious that Thermal Comfort had the potential to be applied to multiple areas. For example, the Thermal Comfort modelling research identified areas of heat stress in hot summers and future global temperature increases were modelled revealing the future heat stress map of the City which in turn facilitated the Cool Street projected for tree planting and landscaping as part of the City's Climate Action and Resilience Strategy. Thermal Comfort identified the tall buildings cluster as an area of cooler retreat in heat stress conditions but conversely identified winter cold stress issues.
Thermal Comfort modelling is now integral in developing public realm schemes and creating a high-quality environment for pedestrians and cyclists as part of the City's Transport Strategy and is now widely used by the development industry

Innovation in place-shaping: How does this project demonstrate scalability and resilience - the ability to use technology in a wider scope and in a way that encourages longevity of use? (150 words max.)

Thermal Comfort modelling has transformed how planning authorities and developers now consider the microclimate. The quantifying of the "real feel" microclimate of a place as a human experience is ground-breaking. The use of Thermal Comfort modelling has particularly been invaluable in predicting the impact of temperature increases as part of Climate Change resilience on the liveability of the City. Future scenario modelling of these impacts on the thermal comfort of the City in hot summers has resulted in a future heat stress map of the City enabling decisions on Cool Streets interventions now, such as tree planting and negotiating the massing of schemes to create benign wind conditions which not only cool with

breezes but disperse air pollution. Computer Fluid Dynamics research by the City identifies the tall building cluster's role in dispersing air pollution but also drawing down cooler, cleaner high-level air, cleaning and cooling this part of London.

All categories: please add anything else that supports your award entry

Thermal Comfort modelling and the resultant guidelines is an internationally ground-breaking new Planning tool which uses climate and microclimatic data to index the "Real Feel" microclimatic comfort of a place to inform planning policies, assessment of development schemes and the design of public realm schemes. The sophisticated methodology was developed through collaborative workshops with the UK's leading microclimatic experts using Computer Fluid Dynamics, 3D Digital modelling as well as future Climate Change forecasting using climatic data.

As such it is not only a radical and innovative and unique tool in delivering developments and public realm schemes but also a valuable tool in forecasting Climate change impacts ensuring Climate Change resilience measures can be developed at the present to address future challenges.