

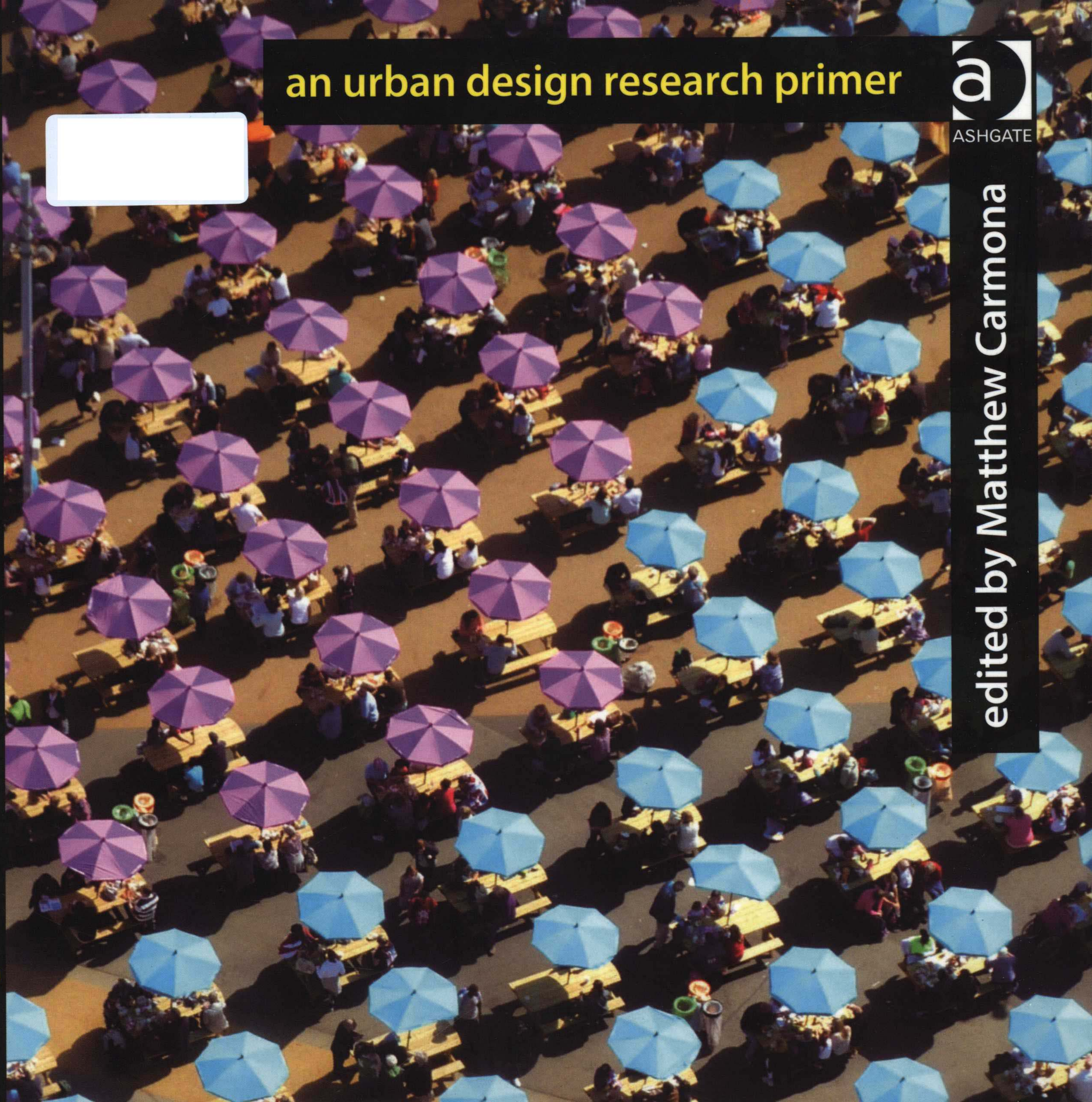
Explorations in Urban Design

an urban design research primer



ASHGATE

edited by Matthew Carmona



Whilst recognising that distinctly different traditions exist within the study and practice of urban design, this book advances an interdisciplinary and innovative approach, which is of direct importance to understanding the urban forms, conditions, practices and processes of the discipline. It enthuses and inspires users who are grappling with urban design research problems, but who need inspiration to move from idea to methodological approach.

Through the work of 32 urban researchers from the arts, sciences and social sciences, it demonstrates a wide range of problems and approaches and shows how the diverse range of complementary approaches can come together to provide a holistic understanding to the design of cities. While each of the contributors presents a particular approach to researching the field, sometimes focusing centrally on particular research methodologies, others cutting across methods, or focusing on theory, all include discussion of actual research projects to illustrate their application to 'real world' problems. This book will be valuable to everyone from the informed undergraduate student about to embark on their first dissertation, to PhD students and seasoned researchers immersed in methodological and conceptual complexity and wishing to compare available and appropriate methodological paths.

This book explores a very wide range of recent research into urban design emanating from the diverse and prestigious Bartlett School at UCL. Edited by Matthew Carmona, who provides a 'mainstream' perspective on divergent approaches, this book will encourage graduate students in urban design everywhere to explore simultaneously new research perspectives and techniques.

John Punter, Cardiff University, UK

This well-illustrated volume edited by Matthew Carmona lifts the state of the art in urban design research and scholarship to a new height. This primer offers intriguing new methods and technologies for conducting research on urban form, urbanism and the processes of urban design. It is an exciting and unique contribution to the expanding scope of theory and practice – a must read for students, scholars and practitioners.

Tridib Banerjee, University of Southern California, USA

Cover image © Matthew Carmona.

ASHGATE Ashgate Publishing Limited Wey Court East, Union Road, Farnham, Surrey, GU9 7PT, England www.ashgate.com	ISBN 978-1-4094-6265-1  9 781409 462651
---	--

EXPLORATIONS IN URBAN DESIGN

An Urban Design Research Primer

Edited by

MATTHEW CARMONA

ASHGATE

© Matthew Carmona and the contributors 2014

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.

Matthew Carmona has asserted his right under the Copyright, Designs and Patents Act, 1988, to be identified as the editor of this work.

Published by
Ashgate Publishing Limited
Wey Court East
Union Road
Farnham
Surrey, GU9 7PT
England

Ashgate Publishing Company
110 Cherry Street
Suite 3-1
Burlington
VT 05401-3818
USA

www.ashgate.com

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library.

The Library of Congress has cataloged the printed edition as follows:

Explorations in urban design : an urban design research primer / [edited] by Matthew Carmona.

pages cm

Includes bibliographical references and index.

ISBN 978-1-4094-6264-4 (hardback)—ISBN 978-1-4094-6265-1 (pbk)—ISBN 978-1-4094-6266-8 (ebook)—ISBN 978-1-4724-0789-4 (epub)

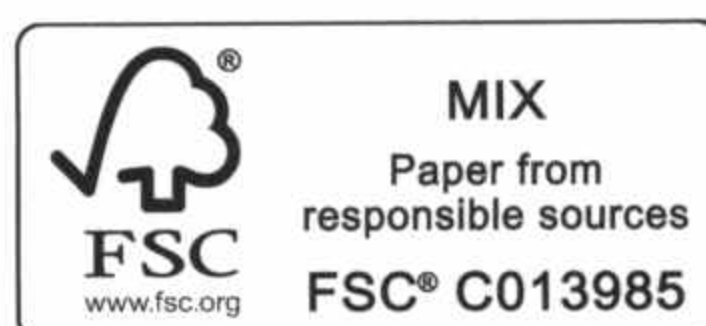
1. City planning. 2. City planning—Research. I. Carmona, Matthew.

HT166.E97 2014

307.1'216—dc23

2013041847

ISBN 9781409462644 (hbk)
ISBN 9781409462651 (pbk)
ISBN 9781409462668 (ebk – PDF)



Printed in the United Kingdom by Henry Ling Limited,
at the Dorset Press, Dorchester, DT1 1HD

EXPLORATIONS IN URBAN DESIGN

To Barbara and Rafael Carmona



List of Contributors

EDITOR

Matthew Carmona is Professor of Planning and Urban Design at UCL's Bartlett School of Planning which he headed from 2003 to 2011. His research has focused on processes of design governance and on the design and management of public space. He was educated at the University of Nottingham and is a chartered architect and planner. Matthew has published widely in the areas of urban design, design policy and governance, housing design and development, measuring quality and performance in planning, the management of public space, and on design and planning processes in London. His books include: *Capital Spaces* (2012); *Public Places Urban Spaces* (2010), *Public Space: The Management Dimension* (2008), *Urban Design Reader* (2007), *Measuring Quality in Planning* (2004), *Delivering New Homes* (2003), *The Value of Urban Design* (2001), *Housing Design Quality* (2001), and *The Design Dimension of Planning* (1997). He is Director of The Bartlett's Master of Research (MRes) Inter-disciplinary Urban Design.

CONTRIBUTORS

Kinda Al-Sayed is a Teaching Fellow on the MSc Advanced Architectural Studies and the MSc Adaptive Architecture and Computation at The Bartlett. Kinda is an architect and artist by background and started pursuing scientific research in 2006. Her main research focus area is complexity modelling of urban dynamics although other areas of interest include modelling creativity and knowledge in the design process, and modelling behavioural dynamics in physical and cyber spaces. She has also worked on human-computer interaction on an urban scale and on modelling crime-space relationships in London.

Pushpa Arabindoo is a lecturer in Geography and Urban Design at UCL's Department of Geography, and a co-director of the UCL Urban Laboratory. She trained in architecture and urban design before completing her PhD in Planning at the London School of Economics. Pushpa's empirical research involves ethnographic investigations of urban transformations in the Indian city of Chennai, ranging from slum evictions and middle-class politics to ecological imaginations. She has also been probing the interdisciplinary nature of urban studies and its tenuous link with allied disciplines from the arts, humanities and engineering through her engagement with the MSc Urban Studies programme at UCL.

Camillo Boano is Senior Lecturer in the Development Planning Unit, UCL, where he directs the MSc in Building and Urban Design in Development and co-directs the UCL Urban Lab. A qualified architect with an MSc in Urban Development and a PhD in Planning, he has over 18 years of experience in research, consultancy and development work in South America, the Middle East, Eastern Europe and South East Asia. As an academic interested in practice, Camillo combines interests

in critical architecture, spatial production, transformations, urbanism within the exceptional circumstances of disasters, conflicts and informality. More recently his work has been directed to the reconstruction of design through dissensus, calling for a deeper reorientation between politics and aesthetics, and drawing on the theoretical constructions of Lefebvre, Foucault, and Rancière

Iain Borden is Professor of Architecture and Urban Culture at the Bartlett School of Architecture, UCL. Iain is also Vice-Dean for Communications for the Bartlett Faculty of the Built Environment. His wide-ranging research includes explorations of architecture in relation to cities and public space, film and photography, critical theory and philosophy, and human bodies and spatial experiences. He has authored and co-edited a range of books including *Drive: Journeys through Film, Cities and Landscapes* (2012), *Bartlett Designs: Speculating With Architecture* (2009), *Skateboarding Space and the City* (2001) and *InterSections: Architectural Histories and Critical Theories* (2000).

Elisabete Cidre is Senior Teaching Fellow in Urban Design and Director of Undergraduate Programmes at UCL's Bartlett School of Planning. Elisabete's research, practice and teaching interests focus on: urban design (policy, practice and education), urban heritage conservation, public space and place making, and on reflective learning practice and procedures in built environment academia. Her PhD in Town Planning & Urban Design looked at planning for public realm conservation in the World Heritage cities of Portugal. Elisabete was educated as an architect and urban designer in Portugal and as a planner in the UK.

Ben Croxford is Senior Lecturer and Director of the MSc Environmental Design and Engineering at UCL's Bartlett School of Graduate Studies. His research is focused on air pollution and more recently on how low energy buildings are actually being used. Ben has been involved in air pollution research since joining The Bartlett in 1994, firstly developing air pollution monitoring equipment and focusing on outdoor air pollution in the street, using carbon monoxide as a proxy. More recently his research has focused on energy use in buildings with papers on topics as varied as the cost benefit of renewable energy systems to secondary glazing for churches. Currently he is monitoring a TSB Retrofit for the future home, investigating how the occupants are learning to live in a low energy house.

Terry Farrell is Visiting Professor at the UCL's Bartlett School of Planning. As the Principal of Farrells, Sir Terry is considered to be the UK's leading architect-planner. He has been responsible for a continuing stream of major award-winning buildings and masterplans including Greenwich Peninsula and Regent's Place in London and Kowloon Station in Hong Kong. Current projects include strategic masterplans for Park Royal and Old Oak Common together with Earls Court and Convoys Wharf, all in London. Sir Terry is a Design Advisor to the Mayor of London and Design Champion for the Thames Estuary. Alongside his project work, he maintains an active portfolio of scholarly enquiries and has published widely from this work, including *Shaping London, the Patterns and Forms that Make the Metropolis* (2010).

Melissa García Lamarca is a graduate of the Building and Urban Design in Development MSc (2009) and in 2012 Melissa was a Teaching Fellow at UCL's Development Planning Unit. She has a BA in Geography and Economics from McGill University (2001) and a Graduate Diploma in Community Economic Development from Concordia (2003). Melissa has worked and

taught in the field of organisational and urban sustainability for over a decade and is currently a PhD student at the University of Manchester's School of Environment and Development researching the institutionalisation of insurgent claims in urban development. She is a regular contributor to Polis, a collaborative blog on cities.

Sam Griffiths is a lecturer in Spatial Theory and Urban Morphology at UCL's Bartlett School of Graduate Studies. He has taught space syntax on the School's MSc Advanced Architectural Studies programme since 2009. With an academic background in urban history Sam is interested in the potential of space syntax as an interdisciplinary domain for built environment and design research. He has published on various aspects of space syntax theory and methodology and has a research interest in the historical spatial cultures of suburbs and industrial cities. From 2010–12 he was the Editor of *Urban Design International*.

Ian Hamilton is a researcher at the UCL Energy Institute in the Bartlett Faculty of the Built Environment. Ian's academic work is focused on energy use in the urban environment. His research has included investigation on the impact of energy efficient interventions in the domestic stock; analysis of temporal and spatial energy use within the urban environment and its impact on the local climate; the impact of occupant behaviour on energy use; domestic stock energy use modelling; and, the integration of renewable energy into the urban form. Ian is the module tutor for the Environmental Masterplanning module on the MSc Environmental Design and Engineering.

Michael Hebbert is Professor of Town Planning at UCL's Bartlett School of Planning. Michael is an Oxford undergraduate who specialized in pre-medieval history before undertaking a PhD at the University of Reading that explored the history of modern planning theory. He is a founder-member of the International Planning History Society and edits its affiliated journal *Planning Perspectives*; it is dedicated to putting past and present into perspective, which is how he approaches the task of urban design research. He has published widely in many areas, including his seminal work on London: *London, More by Fortune than Design* (1998).

Andrew Hudson-Smith is a Reader in Digital Urban Systems and also Director and Deputy Chair of UCL's Centre for Advanced Spatial Analysis (CASA) at The Bartlett. With a research focus on location based digital technologies he has been at the forefront of web 2.0 technologies for communication, outreach and developing a unique contribution to knowledge. He is author of the Digital Urban Blog – <http://www.digitalurban.org> – and his contribution to knowledge and outreach in the fields of digital geography, urban planning and the built environment have been wide ranging, and have featured widely in the international media. Andy is a Fellow of the Royal Society of Arts.

William Hunter is a Teaching Fellow at the Bartlett's Development Planning Unit. William is a trained architect and urban designer with international experience in New York, Zurich, London, Mumbai, Istanbul, and throughout Southeast Asia. He has worked for Studio Daniel Libeskind, Foster & Partners, and Heatherwick Studio and is now researching alternative urban development strategies in the Global South. His interests revolve around the processes of contested urbanism, critical regionalism, spatial politics, and critical design praxis.

Peter Jones is Professor of Transport and Sustainable Development in the Centre for Transport Studies at UCL. He has researched extensively into public attitudes to travel behaviour and lifestyles, the development and effectiveness of transport policy, more holistic street planning and design, and methods of public engagement, and has been involved in advances in survey methods, project appraisal and data analysis. Peter is a member of the Independent Transport Commission, the Urban Design Panel of the Chartered Institution of Highways and Transportation, and the Mayor for London's Roads Task Force.

Aurore Julien is a Teaching Fellow at UCL's Bartlett School of Graduate Studies. Aurore has 12 years' experience as a sustainability consultant with a specialism in green and energy efficient building design. She has been working on a wide variety of projects, ranging from schools, hospitals, offices, residential developments and masterplans in the UK and internationally. She now teaches Environmental Masterplanning at UCL and is a freelance consultant and doctoral researcher at the UCL Energy Institute. Her academic research interests relate to energy saving behaviours and energy security, and urban sustainability.

Kayvan Karimi is Senior Lecturer at UCL's Bartlett School of Graduate Studies and Director of Space Syntax Ltd, a UCL knowledge transfer company that specialises in providing strategic, evidence-based advice on architectural and urban design, planning, transport and property development. Kayvan has worked on a wide range of research and consultancy projects, including: strategic city planning, city centre redevelopment, urban conservation and urban regeneration, large-scale urban masterplanning, slum regeneration, large-scale commercial developments, public realm design, pedestrian movement planning, and complex building projects.

Adrian Lahoud is a Reader at UCL's Bartlett School of Architecture and Director of the MArch Urban Design. Adrian's research focuses on questions of scale. His PhD thesis 'The Problem of Scale: the City, the Territory, the Planetary' proposes the emergence of scale as a spatial, epistemological and political problem. Prior to this, he guest edited a special issue of *Architectural Design* titled 'Post-traumatic Urbanism', exploring the relationship between crisis, conflict and the city. His curatorial practice with the collective 'N' has been exhibited internationally, most recently in the Gwanju Design Biennale and the Prague Quadrennial. In 2012 he was named as guest curator of the Think Space cycle of architectural competitions.

CJ Lim is Professor of Architecture and Urbanism at UCL's Bartlett School of Architecture and former Vice Dean (International). CJ's designs focus on multi-disciplinary innovative interpretations of cultural, social and environmental sustainability programmes including recent award winning eco-cities for the Chinese and Korean Governments, and 'Virtually Venice' commissioned by the British Council for the UK pavilion at the 2004 Venice Architecture Biennale. He has authored 11 books including *Smartcities + Eco-warriors* (2010) and *Short Stories: London in Two-and-a-Half Dimensions* (2011). He is Founding Director of Studio 8 Architects.

Stephen Marshall is a Reader in Urban Morphology and Planning at UCL's Bartlett School of Planning. His principal research interests are in urban morphology and street layout, and their relationships with urban design, coding and planning, and other urban formative processes. Dr Marshall has written or edited several books relating to urban design, including *Streets*

and *Patterns* (2005), *Cities, Design and Evolution* (2009) and *Urban Coding and Planning* (2011). He was Chair of the journal *Urban Design and Planning* from its inception (2007) until 2012 and is now joint Editor of *Built Environment*.

Paula Morais is a Teaching Fellow in Urban Design and International Planning at the Bartlett School of Planning, UCL. Paula is currently finishing a PhD on contemporary urban public space at The Bartlett where she co-founded and then coordinated (until October 2011) the China Planning Research Group (CPRG). Presently she is also a Research Officer at the London School of Economics (LSE) for the EU-FP7 URBACHINA research project looking at sustainable urbanisation in China. Trained originally as an architect at the University of Porto, Paula has worked in several architectural practices, including her own in Lisbon with Bernardo Falcão de Azevedo. She is a board member of Architects Sans Frontiers and a Fellow of the Higher Education Academy.

Graciela Moreno is a Teaching Fellow at UCL's Bartlett Faculty of Built Environment and was the MArch Urban Design Coordinator and History and Theory tutor between 2008 and 2012. She has also taught at undergraduate level at The Bartlett and on the Bartlett School of Architecture Summer School. She holds a DipArch from the ETSA (Seville) and an MArch in Urban Design from the Bartlett School of Architecture. She is currently pursuing her PhD at the Bartlett School of Graduate Studies which follows her principal research interest in the area of urban form and structure. She has worked as an urban designer at SOM and Terry Farrell and Partners.

Jane Rendell is Professor of Architecture and Art in UCL's Bartlett School of Architecture and, until recently, Vice Dean of Research. Jane is a writer and architectural historian, theorist and designer, whose work explores interdisciplinary intersections between architecture, art, feminism and psychoanalysis. Her authored books include *Site-Writing* (2010), *Art and Architecture* (2006), and *The Pursuit of Pleasure* (2002) and she is completing a new book on transitional spaces provisionally titled *May Mo(u)rn*. She is co-editor of *Pattern* (2007), *Critical Architecture* (2007), *Spatial Imagination* (2005), *The Unknown City* (2001), *Intersections* (2000), *Gender, Space, Architecture* (1999) and *Strangely Familiar* (1995).

Anna Schulenburg is a Graduate Teaching Assistant on the MSc Building and Urban Design in Development at UCL's Development Planning Unit, from which she also graduated. She is an architect with over 10 years of practice experience and previously taught as design tutor at the University of Nottingham. Anna has worked on projects in Burkina Faso, South Africa, the UK, the US, Germany and Hungary where her projects have focused on participatory design and building solutions with communities, and on social sustainability, education and heritage projects. Her research interests include urban informality, low-income housing interventions, social innovation, and the role of urban design for social transformation.

Philip Steadman is Emeritus Professor of Urban and Built Form Studies at UCL's Bartlett Faculty of the Built Environment, and Research Fellow at the UCL Energy Institute. Philip studied architecture at the University of Cambridge, and has taught at Cambridge, the Open University and UCL. His research has been diverse but has included a body of work on the morphology of buildings and cities, especially in relation to their use of energy. He has published many books, including: *The Geometry of Environment* (with Lionel March, 1971); *Architectural Morphology* (1983); *The Evolution of Designs: Biological Analogy in*

Architecture and the Applied Arts (1979 and 2008); and *Vermeer's Camera* (2001). He is presently working on *Building Types and Built Forms*.

Quentin Stevens is a Reader in Urban Design at UCL's Bartlett School of Planning. Quentin has degrees in architecture and planning and is currently based at RMIT University in Australia researching visitor behaviour around contemporary public memorials. He has held major grants from the Australian Research Council and Germany's Alexander von Humboldt Foundation and is author of *The Ludic City: Exploring the Potential of Public Spaces* (2007) and *Spaces of Engagement: Memorial Design, Use and Meaning* (with Karen Franck) (forthcoming); and co-editor of *Loose Space: Possibility and Diversity in Urban Life* (2006) and *Transforming Urban Waterfronts: Fixity and Flow* (2010).

Mark Sutton is a Research Fellow at the University of Sussex. Mark divides his time between the university and CERN where he works on the trigger for the ATLAS detector at the Large Hadron Collider. He has extensive experience working with, and implementing, simulation frameworks for both the generation of physics processes and the behaviour of detector systems and the flow of information within them.

Tse-Hui Teh is a lecturer in Urban Design and Planning at UCL's Bartlett School of Planning. Hui was conferred her PhD from the Department of Civil Environmental and Geomatic Engineering at UCL. She has a Master's degree in architecture and urban design from Columbia University and an architectural degree from the University of Technology Sydney. Prior to becoming an academic she worked professionally in Sydney. Her current research interests develop the content and theoretical framework of her PhD and she is currently investigating the retrofit of dry sanitation and water reuse in London, the retrofit of micro-energy generation systems and urban spaces that improve wellbeing.

Laura Vaughan is Professor of Urban Form and Society at the UCL Bartlett Faculty of the Built Environment, where she teaches on the MSc Spatial Design: Architecture and Cities. She studied Environmental Design at the Bezalel Academy of Art and Design, Jerusalem and she has an MSc Advanced Architectural Studies and PhD in Architecture from UCL. Since joining UCL in 2001 Laura has used space syntax in a series of multi-disciplinary research projects to study the relationship between micro- and macro-scales of urban form and society, focusing on a range of critical aspects of urbanism today including on town centre adaptability and socio-spatial segregation. Her work addresses the inherent complexity of the urban environment both theoretically and methodologically

Andrew Wade, after graduating from the MSc Building and Urban Design in Development programme at UCL's Development Planning Unit, was appointed Postgraduate Teaching Assistant. Previously Andrew studied at the McGill University School of Architecture in Montréal before coming to the Development Planning Unit. He has critically investigated planning and development issues in New Orleans, São Paulo, Cape Town and Hanoi and during 2012 acted as a travelling faculty member for the International Honors Program 'Cities in the 21st Century'.

Filipa Wunderlich is a lecturer in Urban Design at UCL's Bartlett School of Planning. Her research has focused on place-temporality and the rhythmicity of everyday urban places, on walking and the urban design process, and on public space

quality and performance. Filipa is an architect urban designer and was educated at the University of Porto, the Technical University of Delft and UCL from where she holds a PhD. After completing her PhD she worked as a Research Associate exploring public spaces in London as a result of which she co-authored *Capital Spaces: The Multiple Complex Public Spaces of a Global City* with Matthew Carmona (2012).

Antoine Zammit completed his PhD in planning and urban design at UCL's Bartlett School of Planning in 2013, where he was also a Postgraduate Teaching Assistant. He is the founding architect and urban designer of the Malta-based practice studjurban, having worked on projects in Malta, Italy and the Republic of Ireland for the past 12 years. He lectures in spatial planning and urban design at the Faculty for the Built Environment of the University of Malta and is actively involved in urban design debates through his engagement within the Maltese Chamber of Architects and Civil Engineers, the Malta Environment and Planning Authority and the Urban Issues Work Group of the Architects' Council of Europe.



Acknowledgements

Many thanks to all my colleagues who have contributed to this book. Their enthusiasm and willingness to participate sustained the project (and me) from start to finish.

Also particular thanks to the Dean of The Bartlett, Professor Alan Penn, for financially supporting the colour production of the book, and to Val Rose and all at Ashgate for backing the project so wholeheartedly.

Matthew Carmona
London

Contents

<i>List of Figures</i>	ix
<i>List of Contributors</i>	xvii
<i>Acknowledgements</i>	xxv
1 Investigating urban design <i>Matthew Carmona</i>	1
PART I PHILOSOPHICAL APPROACHES	
<i>Using theory and critique to understand urban design processes and outcomes and the rationale, purpose and nature of urban design</i>	
2 The role of risk in urban design <i>Iain Borden</i>	15
3 Deconstructing and recalibrating urban design in the global south <i>Camillo Boano, Melissa García Lamarca and Andrew Wade</i>	25
4 The politics of space production: the case of Macau, China <i>Paula Morais</i>	35
5 Urban design in the realm of urban studies <i>Pushpa Arabindoo</i>	47
6 Place-temporality and rhythmicity: a new aesthetic and methodological foundation for urban design theory and practice <i>Filipa Wunderlich</i>	59