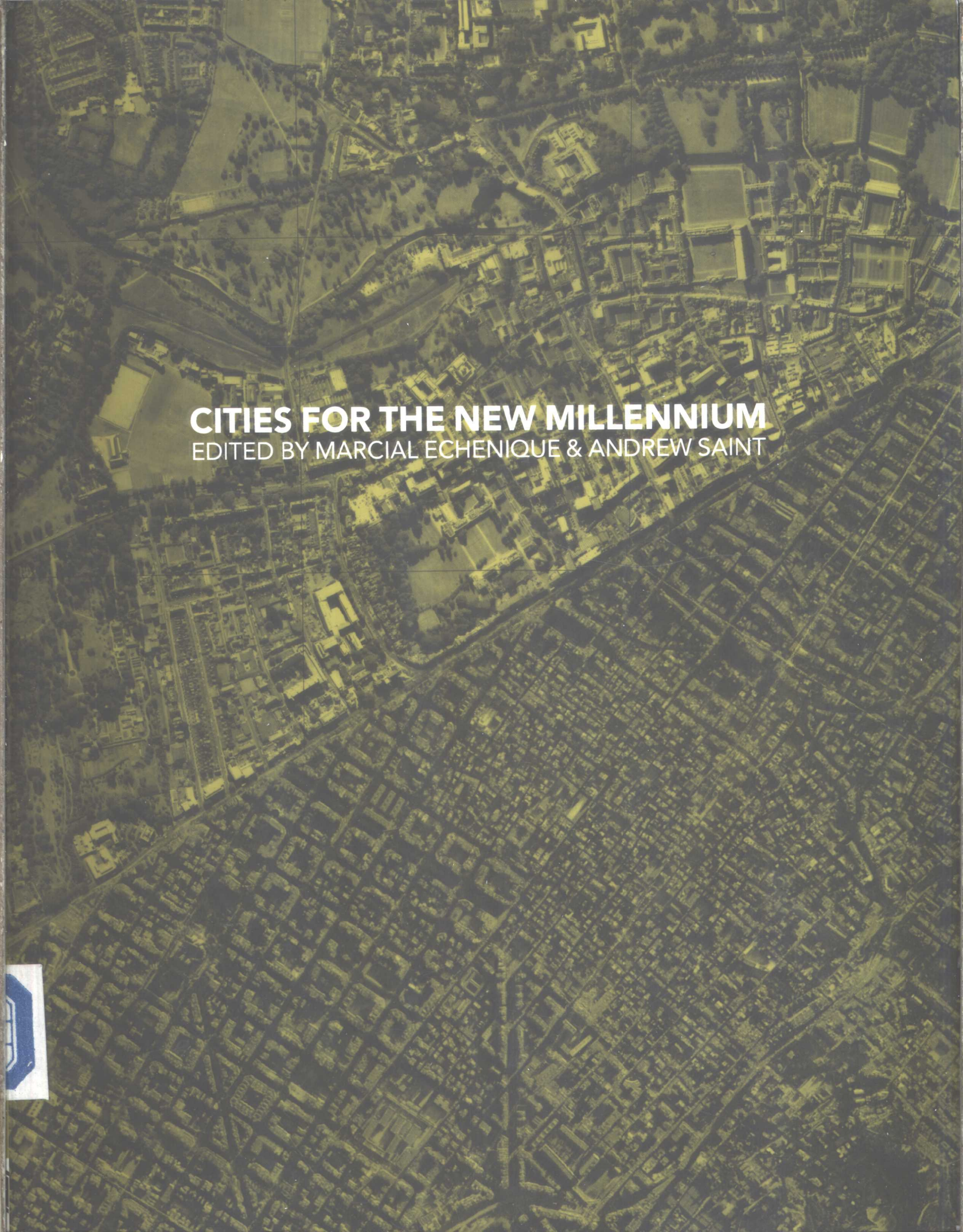

CITIES FOR THE NEW MILLENNIUM

EDITED BY MARCIAL ECHENIQUE & ANDREW SAINT

Cities for the New Millennium

Edited by
Marcial Echenique and Andrew Saint

First published 2001
by Spon Press
11 New Fetter Lane, London EC4P 4EE

Simultaneously published in the USA and Canada
by Spon Press
29 West 35th Street, New York, NY 10001

Spon Press is an imprint of the Taylor & Francis Group

Typeset by Samantha Lawton, Cambridge
Printed and bound in Great Britain by St Edmundsbury Press, Bury St Edmunds, Suffolk

Publisher's Note:
This book has been prepared from camera-ready copy provided by the editors

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
A catalog record for this book has been requested

ISBN 0-415-23183-3

Credits for Illustrations

Cover: City of Barcelona; and Geoinformation Group, Cambridge

Compaction

Burdett & Rogers: Figs. 1, 5-6, Andrew Saint; 2, Martin Bond/Environmental Images; 3, George R. Sims, *Living London*; 4, Richard Burdett; 7, Andrew Wright Associates for the Urban Task Force.

Travers: Fig. 1, London Transport Museum; 2, Administrative County of London Development Plan, 1951; 3, Andrew Saint.

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Cooke: Figs. 1-8, Catherine Cooke.

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Preface

Cities for the New Millennium is the direct outcome of the CITY 2K Conference held in Salford in July 2000. That event was the first conference to be sponsored by the Royal Institute of British Architects for many years, the first to be mounted jointly by the Institute and a university department of architecture, and the first occasion on which the profession had debated the issues raised in the Urban Task Force's report. It has also led to another 'first' – the publication of the major contributions in the form of this book, edited by Marcial Echenique and Andrew Saint of the University of Cambridge and published by Spon.

No one can doubt that the problem of our cities and settlements represents one of the greatest challenges of our time. How we accommodate new buildings – whether on 'brown' or 'green' land – and how we arrest or adjust to urban decline elsewhere has become the subject of public protests and political programmes. A matter, moreover, complicated by issues of sustainability, infrastructure and movement – all of which demand interdisciplinary solutions.

Both at the conference and in the chapters of this book, the conflict between the 'knowledge' of those academics and practitioners who have specialised in land use and transport, and the 'belief' of those (mainly architects) who champion the diversity and vitality of the city is apparent. Somewhere between the two, lies the work undertaken in another even more densely populated country, the Netherlands. We welcome this breadth of opinion and the debate it engenders – precision, passion and pragmatism may be uncomfortable bedfellows but, combined, will surely lead us to creative solutions.

Peter Carolin
University of Cambridge, Department of Architecture

Marco Goldschmied
President, Royal Institute of British Architects

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Introduction

Marcial Echenique and Andrew Saint

The papers that make up this book largely follow the model and sequence of the conference entitled CITY 2K+ held in Salford in July 2000, at which most of them were presented. They are organised in five sections. The first two deal with the shape of cities in the future, which can be broadly described as either compact or dispersed cities. The case for compaction is made in the first section, the authors who contribute to this group arguing from an environmental, social and economic point of view that the city ought to be dense, compact and distinct from the countryside. In the second section, a contrary case is argued by a group of authors who stress the nature of the city as it is today, and seek to demonstrate that there is a logic behind the dispersed form of cities. Section 3 illustrates examples of urban transformation in different places within cities: from regeneration of inner areas to development on greenfield sites. Section 4 deals with technical questions for the city of tomorrow, concentrating on planning whole countries and infrastructure, energy use and risk assessment. The final section draws lessons from history on the evolution of three cities: Edinburgh, London and Moscow.

Since the conference, the British Government's Department of Environment, Transport and the Regions has published the 'White Paper' (policy) entitled *Our Towns and Cities: The Future – Delivering an Urban Renaissance* (HMSO, 2000). The relationship of this report to the debates during the conference and the papers now published is a striking one. At first sight, the analytical chapters of the White Paper appear to support the arguments spelt out in Section 2 of this book – the case for dispersal. It shows that cities are decentralising with people moving out of cities in search of better lifestyles and better jobs. The pattern is for low-density living, mainly in individual houses (81%) with higher-income groups opting for non-metropolitan living, even if this implies more distance to travel. And yet the policy recommendations of the White Paper aim at reversing the trend, by giving support to the case for compacting cities as argued in Section 1 below.

Here is an illustration of how an agreed analysis may lead to almost opposite policies. For some, the existence of a proven and important trend in planning may be something to acquiesce in, work with and perhaps even welcome. Others may construe that same trend as an evil which has to be reversed with every possible weapon in the armoury of persuasion and policy. It is with this dialectic in mind that the papers in Sections 1 and 2 may most profitably be read.

In the first essay in the opening section on compaction, *Rogers and Burdett* argue strongly for cramming more development into the city and for making public spaces of a higher density and quality which will make urban living attractive, ecologically sustainable, economically strong and socially inclusive. While this argument relies mainly on the inherent attractions of the city, the authors also claim that we are 'devouring the countryside at an alarming rate'. This may perhaps need to be set against the urban White Paper, which states that '80% of us live in cities and towns of over 10,000 people but these only cover some 7% of our land', and that 'England is physically a rural country'.

The social inclusion theme is taken up by *Sennett* in the paper that follows. This contends that cities have strong virtues: they foster sociability which teaches us to 'learn to live with strangers', as well as subjectivity which can 'teach [us] how to live'. Cities however have changed from 'rigidity and strangeness' to 'flexibility and indifference'. As capitalism has evolved, people are no longer rigidly attached to a place connected with their work, but shift from one place to another in a manner which 'promotes neither loyalty nor fraternity'. Now people are more 'attached to their style of life in the city than their jobs'. The city of today, it is argued positively, can 'expand to accommodate new waves of migrants', but on the negative side, 'mutual accommodation through dissociation spells the end of citizenship practices'. The White Paper confirms this trend in the case of England, where different ethnic groups tend to become dissociated, 70% of white people inhabiting non-metropolitan areas while Bangladeshi or Caribbean people live largely in the inner cities.

The economic case for compaction is argued by *Travers* in his paper. He argues that compact cities can reduce costs for both public infrastructure and for 'individuals, the economy and the environment'. While it may be true that more densely packed populations may reduce the capital cost of

infrastructure, it is also true that they may also reduce the benefits for people. Economic analysis should not be concentrated only on saving costs but on maximising the benefits achieved in relation to the costs associated with an alternative. In other words, 'value for money' is what urban policy should be about.

In the second section, contributed by those who accept the phenomenon of dispersal, the argument is made that an increase in mobility of people and freight may raise the cost of transport but will certainly improve efficiency and thus income. In cities of higher density such as London, compared with rural or semi-rural areas, car use is proportionally less and 'distance travelled by car is falling'. This may well be the product of several factors, including the high level of road congestion in high-density cities, the availability of an extensive public transport network (underground) and the increase of immigrants with low income and low car ownership. In England the White Paper states that 'between 1991 and 1997, for every five people that moved out of our conurbations, four moved in; and a significant net movement of people into our conurbation (came) from abroad'; and further 'the net exodus out of English conurbations averaged 90,000 a year'. Congestion clearly increases with density. As the White Paper illustrates in England, the index of time lost per kilometre in London is 367, in conurbations 212, while in other urban areas it is 98 (average for England equals 100). So it is unlikely that the compaction of cities will reduce congestion and emissions.

In this second section, *Echenique* makes the argument that the cities of today are 'amorphous conurbations extending for miles, encompassing empty and built-up spaces where no clear visual definitions exist'. Yet there is a 'strong rationale' behind the city structure 'which can be understood with the intellect but not with the eyes'. The reason why cities disperse, he claims, is the search for mobility and space. Growth in mobility is what creates income growth, and not the other way around. Mobility increases 'the efficiency of households and firms' which in turn 'generates more income and profits'. As income increases, so does the demand for space, residential and commercial alike. Undoubtedly the emerging pattern has drawbacks. But against the hope that technology may be able to reduce our dependency on non-renewable sources should be balanced its ability also to liberate us from the 'tyranny of proximity'. This freedom, it is argued, makes the quality of 'places where we choose to live, work and play more relevant'. If that is the case, the need for better planning and design is more apparent now than ever.

Richardson illustrates the pattern of dispersal in the United States. While supporters of densification argue that all kinds of illnesses in America are the result of sprawl, the reality is that people have strongly revealed their preference for single-family houses, suburban living and mobility. The case for sprawl is fuelled by decentralisation of jobs to less congested areas, the consequence being that 'average speeds have increased, offsetting a modest increase in trip lengths'. He points out that '70% of all workers live in multi-worker households' which makes the case for relocating houses to be near jobs problematic. The environmental implications of increased car traffic are becoming less serious with technological advances. The compactness advocated by 'new urbanists', who emphasize 'urban growth boundaries' and 'transit-oriented developments', produces undesirable effects in rising land prices and reduced benefits for the population, even if costs of infrastructure may be less. Richardson questions the viability of transit-oriented development: even 'doubling of densities would decrease vehicle miles travelled per household by 10%, but with twice as many households, there would be many more trips', which would produce 'high levels of congestion'. In conclusion, he claims that 'increasing the compactness of American cities may not even be desirable, but it is certainly unfeasible'.

Breheny analyses the situation in the United Kingdom. He questions some of the claims for urban compaction, and argues that even if they are true, it is unlikely that a return to dense cities is feasible. Even if it has merit and can actually be delivered, he believes, people may not accept it. The merits of urban compaction have been linked to the cause of sustainability in terms of 'minimisation of the loss of open countryside' and 'a reduction in travel and hence emissions'. While he accepts that higher densities will undoubtedly achieve the first objective of reducing the loss of open countryside, he questions the validity of the objective, as it may produce 'undesirable living spaces': 'congested, noisy and intimidating'. He questions the link between density and energy reduction: at best a modest reduction of travel may be achievable, but not necessarily a reduction of energy if energy use in buildings as well as transport is considered. Breheny questions the feasibility of achieving density increases when the trends in household size clearly point to a decline. Given the same number of dwelling units in a space,

the reduction of household size necessarily implies a reduction of density. Furthermore, he argues that the changing geography of jobs, with large reductions in London and metropolitan areas and largest gains in rural areas, makes it undesirable as well as impossible to shift population to metropolitan inner areas.

Section 3 comprises a selection of papers illustrating contributions architects and developers have made to the transformation of typical areas of our cities. These range from opportunities that arise in declining city centres to others connected with greenfield developments. *Bloxham* illustrates the first case: rehabilitation of central sites. He shows that with the decline of industrial employment in inner cities such as in Manchester and Liverpool, a large number of redundant buildings have become available. The recycling of well-built Victorian structures originally planned for factory or warehousing use into residential and commercial use can be done with imagination and flair. This has been possible due to the drop in prices of land and buildings, which allows a developer to buy large volumes of built space for very little money. It may be argued that the land value in those places is in fact negative because the selling price of the redundant buildings cannot cover the cost of replacing the fabric. Given the state of the market, the developer can make a profit by converting the space into residential or commercial use, and so bring life to the city centres. The examples given illustrate an ingenious use of redundant structures which bring back population to areas which used to be centres of employment. Far from representing a return to the days when these buildings were erected and to the kind of employment they housed, they play their part in transforming inner-city areas into new neighbourhoods - especially attractive to young people who like to be in or near the city 'lights' and entertainment.

Latz illustrates an alternative use for derelict industrial sites in Germany. As in many other industrial places around the world, large areas of the Ruhr are derelict. But, instead of the usual reclamation of such land for new residential or commercial uses, she shows the transformation of Emscher district into a public park. The park contains the remains of magnificent structures of iron and steel plants. The re-use of this site for tourism and general public use shows imagination and fantasy and raises the question: why should every derelict site be re-used intensively? Why should we not have such 'imaginative landscapes' to contrast with the 'natural landscape' of our artificial parks? Flora and fauna are returning to the park in areas which have been decontaminated, but in other areas which are left contaminated, a different flora is emerging. The symbolic value of the remains of the industrial past is reminiscent of the 'follies' of eighteenth-century parks, where landscape architects left or rebuilt mediaeval towers and other ruins to remind us of our common inheritance.

Bhalotra illustrates a number of schemes in Holland concerning additions to existing towns or new developments in between towns. He shows that suburban sprawl is not a necessary consequence of dispersed cities. The example of a new neighbourhood in Amersfoort illustrates the quality that can be given to large residential areas by means of a proper visual structure containing a variety of public spaces. Here we see that if good urban design were properly attended to, 'things could be done differently after all': multiculturalism can flourish, avoiding 'segregation' and giving 'egalitarian' access to an open society.

Christiaanse shows brilliantly in his paper how to handle our new city landscape. Cities have become suburbanised: 'you can live anywhere provided that enough power and possibilities for communication are available'. He praises the car 'as the greatest symbol of emancipation', giving people the mobility to live anywhere without being disconnected from work, social or cultural events. The mixture of urban and rural areas in a continuous landscape can be as exciting and beautiful as in our pre-industrial towns, where the separation is clear. As the new millennium progresses, architects and planners will need to rise to the challenge of handling both rural and urban areas as a 'continuum' instead of concentrating on urban sites alone.

The fourth section deals with some of the more technical issues confronting our new millennium: from governance of our vast urban–rural areas to questions of infrastructure, energy and risk. *Frieling* explains how important it is to 'show participants in the decision-making process images of what the future might look like and what are the choices you can make'. His work treats the whole of the Netherlands – 'the most densely populated country of the world' – as a design project. Design can illustrate options to the politicians: 'what we have gained in this period is finding political allies in the persons of the aldermen responsible for planning in the four main cities of the country'. So metropolitan development is back on the political agenda and the public is very much engaged in the process.

Baxter looks at infrastructure in cities and their importance throughout history. He blames successive UK governments for using infrastructure investment as a 'political and economic tool [which] has damaged attempts at longer term co-ordinated planning'. The problem is most acute with transport. He argues that investment could make a considerable impact through the encouragement of walking, cycling and bus use. 'New roads in cities are rare and likely to remain so.' New systems can be implemented, including guided buses and light rail. Capacity increases in transport can be enhanced by computer technology. He believes that new forms of 'local power generation from photo-voltaic cells' may reduce the need to be part of mega-urban areas, but that the 'gregariousness' of people will still lead to large urban areas.

Steemers concentrates on the use of energy in cities. Energy used in transport accounts for about a quarter of total use, while buildings account for half. So obviously any improvement in the efficiency of buildings would be twice as effective as in transport. Nevertheless he believes that changes in buildings take much more time to achieve than in transport. Energy use by cars per passenger kilometre can be twice that of public transport, yet 70% of travel in Europe is by private car. Dispersal of activities reduces the possibility of public transport use, but if buildings are concentrated they 'have a greater level of energy consumption'. Moreover, 'energy and environmental implications of buildings are at least twice as significant as those of transport'. The paper sheds light on the density debate. 'For dwellings the energy implications of compact densification are balanced between the benefits from reduced heat losses and the disadvantages from having less sunshine and daylight', while 'for office buildings, increasing urban density increases energy use because of the reduced availability in particular of daylight'. The potential for reducing the energy use in office buildings by substituting natural ventilation for air conditioning is impaired by the urban noise and pollution caused by cars. 'Thus the move should initially be towards transforming the urban environment so that the energy benefits will outweigh the disbenefits.'

In her paper, *Comerio* concentrates on disaster mitigation in urban areas. Natural or man-made disasters affect all of our cities. Some are affected by earthquakes, others by flooding, even those free from natural disasters can be affected by terrorist bombs. 'When an earthquake occurs in a densely populated city the results are catastrophic.' It is interesting to note that the cost of lives and property have been on the increase in the developed countries because 'the population in areas vulnerable to natural hazards has increased exponentially'. In the United States 'there are on average 30 disaster events per year'. The costs of repairing damaged structures can be staggering. The Northridge earthquake damaged about 500,000 houses, while in Japan the Kobe earthquake damaged some 800,000. Means of covering the costs and financial models used are explained in the paper. From the physical planning point of view, it is important to know where, if a disaster should occur, 'temporary or replacement housing could be placed'. It is argued that 'by placing temporary housing and social services directly in the affected neighbourhoods, the public pressure to repair and rebuild is enhanced, the urban fabric is maintained, along with the social fabric of community': so space must be made available for these exceptional periods.

The final section draws lessons from history. Three papers have been selected, illustrating aspects of the evolution of Edinburgh, London and Moscow. *Howard* reflects on various aspects of Edinburgh's history, taking the Scottish capital as a model of a city where geography and a particular style of development have assisted in maintaining a distinctive and intensive urban culture. She sets the decentralisation of Edinburgh from the Old Town to the New Town in the eighteenth century against the less happy history of the city's huge programmes of public housing after 1945.

Saint takes London as a case history to illustrate a set of urban paradigms which he believes will continue to have application: that local boundaries and building regulations will always be major shaping forces in the patterns and architectural forms that cities adopt; that the topography of urban development inexorably follows shifts in the location of employment; and that the existence of rational analysis in urban planning will not and should not be expected to mean that rational solutions will be adopted. Indeed, an element of irrational imagination is a vital ingredient of city-making, but it should always be balanced by rigorous investigation and democratic challenge.

Finally, Cooke studies the relatively unfamiliar example of twentieth-century Moscow, taking the variety and vigour of theoretical solutions to its growth and management debated during the Soviet era as her point of departure. She shows that the merits of compaction versus dispersal were intensively discussed against the background of the new modernist architectural agenda and the advent

of the automobile. Though the centralised decision-making of Soviet state-planning seemed to make a single model of urban development feasible, in practice the outcome was disappointing. Now in the first strategic plan for post-Soviet Moscow, we see planners coming to terms with a combination of spontaneous suburbanisation, decayed inner-city industrial areas and uncertain patterns of household formation.

We hope that the collection of papers contained in this book will provoke a constructive dialogue between those who insist on the need to return to compact urban living and those who unflinchingly accept and even welcome present trends. Whatever solutions may be reached on this count, such is the array of possible architectures for the different urban and rural conditions that we face, that we need hardly be afraid of the shape of the cities now emerging in the new millennium. But we need to back up our imaginative ideas with full and deep research into the many technical issues raised and with a richer understanding of the environments we have inherited. In that way we may hope to prevent mistakes and enhance the places where our descendants will live. As Vargas Llosa has recently written (*El Pais*, 2001):

> To claim the superiority of the dream to the objective life and to drive behaviour in relation to these premises, is a most ancient and human fact. It is such behaviour that has generated the greatest politicians, scientists, artists, also saints and heroes and it can be seen as a driving force for civilisation itself ... But simultaneously, if the negation of reality surpasses the limits of the individual, the literary, the intellectual and the artistic, it contaminates the collective – the social and the political – generating confusion and producing the catastrophic outcomes that have been the end-result of all utopian enterprises in the history of mankind.

Marcial Echenique, Andrew Saint, March 2001.

Compaction

Let's Cram More into the City

Richard Rogers and Richard Burdett

England is a small country with a large population, the third most densely populated country in the world after Bangladesh and Holland. Yet we continue to believe that the future belongs to the suburbs, or rather to suburban sprawl. Over the past 20 years – under a free-market, laissez-faire planning regime – the built-up area in England has doubled, and we have allowed the development of four million square feet of out-of-town shopping centres. Suburbs, however, are wasteful: they waste land (using up to eight times the amount of a typical urban area) and they waste public money (Figs 1, 2).

The more you move away from a town centre, the less efficient services become. Public transport becomes either more expensive or more scarce (or both), sewers and rubbish collection become inefficient. In the US, it is estimated that about £15,000 of federal subsidy goes into every home built on a greenfield site. In this country, the 'hidden' costs of roads, sewers, lighting and services are likely to be much higher. The bill doubles if you take into account the social and physical costs of inner-London deprivation – when people, shops and jobs move out, leaving the poor to live in a desolate ghost town. Suburban houses may seem cheaper to build, and therefore to buy, but this is because their price does not reflect their true environmental cost.

High-density environments, by contrast, provide the critical mass to make public service work more effectively. They bring a sense of cohesion and community that contributes to safety and civic pride – what De Tocqueville called the 'habit of association'. They can help generate the mix of uses, the sense of security and the quality of public spaces that make urban living attractive, with shops lining the streets and homes overlooking landscaped spaces, parks and playgrounds. They have the potential to be ecologically sustainable, economically strong and socially inclusive.

Fig. 1. *Old model of wasteful housing: London County Council 'overspill' estate at Borehamwood, with extravagant public space. 'No Ball Games' says the notice*

Fig. 2. *New model of wasteful housing: soulless brick boxes in a rural environment, Stockton, Warwickshire. (Martin Bond/Environmental Images)*

It is against this background that we should consider the projected need for 3.8 million new households – the equivalent of two cities the size of London – by 2016. This is not the result of population growth. The vast majority (about 85%) of new homes will be for single people, reflecting a fundamental shift in the way we live. People live longer and leave home earlier; they delay marriage; families break up more often. So we need more alternatives to the