CLIFF MOUGHTIN Rafael Cuesta Christine Sarris Paola Signoretta

URBAN DESIGN Method and Techniques





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Second Edition

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CONTENTS

Pre	eface	vii				
No	Notes on the authors ix					
Ac	Acknowledgements					
1	Definitions	1				
2	Negotiating the programme	15				
3	Survey techniques	33				
4	Analysis	73				
5	Generating alternatives	99				
6	Project evaluation	151				
7	Presentation	163				
8	Project management	183				
9	Conclusion	201				
Fig	Figure sources					
Inc	Index					

PREFACE

In this book's First Edition's preface it was assumed that the case for sustainable development was proven. Most scientists working in the field of environmental management would still probably agree with that assertion. However, the present administration of the USA remains to be convinced: they have not signed the Kyoto Protocol, and largely due to their intervention, the latest Earth Summit did not achieve as much as many scientists think necessary to stem the tide of pollution, avert damaging climate change or conserve a fragile global environment. The complacent view of global environment which permeates the thinking of the 'right' of American politics and their allies was given some credibility with the publication of The Skeptical Environmentalist (Bjorn Lomborg, Cambridge University Press, 2001). Most reputable scientists in the field, however, have rebutted the optimistic view of the state of the global environment presented by Lomborg in his thought-provoking book; see, for example, Misleading Math About the Earth (Scientific American, January 2002). Here in Britain and indeed, in Europe, sustainable development still appears to be a major goal of urban planning. Lord Faulkner, in his response to some of the criticisms of the Green Paper on Planning (Planning, 22nd March, 2002) promised, to give

more weight to sustainability as a goal of development in a future planning agenda. Until the international scientific community decides that it is safe to adopt policies that lead inevitably to an environmental 'free for all', it is wise to propose development strategies, which reduce, as far as possible, the pressures on a fragile global environment. This book and others in the series will continue to advocate 'the precautionary principle' as a guide for environmental design, a principle that is fundamental to the theory of sustainable development.

Since the publication in 1992 of Urban Design: Street and Square (Cliff Moughton, Architectural Press), the first book on urban design in this series, there have been considerable developments in the understanding and practice of urban design. These developments in urban design have been gathering momentum since this book was first published in 1999, hence the need for a new edition. Many of the ideas in the Report by Lord Rogers and his Urban Task Force, Towards an Urban Renaissance, also published in 1999, have been absorbed into local government thinking and may in part be responsible for the Planning Green Paper, Planning: Delivering a Fundamental Change, prepared in 2002 by the former Department for Transport, Local Government and the Regions. If implemented, ideas

in the Green Paper could lead to an innovative planning system where urban design is elevated to a central role.

The types of development and planning tasks that have involved urban design skills have become more varied since the early 1990s and now include tasks of urban restructuring over large sub-regional areas. If the ideas encompassed by the Green Paper on planning are implemented, then it is likely that the workload of the urban designer will increase; he or she will also be engaged in a wide variety of tasks, once thought to be the province of other disciplines. To some extent urban design can quite simply be defined as the work carried out by urban designers. Nevertheless, throughout this series of books on urban design the core of the subject is considered to be the planning and design of the city quarter, district or neighbourhood. Clearly, the successful planning, design and development of large areas, such as the quarter, of any city involves the skills of other professionals working in the field

of urban development. Here, we wish to reaffirm that the main concern of urban design is the creation of sustainable urban quarters of environmental quality. However, the method outlined in this book is general in nature and therefore applicable to a wide range of projects in which the urban designer may be involved.

There are four main changes in this book: Chapter 2 'Negotiating the Programme' now includes sections on regeneration initiatives, land assembly and the costing of development. Chapter 4 'Analysis' now has a section on the use of computers in urban design, concentrating on Geographic Information Systems and Space Syntax. Chapter 6 'Project Evaluation' has been updated with the latest information on Environmental Impact Analysis and has been strengthened with a section on financial appraisal of projects. Finally, Chapter 8 'Project Management' now includes a case study as an illustration of the use of this technique in urban design.

Cliff Moughton

NOTES ON THE AUTHORS

Emeritus Professor Cliff Moughtin is a consultant in Urban Design. He holds degrees in Architecture and Planning and was awarded the degree of Doctor of Philosophy by The Queen's University of Belfast. He worked for many years in developing countries both as an architect and as a planner. He was Professor of Planning in The Queen's University of Belfast and in the University of Nottingham. He is the author of a number of books, including *Hausa Architecture*, published by Ethnographica in 1985 and three other books in the current series on *Urban Design*, published by Butterworth-Heinemann's Architectural Press.

Rafael Cuesta is Programme Manager in the public sector with experience in transport planning and urban development. He studied Natural Resources Management in Norway and holds a Postgraduate Dilpoma in Project Management from the College of Estate Management at Reading University and an MA in Environmental Planning from the University of Nottingham. He is currently responsible for developing and implementing public transport policies and programmes in Birmingham and the West Midlands. He previously worked in the development and implementation of the Nottingham Express Transit and for some years was Special Lecturer in Environmental Impact Assessment with the Institute of Planning STudies at the University of Nottingham.

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The views and opinions included in this book are those of the authors only and not of the organizations they represent.

DEFINITIONS

INTRODUCTION

The theme of this book is the Method of Urban Design. In particular the book will examine the techniques used in urban Design Method to achieve sustainable development. Dictionary definitions of method include a number of key words such as procedure, systematic or orderly arrangement together with the idea of a clearly defined goal as an end product. For example, The Shorter Oxford English Dictionary defines method as: 'procedure for attaining an object, a special form of procedure adopted in any branch of mental activity', or 'a way of doing anything, especially according to a regular plan'.¹ The American Heritage Dictionary defines method more simply as: 'The procedures and techniques characteristic of a particular discipline or field of knowledge - the Method'.² It is this definition which is taken as the starting point for the development of the argument in this book. Identifying and describing a unique Method for Urban Design, using this last definition of the word method, is central to the development of the subject as a discipline. Clearly, method, when used here, will include concepts such as procedures, objectives and plan.

The word technique has its origins in the Arts. It is defined as: 'Manner of artistic execution or performance in relation to formal or practical details (as distinct from general effect, expression, sentiment, etc.); the mechanical or formal part of an art, especially fine arts ... mechanical skill in artistic work'.³ Technique is therefore related to specific tasks as opposed to Method which is the description of a total process. The American Heritage Dictionary includes a definition of technique which conforms more closely to the nature of Urban Design: 'The systematic procedures by which a complex or scientific task is accomplished'.⁴ Technique, as used in the title of this book and as developed in the text, refers to the set of detailed operations used in the various stages of the Urban Design process. Method, on the other hand, refers to the structure and form of the Urban Design management process.

The title of this book elicits, by association, the words methodology and technology. The book, however, is not about either methodology or technology although the text does cover both topics. Methodology is: 'The science of method; a treatise or dissertation on method'.⁵ The study of method is dealt with summarily in this chapter where the broad outlines of alternative methods

adopted in the allied disciplines of planning and architecture are analysed. From this discussion, a broad method is outlined for urban design which aims at sustainable development. Technology is defined as: 'The terminology of a particular art or subject',⁶ or 'the application of science, especially to industrial or commercial objectives ... the entire body of methods and materials used to achieve such objectives'.⁷ At one level the menu of techniques outlined in this text could be described as the technology of urban design. Here, a more limited view of urban design technology is advocated. Howard's idea for the 'Garden City' is taken as an example of urban technology.8 For the purposes of this book urban technology comprises major instruments or concepts advocated for the solution of problems associated with urban development. Urban design technology therefore would include, in addition to the Garden City, such ideas as the Urban Village or the Urban Transport Corridor. Urban design technology using this definition appears in Chapter 5, 'Generating Alternatives'.

GOALS OF URBAN DESIGN

There are three main goals of urban design: they are to design and build urban developments which are both structurally and functionally sound while at the same time giving pleasure to those who see the development. Sir Henry Wotton, like many writers since, defined architecture as consisting of 'commoditie, firmness and delight'.9 Urban design shares with its sister art, architecture, these three qualities of utility, durability and the ability to bring to the user a sense of well-being and emotional satisfaction. The general method of urban design and the techniques used within that method have been developed to achieve these interconnected ends. This book, however, does not present the full range of techniques used in urban design. For example, it does not discuss in any depth the structural requirements of urban design nor does it deal with the

engineering requirements of urban infrastructure. This book does not deal with the legal requirements of urban development so important for implementation. These large topics of urban design deserve comprehensive treatment and, no doubt, will form the contents of further works in this field. This book, however, builds on the ideas in the first two volumes in this series, Urban Design: Street and Square and Urban Design: Ornament and Decoration, it will illustrate a design technology based upon the design concepts discussed in those two volumes as they are used to achieve urban development which is in keeping with a unique city context.¹⁰ Urban Design: Green Dimensions, the third volume in this series, is the basis of the other main area covered in this book.¹¹ Techniques will be discussed which measure the effects of urban developments on city sustainability. The issue of sustainable development is the social foundation of urban design today. The social imperative is an environmental crisis of global proportions; it is in coming to terms with the effect of this crisis on cities which gives purpose and meaning to urban design.

There are those that remain to be convinced about the nature and extent of the environmental crisis facing humanity, the present administration of the USA being amongst the sceptics. The USA, the main polluter and user of scarce resources, failed to sign the Kyoto Protocol and it is due to the USA, and its allies in these matters, that the latest Earth Summit did not achieve as much as many scientists think necessary to stem the tide of pollution, avert damaging climate change or conserve a fragile global environment. The complacent view of global environment, which permeates the thinking of the 'right' of American politics was given some credibility with the publication of The Skeptical Environmentalist.¹² Most reputable scientists in the field, however, have rebutted the optimistic view of the environment presented by Lomborg in his thought-provoking book (see, for example, Scientific American,¹³). For a more detailed outline of the critique of Lomborg's work see Urban Design:

Street and Square, Chapter Seven.¹⁴ Here in Britain and indeed, in Europe, sustainable development still appears to be a major goal of urban planning. Lord Faulkner, in his response to some of the criticisms of the *Green Paper on Planning*, promised to give more weight to sustainability as a goal of development in a future planning agenda.¹⁵ Until the scientific community decides that it is safe to adopt policies, which lead to an environmental 'free for all' it is wise to propose development strategies, which reduce, as far as possible, the pressures on a fragile global environment.

Sustainability, that is, development which is nondamaging to the physical environment and which contributes to the city's ability to sustain its social and economic structures, is one important aspect of 'commoditie'. The pursuit of sustainable city structures is predicated on the development of a built environment of quality. The two goals, sustainable development and a built environment of quality, are mutually supportive. This book, therefore, aims to explore the method and techniques which will deliver both sustainable development and city environment of great quality. At the start of a new millennium, quality in urban design must be seen against a backcloth of current concerns for the global environment and in a context of sustainable development where the environment is of paramount importance and is given priority in design decisions.

There seems to be widespread agreement that solving global problems will mean the adoption of policies and programmes which lead to sustainable development. The pursuit of a sustainable future in an environment of quality will require the design of appropriate policies and programmes which address directly the related problems of unsustainable growth and environmental degradation. Part of this total agenda for sustainable development is the pursuit of non-polluting, energy efficient urban forms of quality. This book explores ways in which urban design method can be adapted to achieve this end and also examines the techniques available for measuring and evaluating large-scale urban projects in terms of the contribution made to sustainable development.

A generally accepted definition of sustainable development is: '... development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs'.¹⁶ This definition has three key ideas: development, needs and future generations. Development should not be confused with growth.¹⁷ Growth is a physical or quantitative expansion of the economic system while development is a qualitative concept: it is concerned with improvement or progress including cultural, social and economic dimensions. The term 'needs' introduces the idea of resource distribution: 'meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations of a better life'.¹⁸ These are fine sentiments but in reality the poor of the Third World are unable to achieve their basic needs of life while the more affluent effectively pursue their aspirations; many luxuries being defined by the wealthy as needs. There will naturally be environmental costs if the standards of the wealthy in the developed world are maintained while at the same time the aspirations of people in underdeveloped and developing countries are fulfilled. A choice may be inevitable: meeting needs and aspirations is a political, moral and ethical issue. Sustainable development means a movement towards greater social equity both for moral and practical reasons. Techniques for assessing the distribution of costs and benefits within and between groups are basic tools for assessing the effects of development and form the basis for evaluating the degree to which development can be described as sustainable.

The definition of sustainable development extends the concept of equity to future generations, it introduces the idea of inter-generational equity: 'We have a moral duty to look after our planet and hand it on in good order to future generations'.¹⁹ This idea of stewardship was fostered by the United Nations Conference on the Human Environment in 1972.²⁰ Stewardship implies that mankind's role on this planet is one of caring for the earth and steering a path which as far as possible benefits the human and natural systems of the world. Mankind is viewed as the custodian of the earth for future generations. The aim therefore of development policy is not simply to maintain the *status quo* but for each generation to hand on a better environment particularly where it is degraded or socially deprived: it requires of any particular generation the wisdom to: avoid irreversible damage; restrict the degrading of environmental assets; protect important habitats, high quality landscapes, forests and non-renewable resources.

The application of this principle which places great premium on environmental protection means that all development proposals should include the real environmental costs. The true cost of all activities, whether they take place in the market or not, should be paid by the particular development through regulation and/or market-based incentives. Conserving the environment for future generations introduces the notion of maintaining a minimum of environmental capital, including the major environmental support systems of the planet such as the great river estuaries, together with the more conventional renewable resources such as the tropical rain forests. While it is difficult to identify the minimum environmental stock necessary to fulfil this requirement it is clear that 'current rates of environmental degradation and resource depletion are likely to carry us beyond that level'.²¹ Sustainability constraints may be difficult to define with any precision. It is possible, however, to identify the direction of change in consumption patterns which are necessary to avoid breaching environmental thresholds. By applying the precautionary principle, where doubt and uncertainty exist, it may be possible to indicate the types of urban development which are more sustainable, or more accurately, less unsustainable. Environmental impact studies based upon accurate environmental audits, discussed in Chapter 6, are basic tools for

use by the urban designer in making proposals for any major sustainable development.

In summary, the definition of sustainable development by Grø Brundtland implies both inter- and intra-generational equity within a framework of development which does not destroy the planet's environmental support system.²² As Brundtland points out, there are many problems in pursuing development without a high degree of democratic participation. Unless people as individuals and as members of groups can share in the decision making and in the actual process of development, that development is bound to be unsustainable. There must be the opportunity for individuals and communities to own any development; such ownership comes through action in the development process. The urban designer working in the field of sustainable development must be skilled in the process and techniques of public participation. Techniques of participation are used at many stages in the design process and consequently appear in a number of chapters of this book.

The pursuit of sustainable development gives to urban design its social purpose and acts as a goal which informs the design process. Subsumed within this goal of sustainable development is the aim to develop an environment of aesthetic quality. The concepts used to define quality in the urban environment have been discussed in detail elsewhere.²³ In this book they appear in the assumptions which determine the type of investigations carried out in assessing the form and character of the urban context for any development proposals. Chapter 3 deals with these techniques which are used to analyse townscape, the purpose of such contextual studies being to form the basis of sets of proposals which fit into and complement existing structures. The analyses are predicated upon such notions as compatible land uses, appropriate grain of development, buildings and spaces of human scale, together with ideas about the use of local materials, colour and decorative treatments of regional significance.



URBAN DESIGN METHOD AND PEOPLE

Public participation in the process of design and implementation is a key factor in the definition of sustainable development. Sustainable urban development is the result of a process. It is a little simplistic to discuss participation in urban design unless that discussion includes a specific description of the type of participation and the techniques used at each stage of the process. The techniques of participation outlined in this book are based on the detailed analysis which appears in chapter 1 of *Urban Design: Street and Square.*²⁴

Urban design, or the art of building cities, is the method by which man creates a built environment that fulfils his aspirations and represents his values. One value which is becoming increasingly important is care for the natural and built environment for the benefit of future generations. Urban design, therefore, can be described as a people's use of an accumulated technological knowledge to control and adapt the environment in sustainable ways for social, economic, political and spiritual requirements. It is the method learned and used by people to solve the total programme of requirements for city building. The city, therefore, is an element of a people's spiritual and physical culture and, indeed, is one of the highest expressions of that culture.

Central to the study of urban design is man, his values, aspirations and power or ability to achieve

them. The task of the city builder is to understand and then express in built form, the needs and aspirations of the client group or citizens. How does the city builder design to best serve the community's needs? How can the designer ensure that the end product is both culturally acceptable and sustainable? What methods and techniques are best suited to this purpose? These are questions which are relevant considerations for those in the city-designing professions. An important aspect of a designer's skill is the development and use of a menu of techniques of public participation for incorporation into the design process. These techniques range from anthropological studies establishing essential cultural data, user studies and planning surveys, through informative techniques such as the exhibition, press notice and other media means of communication, to administrative procedures such as planning appeals and public inquiries. People's views can also be elicited at public meetings or sought through the electoral process by the inclusion of planning matters in political manifestos. Finally, there is a group of more active forms of participation, such as community design exercises, self-build operations and procedures for community administration and control.

THE URBAN DESIGN PROCESS

The RIBA practice and management handbook divides the design process into four phases:

Figure 1.1 Architectural method.



Figure 1.2 Integrated design process for planning.

- Phase 1 Assimilation: the accumulation of general information and information specially related to the problem.
- Phase 2 *General Study*: the investigation of the nature of the problem: the investigation of possible solutions.
- Phase 3 *Development*: the development of one or more solutions.
- Phase 4 *Communication*: the communication of the chosen solution/s to the client.²⁵

The description of design method is taken a little further by Markus and Maver. They argue that the designer goes through a series of linked decisions which form a clearly defined sequence.²⁶ This sequence is described as analysis, synthesis, appraisal and decision. The decision sequence is repeated for increasingly more detailed levels in the design process (Figure 1.1). During the analytical stage, goals and objectives are classified and patterns of information are sought. Synthesis is the stage where ideas are generated. It is followed by a critical evaluation of the alternative solutions against objectives, costs and other constraints. Decisions are made depending upon the findings of the evaluation. The decision process, however, is not defined as a simple linear progression: return loops between stages in the process are important, the process being iterative.

This way of looking at the design process for an individual building can be extended to urban design, city and regional planning (Figure 1.2). In this case, decisions at the higher level should inform the design process at the next lower order of design, for example, from regional to town planning. It makes most sense when each component of the environment fits consistently within the framework of a 'higher order' or contextual plan, for example, a building designed to fit within an urban design scheme which is determined by an urban structure plan based upon proposals for the region. It is, however, not simply a one-way process from large to small scale. It could be argued that each individual building should have some effect upon the larger urban grouping and that this three-dimensional design of large city areas should inform the planning of the city as a whole. Hence in Figure 1.2 there are return loops between the distinct facets of the development process for city planning.

In the discussion of design method so far there has been no overt mention of theory. Facts without theory have little or no meaning. Facts take on meaning when related to each other by a theoretical construct. Solutions to urban design problems, alternative ways of organizing city space, ideas about the relationship of function, urban structure and sustainability, have their origins in theory: in this book



Figure 1.3 Scientific process.

such concepts are considered as the technology of urban design. In order to understand the role of concepts in design and their relationship to theory it is useful to examine general scientific method. Scientific method is a direct analogy for the design process. The scientific process is illustrated in Figure 1.3: it involves five principal information components whose transformations into each other are controlled by six sets of techniques.²⁷ The information sets are the body of theory relating to the study area; the hypotheses thought to explain the phenomena studied; a set of observations from the specific environment and relating to the study subject; the fourth information component consists of empirical generalizations derived directly from the unique set of observations; and finally the body of decisions relating to the acceptance or rejection of the hypotheses. These information components are shown in rectangular boxes in Figure 1.3. The six groups of techniques which convert one information component to the next are shown within ovals on Figure 1.3. Theory, for example, is transformed into hypotheses through techniques of deductive reasoning. Observations are collected based on the hypotheses; the hypotheses being



interpreted using forms of instrumentation, scaling and sampling. The observations are then transformed into empirical generalizations through the process of measurement, gauging the parameters of the study and the analysis and summary of the sample of observations. The hypotheses can then be tested for the degree of conformity with the generalizations. The final information set, the decisions about the validity of the hypotheses, is derived from these tests. The last action in the process is the confirmation, modification or rejection of the theory through the technique of logical inference leading to concept or proposition formation and subsequent arrangement in new theoretical constructs.

This and other outlines of the scientific process appear clear, precise and systematic but, because of the pressures of time, money and politics, the scientific process is open to endless variation. Codifying method usually occurs after the event, the actual process being not always so precise as Figure 1.3 suggests. For example some elements of the process are more important for some research projects; some scientists practise a high degree of rigour in terms of method while others behave quite intuitively and informally, in a manner more usually associated with designers.

Figure 1.4 is a diagrammatic representation of the research process adapted to suit the needs of design. Entry into the design circle is possible at three points. Designers have been known to start the whole process with ideas for change and intervention, that is, they start at the point where in scientific method hypotheses are formed. Or they may start the design process with survey and data collection. The more usual, classic procedure is to start by trying to understand the theoretical nature of the problem, then to proceed through steps on Figure 1.4 in a clockwise direction. Nevertheless, it is possible to move directly from a statement of the problem to ideas and concepts for its resolution or to a search for data that will assist with finding a solution. Both these procedures, however, require some preliminary notions about theory however illinformed or unexplicit they may be; it is only through theory that design concepts and data can be organized into coherent patterns.

At the core of scientific method is asking the right question or questions. In a similar way, it is defining the problem which is the art of design. This, however, is not the full explanation of a creative design process. There is a school of thought, not now as popular as it once was, which appears to infer that good design is simply the result of applying the correct method. The 'method school', in its more extreme forms, suggests that the study of the problem, followed by the logical evaluation of all possible solutions, would necessarily result in the best solution being discovered for the problem under investigation. In complex design situations it is not always possible to define the problem from the outset, nor to collect all the relevant facts, nor is it possible to generate all possible solutions. This is to misunderstand the nature of most complex urban design problems and the process by which an attempt is made to change features of the environment. Most urban design problems are explored through an examination of solutions. An application of this style of design method may result in the redefinition of the problem which initiates a whole new round of investigation.

The design process is not linear but dialectical, taking the form of an argument between problem and solution. 'It is clear from our analysis of the nature of design problems that the designer must inevitably expend considerable energy in identifying problems confronting him. It is central to modern thinking that problems and solutions are seen as emerging together rather than one following logically upon the other.'28 Following this view of design by Lawson it is clear that the nature of the problem becomes clear only as the process develops. Lawson also goes on to state that: 'Since neither finding problems nor producing solutions can be seen as logical activities we must expect the design process to demand the highest levels of creative thinking'.²⁹ Urban design, like any other design activity, involves creative thinking. It would, however, be misleading to assume that this does not apply equally in the field of scientific investigation. It would also be misleading to think that design solutions cannot be generated through logical deduction from theory or indeed that problem exploration is not an outcome of standard design procedures. It is, however, reasonable to suggest that an important feature of the design process is the exploration of problem definition through the examination of solutions or partial solutions.

Fundamental to the urban design process is the generation of ideas and design concepts. Theory may be a productive source of ideas but it is by no means the only one. Ideas can be generated in ways which fall outside the scope of inductive or deductive reasoning. Artists and creative designers make



use of analogy in their work. Analogy is a most useful tool for the creative designer. The use of analogy can be used to circumvent a mental block: a way of short-circuiting the design process. The alternative of waiting for inspiration to find new ways of seeing an old problem may be unproductive or at best time-consuming. De Bono suggests that: 'The usefulness of analogies is as vehicles for functions, processes and relationships which can then be transferred to the problem under consideration'.³⁰ Analogy is not the only technique available to the designer seeking ways of seeing problems and their solutions in a new light: ideas may be generated by a process of lateral thinking with its own range of standardized techniques. These techniques, along with the uses of analogy for concept formation, will be discussed in Chapter 5.

Urban design method is an iterative process, cyclical in nature. It has much in common with general planning method which was for some time based on Sir Patrick Geddes's dictum: 'Survey, Analysis and Plan'.³¹ Others have since amplified the method outlined by Geddes inserting additional intermediate steps. Figure 1.5 illustrates one such interpretation of the essentially Geddesian method. As with design method the planning process is seen as cyclical having intermediate loops. For example, after an evaluation of alternative plans it may be necessary to redefine goals, or collect additional data, or to analyse the data in a different way. The urban design method suggested here mirrors the planning process with which it has so much in common. A book, however, is a linear presentation of material. Urban design method is therefore presented here as a simple progression starting with

goal formation and ending with techniques of implementation. This ordered and orderly presentation cannot do justice to the richness and complexity of urban design. The linear presentation of the material is adopted for clarity and convenience.

Urban design method like planning method is related to the main theoretical schools of thought which explain the procedures of public action in planning, development and design. According to Hudson there are five major schools of thought within normative planning theory.³² The five categories are: the synoptic, incremental, transactive, advocacy-orientated and radical traditions. The method advocated here for urban design is very much in the synoptic traditions of planning. It is appropriate at this point to discuss the suitability of this method for the delivery of sustainable development and environmentally sound procedures in urban design.

Synoptic planning has its roots in rationalism and utilitarian philosophy. As the method described in this chapter outlines, synoptic planning method proceeds from analysis to target definition followed by a search for alternatives and their comparison. Synoptic planning method in some cases, and followed here, includes the process of implementation with its techniques for the feedback of information. This text adopts a compromise position, following a course described as 'limited rationality' since common sense suggests the impossibility of elucidating all possible alternative actions in any given situation. It may also be appropriate to follow Lawson's ideas, testing partial answers to the problem in dialectical fashion by confronting problem and answer.

Figure 1.5 The planning process.

Incremental planning has its roots in liberalism and theories about social learning. According to this theory it is not possible to define clear goals based on commonly accepted values. Only a limited number of alternative actions are considered in any development context and these differ little from the *status quo*. A good solution in incremental planning is not defined by the degree of goal achievement, but by how feasible implementation is with the means available and the degree of agreement among key decision makers.

Transactive planning places great emphasis on mutual learning and dialogue between those affected by planning. It seeks to build decentralized planning bodies which can give the population more control over the social processes that are affecting their welfare. According to Hudson, transactive planning is just as concerned with planning's effect on people's self esteem, values, behaviour and capacity for growth through co-operation, as with the instrumental consequences of the plan.³³

Advocacy planning, as the name suggests, implies that planners become spokesmen and spokeswomen for various groups. The planner contributes to the development process by creating a situation with many competing plan proposals. The theory postulates that this model of planning provides for minority groups to be heard more clearly and that, as a consequence, the general public receives better information about alternative options.³⁴

Radical planning has two main trends. The first is an anarchist-inspired approach emphasizing decentralized control and the experimentation with alternative societal organizations. The second main school of radical planning is more structurally orientated. It takes a Marxist direction focusing on the impacts of the economic system on class conditions and the role of planning in the class struggle. The first group of radicalist planning theorists includes the environmentalist movements. The Marxist radical version proposes government control of the means of production and that production, instead of being governed by profit motives, should be directed towards meeting societal needs as defined through the political process.

Naess analysed these five main alternative planning theories with a view to determining their ability to deliver sustainable development.³⁵ The criteria Naess used to evaluate these theoretical positions were:

(a) To what extent will the planning form be able to contribute to long-term preservation of global and national environmental qualities ... and management of natural resources in a way that does not reduce the abilities for future generations to meet their needs?

(b) To what extent will the planning form be able to contribute to the preservation of local environmental qualities?

(c) To what extent will the planning form be able to contribute to a distribution of goods which ensures basic rights to welfare for everybody, regardless of nationality or social group?(d) To what extent will the planning form be able

to advance, or be in conflict with civil and political rights, especially minority rights?

(e) To what extent will the planning form be able to contribute to the improvement of the conditions for planning in accordance with the criteria for a sustainable development?³⁶

Table 1.1 shows the results of the evaluation conducted by Naess. It indicates that each planning model has certain strengths with regard to achieving sustainable development. Assuming that society has the political will and the power to promote sustainable development, then synoptic planning, which forms the basic philosophical underpinning of the method outlined in this text, is appropriate for the task. It is particularly well suited to the promotion of global and national environmental concerns and also to the promotion of justice in the distribution of goods. Its weakness lies in the practise of the theory where there is a tendency to neglect local knowledge particularly in the field of conservation.

	Global/national environmental and resource concerns	Local environmental concerns	Fair distribution	Civil and political human rights	Potential for change of societal frame conditions
Synoptic	(+)	()	(+)	()	?
Incremental	-	-	-	(+)	-
Transactive	()	(+)	(+)	+	+
Advocacy	?	+	()	+	+
Radical	+	?	+	-	+

Table 1.1 Benefits and drawbacks of various planning theories, in relation to different aspects of a strategy for promoting a sustainable development.

+, Usually well suited; (+), may be suited under certain conditions; ?, vague or ambiguous function; (-), may have a negative effect; -, usually has a negative effect.

This is evidenced in Britain, where the synoptic model of planning is predominant, by the total disregard for local protests at road and airport development sites. The views of the community activist appear to carry little weight.

Incremental planning appears to be poorly suited to the promotion of collective objectives which address major issues such as global, national or even local environmental concerns. A more just distribution of resources is also not a priority for the incremental planning process and this, of course, is a fundamental requirement of sustainable development. The transactive planning model implies the sacrifice of the important controls needed to attain targets for global environmental protection and the equitable distribution of goods on which such environmental protection are predicated. Both transactive planning and advocacy planning do appear well suited to addressing local environmental problems. Advocacy planning is particularly supportive of civil and political rights together with community involvement in development which is so important in the theory of sustainable development. Having strong parochial concerns to the fore, advocacy planning is a little ambiguous in relation to global concerns and a

more just distribution of resources. The attempts to execute Marxist planning theories have revealed serious shortcomings with regard to securing civil and political rights while socialist states of a communist leaning have poor records in achieving environmental quality. The critical perspective of radical planning does, however, form a basis for outlining strategies to overcoming obstacles towards achieving global environmental concerns.³⁷ In the hands of the radical environmentalists the ideas about a global system of self-sufficient villages is a refreshing contribution to the debate about sustainable development.

It seems that the normative planning theories, to some extent, are complementary and that common sense suggests an eclectic approach where planning style is dictated by the needs of a particular situation. There seems no good reason to believe that compatible features from different planning styles cannot be combined within the same planning or urban design task. Naess seems to be speaking for a wider audience than his Norwegian colleagues when he suggests that: 'Synoptic planning should be used to the greatest possible extent'.³⁸ He suggests, however, that implementation of plans should take place, where possible, in small steps so

that experience can be incorporated in later phases. It seems wise also to include within the framework and objectives of synoptic planning method adequate provision for active public participation. It is not sufficient simply to pay 'lip service' to participation, such tokenism can be counterproductive by raising false expectations or by feeding a public cynicism towards all development. Public participation is a procedure which can illuminate genuine alternative development strategies suggested by people with a specialist local knowledge. With these caveats it appears that the synoptic method of design advocated in this book is an appropriate tool for delivering sustainable development.

Chapter 2 will outline the ways in which problems in urban design are defined, writing design briefs, developing or negotiating the programme, regeneration initiatives, land assembly, the costing of development and problems associated with development control. Chapter 3 deals with the survey; in particular, it covers techniques of site investigation including site history, townscape analysis, urban legibility, permeability studies, and visual analysis. Chapter 4 covers techniques of problem analysis, including SWOT analysis, constraints and possibility mapping, the use of computers in urban design, in particular Geographic Information Systems and Space Syntax, trends, forecasts and scenario writing. The concern of Chapter 5 is methods of generating alternatives, including a discussion of the nature of design concepts, synectics and the use of analogy, brain storming, lateral thinking and history as a source of ideas. The chapter is particularly concerned with those ideas which are compatible with sustainable development. Chapter 6 covers the techniques used in evaluating alternative proposals. Project evaluation for major urban design projects which aim at delivering sustainable development and therefore at the promotion of equity should include a consideration of the distribution of costs and benefits: the gainers and losers should be clearly identified. This chapter therefore covers social and economic evaluation

such as cost-benefit analysis, financial appraisals of projects, in addition to environmental analysis. Chapter 7 is concerned with communication of ideas; it includes techniques of report presentation and case studies in visual presentation of urban design projects. Chapter 8 discusses the process of implementation, summarizing the whole process of design using project management as a means of relating the construction phase, monitoring and feedback to the earlier phases of design method. Chapter 9 is a short conclusion summarizing the contents of the chapters and raising a number of questions left unanswered in the text.

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