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Transport Planning for Third World Cities

Edited by
Harry T. Dimitriou



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Transport Planning for Third World Cities

Cities within the developing world experience a form of urban development which is different to those in more industrialised countries. Rates of growth are usually much more dramatic, housing and transport are often provided informally, and institutional support for urban management is also much weaker. The crux of this book, first published in 1990, lies in the idea that urban transport planning cannot be viewed in isolation from this wider development context. Making special reference to a number of countries, including Brazil, India and Indonesia, chapters discuss problems of urban transport planning, deficiencies in the theory and practice of conventional transport planning, and the emerging alternatives in the countries under examination. This work addresses problems that are still of great concern to urban policy planners, professionals and academics, as well as students from the fields of development studies, urban geography and planning, architecture and civil engineering.

Transport Planning for Third World Cities

Edited by Harry T. Dimitriou

Assisted by

George A. Banjo



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Foreword

The need for the systematic planning of urban transport arose first in the USA. The dramatic increase in the number of private cars in the first half of the twentieth century combined with the generous layouts of American cities created problems for which the experience of the much slower introduction of mechanised transport in Europe did not provide adequate guidance.

Several engineering and research centres in the States took up the quest for a systematic approach to the solution of urban transport problems. These attempts ended up in an approach which, by the mid-1970s, was sufficiently standardised to allow the World Bank to incorporate it into guidelines to its staff on a worldwide basis. This approach became known as the *Urban Transport Planning Process* (usually known as the *UTP Process*) and after wide application in the States, was exported to Europe and Latin America and eventually, also to a number of the major Third World cities.

This volume contains an impressive list of the cities which, either directly or through international aid agencies, have employed well-known consultants to apply the UTP Process to their transportation problems. It is not surprising that many consultants have welcomed such opportunities of helping poor countries to benefit from the American research and experience. What should surprise us is that so few have asked the question 'Are demographic, social, economic, climatic and political conditions in such Third World cities sufficiently similar to those of the US cities to justify such a transfer?' The authors of this book are clearly among the few who have asked such questions. They are well qualified to do so, because they are not only transport planning experts, but have lived and worked long enough in developing countries to know what can – and cannot – be done in cities so different from those of the West. What is important is that the right questions are asked and investigated. Armed with this knowledge and personal experience, they have produced a book that will be of inestimable value to those concerned with the problems of the fast-growing Third World cities.

Otto Koenigsberger

Preface

In writing this book, the editors had two aims. The first was to provide a publication which assists the development of urban transport planning paradigms appropriate to Third World countries. The second objective was to produce a text for students of urban transport planning for that part of the world which has had to rely largely on literature based on the experience of industrialised nations.

The need to address these aims is manifestly clear from the rapidly increasing interest among professionals concerned with transport problems of Third World cities. It is also apparent from the growing investments made in the field and in the many failures of transport planning in such cities over the last two to three decades - many of which have been associated with the application of inappropriate policies, concepts and techniques.

The book provides not only a contextual account of Third World city transport problems and a review of the state of the art of urban transport planning, but also directions and techniques for future action based upon the experiences of a number of leading professionals and academics in the field.

At present, there is a dearth of books of this kind. Furthermore, many of the available publications tend to offer token transport chapters in some standard text on Third World city development and merely explain the transport 'situation' of such countries as a special variant of those found in industrialised countries. This outlook is challenged by the editors of this book, whose contention is that urban transport in the Third World requires study and understanding on its own terms.

Harry T. Dimitriou

Hong Kong

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I am also indebted to a large number of other persons, too many to mention individually, who include academic and professional colleagues, students and clients. Through my experience of teaching and consultancy practice these people have over the years, helped me to further develop the book's framework by greatly influencing my thoughts.

In terms of book production, I am especially grateful to the following without whom this publication would have remained a set of manuscripts piled on desks in Lagos, London, Jakarta and Hong Kong - the various places where the book was edited. These are my wife, Vicky Dimitriou, who heroically typed what seemed to be endless drafts of the text; Diana Martin, who copy-edited the manuscript; Lau Kwan Wai, Tsang Ping Fai together with Dilys Lui, and her staff at the University of Hong Kong's Centre for Media Studies, who tolerated the many changes, and completed the graphic work for the book; and Ralph Gakenheimer of MIT, who encouraged me to complete the book at a time when all odds of this happening seemed rather slim.

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Introduction

Harry T. Dimitriou

This publication contains twelve chapters and is divided into three parts.

Part One is devoted to an examination of the key problems and issues of transport in the fast growing cities of the Third World. These issues are investigated within the wider context of the urban development process, since an underlying premise of the book, emphasised in Part One, is that urban transport problems cannot be viewed in isolation from the wider development experience.

Part Two provides a review of key concepts and methodologies currently employed in transport planning for Third World cities, giving special attention to project appraisal and institutional development. The various contributions examine the relevance of developments in the field for the Third World. Particular attention is paid to the appropriateness of transferring transport planning principles and techniques formulated in the industrialised countries to totally different development contexts.

The third and final part of the book examines some emerging approaches to urban transport planning for the Third World. Whilst the approaches vary, all tackle aspects of the urban transport problem within a framework and set of policies responsive to wider development circumstances of Third World settlements.

Chapter 1 provides an overview of the relationship between transport, city development and Third World development. It commences by outlining the problems of defining the Third World, and classifying the countries included. Common characteristics of Third World city development are described, including the

transport features, and the implications of these on the pursuance of transport and urban development goals are traced.

Chapter 2 argues, among other things, that many aspects of what is conventionally called 'the urban transport problem' are in fact manifestations of other problems. The chapter investigates the extent to which various analyses of this problem are products of particular professional or disciplinary perceptions and interests, and dwells on the complex issue of technology-transfer in efforts at problem resolution in urban transport planning.

A review follows in Chapter 3 of typical inadequacies of urban public transport, referring to both formal and informal systems. It is stressed that the principal cause of these inadequacies is the low level of capital investment in transport infrastructure and public transport vehicles, as well as lack of maintenance and systems control. It is explained that under these circumstances, Third World city public transport systems have great difficulty in simply meeting existing (and future) travel demand, let alone contributing to wider development goals.

Chapter 4 gives an account of the role of non-motorised travel in Third World cities and emphasises its need for a better planning approach. The discussion is based primarily on the situation in India and covers both informal and formal sector systems. An explanation is given of the demand and supply characteristics of non-motorised travel, the relationship between non-motorised movement and urban form, and the benefits and costs of such modes to both the community at large and its users.

Apart from serving as an introduction to the detailed discussions which follow in Part Two, Chapter 5 both outlines the framework and assesses basic elements and assumptions of the conventional urban transport planning process and its derivatives. The discussion reviews the evolution of the process, and its application to the Third World, through five discrete stages of development, each displaying distinctly different levels of professional confidence and impact on Third World practice. Following a discussion of different issues of technology-transfer, the chapter concludes by advancing certain considerations believed to lead to more appropriate approaches to Third World urban transport planning.

Chapter 6 continues partially in the same vein and reviews the principles, steps and techniques employed in urban transport project appraisal, paying particular attention to the evaluation stage. It is shown how developments in the field have shifted the

focus of analysis from purely economic matters to wider considerations. The chapter describes key issues relevant to Third World urban transport projects, different project situations, and the implications of new developments on the practice of transport planning for Third World settlements.

An assessment of the role of institutional development in the implementation of transport plans for Third World cities follows in Chapter 7. Recognising that many urban transport proposals are made in apparent isolation of the institutional capacity to implement them, this chapter provides an examination of the determinants of this capacity. It also outlines the types of technical, management and administrative expertise involved in translating plans into action. The chapter, which argues for greater agency co-operation in urban transport, draws heavily in its conclusions on the case study of the Sao Paulo Metropolitan Area in Brazil.

Chapter 8 offers an overview of relatively recent developments in urban transport planning, while assessing their relevance to Third World practice. The chapter focuses on the role of transport analysis in urban transport planning, and the range of analytical choices available. It shows how these have been enhanced by developments in computer technology and theoretical advancements, the chapter also comments on the training requirements and techniques of responsive analysis.

Chapter 9 presents a method of modelling urban traffic movements with limited data which is considered most appropriate for Third World cities. The discussion examines principles of modelling urban traffic, and highlights the errors and complexities involved. A case is then made for the use of less complex transport models. In this regard, the chapter provides an overview and illustration of network models based on traffic counts, explicit travel demand model approaches, and models based on network data alone. The chapter concludes with a review of simplified models and planning styles associated with urban traffic modelling.

The evolution and practice of Urban Transport Systems Management (TSM), with particular reference to Urban Transport Corridor Planning is examined in Chapter 10. This now well-established approach is discussed as it relates to land-use policies and urban management, with the intention of investigating the legislative and regulative support required. Its application to Third World cities is investigated, and the problems discussed. A

Introduction

critical review of Urban Transport Corridor Planning proposals for both Cairo, Egypt, and Guadalajara, Mexico, is presented to illustrate several issues in the chapter.

Chapter 11 outlines the concept, practice and problems of street management, with illustrations of its application to Madras, India, and Teheran, Iran. Street management is presented as the management of all human activities in street space, of which traffic activities are only a part. Third World settlements, with their congested, mixed and (often) conflicting street activities, are particularly suited to this approach which relies greatly for its success on street design, traffic enforcement and education in the use of streets.

The final chapter, Chapter 12, draws from the different ideas and discussion throughout the book, with a view to establishing guidelines for more appropriate transport planning approaches. The chapter gives a detailed account of the Integrated Urban Infrastructure Development Programme (IUIDP) approach to planning urban transport recently developed for Indonesia, and emphasises the need for a transport hierarchy which matches different transport technologies to settlements and communities of varied sizes. The development approach to urban transport planning advocated seeks to incorporate the above concepts and positively integrate goals of city planning, traffic engineering, and relevant aspects of development economics and planning.

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