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3

This book is dedicated to the parents of
George and Benita Gray and of Lester and Unni Hoel

Mary T. and Sabin V.
Mary and Les

Julie and Johannes
Sonja and Rolf

5

CONTENTS

Preface

The Editors

The Contributors

PART 1: HISTORICAL DEVELOPMENT

1 Public Transportation and the City . . . George M. Smerk

2 Public Transportation in the 20th Century . . . Arthur Saltzman

3 History of Urban Transportation Planning . . . Edward Weiner

PART Il: SYSTEMS AND TECHNOLOGIES

4 Urban Passenger Transportation Modes . . . Vukan R. Vuchic

5 Rail Transit . . . J. William Vigrass

6 Bus Transit . . . Robert W. Koski

7 Paratransit and Ridesharing . . . David W. Jones, Jr.

and Clifford A. Chambers

8 Designing for Pedestrians . . . John J. Fruin

PART IlI: COMPARING ALTERNATIVES

9 Comparative Costs . . . Michael G. Ferreri

10 Comparative Analysis . . . Vukan R. Vuchic

11 Evaluating Rapid Transit . . . Thomas B. Deen and Richard H. Pratt

PART IV: PLANNING

12 Transportation System Management . . . Dennis C. Judycki and Wayne Berman

13 System and Service Planning . . . Herbert S. Levinson

14 Rural Public Transportation . . . Peter Schauer

15 Financing Public Transportation . . . Ronald F. Kirby

PART V: MANAGEMENT AND OPERATIONS

16 Management of Public Transportation . . . George M. Smerk

17 Public Transportation Marketing . . . Frank W. Davis, Jr. and Ray A. Mundy

18 Public Transportation Security . . . Lester A. Hoel

PART VI: POLICY CONSIDERATIONS

19 Land Use . . . W. L. Garrison and Elizabeth Deakin

20 Environmental Impacts . . . Robert L. Knight and Patricia Lyon Mokhtarian

21 The Transportation Disadvantaged . . . Sandra Rosenbloom

22 Perceptions of Public Transportation . . . George E. Gray

PART VIl: THE FUTURE

23 Public Transportation in the 21st Century . . . Michael D. Meyer

24 New Public Transportation Technology . . . Clark Henderson

25 A Look Ahead in Public Transportation . . . Wilfred Owen

Index

PREFACE

It has been over a decade since the first edition of Public Transportation: Planning, Operations and Management was published. The book was well received and has served as both a reference work for practitioners and a textbook for students. Public transportation is a dynamic subject with newly published material appearing frequently and issues constantly changing as they reflect new societal values and priorities. Accordingly, we have revised the book so that it will continue to serve practitioners and students into the twenty-first century, as the first edition did for readers through the 1980s. The reader should be aware that the book is basically oriented to the United States, although reference is made to public transportation in other areas of the world.

In revising the book the editors have endeavored to recognize new and emerging areas as well as to update and modernize continuing ones. Because of the book's broad coverage, the subtitle used in the first edition has been dropped. We use the term Public Transportation as defined in the Urban Public Transportation Glossary published by the Transportation Research Board (1989) to include both public transit service and paratransit services that are available to the general public. The glossary has been used as the standard reference for terminology and definitions for the book and is recommended as a supplemental resource for our readers.

The book is divided into seven parts, I: Historical Development, II: Systems and Technologies, III: Comparing Alternatives, IV: Planning, V: Management and Operations, VI: Policy Considerations, and VII: The Future. We have changed the format of the individual chapters to include examples and case studies that serve to illustrate major points and have added discussion questions and references to supplement classroom lectures.

Public transportation has played a major role in the development and viability of urban areas. Issues such as street and highway congestion, conservation of space and energy, air pollution, travel for the carless and disabled, and sources of funding assure it will remain a significant factor in our society. Its exact form and use and the extent of society's investment will depend on conditions at any given time and location. Planners, operators, managers, public officials, and concerned citizens must be informed about how public transportation

can serve to meet their transportation needs as they enter a new century. We hope that this revision of Public Transportation will contribute to the need for knowledge and understanding of this vital component of modern society.

Many transportation issues have received renewed study since the first edition of this book, but most of them have not been a focus of consistent actual decision making because all levels of government tend to concentrate on short-term problems. As we view the future, the following questions call for more enduring attention:

• Should transportation reinforce existing life-styles, or should it encourage or force change in life-styles?

• How should land-use patterns be coordinated to enhance providing for needed mobility?

• Should we focus on short- or long-range solutions to transportation problems? Or can we do both?

• How should we pay for transit service? Who should pay—the user, the local taxpayer, or the national taxpayer? In what proportion?

• Who should make decisions relative to providing service? The federal, state, regional, or local government?

• How much mobility is necessary? We have a tremendous capacity in this country now —with about three seats available for our use at any particular moment—but is this capacity efficiently used? This leads to a similar question.

• How do we optimize air quality improvements, energy use, land use, and transportation modes to provide needed mobility at least cost?

• How do we coordinate services and transportation system management (TSM) elements to make them more effective and efficient?

The readers should keep these questions in mind as they progress through the book.

We wish to thank each contributor and his or her support staff for working closely with us to complete this book. They were both responsible and timely in submitting drafts and making revisions. The production of the book was under the direction of Benita Gray, who prepared camera-ready copy from computer disks submitted by authors. This process significantly reduced the total time required to produce a final product, and her efforts and dedication were essential to the book's completion. We wish to thank the staff at the Institute of Transportation Studies, University of California, Irvine, for its support of the project while one of the editors was a visitor on sabbatical leave from the University of Virginia. We also wish to thank the many organizations and individuals that furnished photographs and illustrations used in the book.

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PART I

HISTORICAL DEVELOPMENT