

Urban Transportation Planning in the United States

History, Policy, and Practice

Third Edition



Edward Weiner

Urban Transportation Planning in the United States

History, Policy, and Practice

Third Edition

 Springer

Edward Weiner
US Department of Transportation
Washington, DC
USA

ISBN: 978-0-387-77151-9 e-ISBN: 978-0-387-77152-6
DOI: 10.1007/978-0-387-77152-6

Library of Congress Control Number: 2008926765

© 2008 Springer Science + Business Media, LLC
© (1999), Second Edition, *Urban Transportation Planning in the United States: An Historical Overview, Revised and Expanded Edition*, Praeger Publishers, Westport, CT
© (1987), First Edition, *Urban Transportation Planning in the United States: An Historical Overview*, Praeger Publishers, Westport, CT

All rights reserved. This work may not be translated or copied in whole or in part without the written permission of the publisher (Springer Science + Business Media, LLC, 233 Spring Street, New York, NY 10013, USA), except for brief excerpts in connection with reviews or scholarly analysis. Use in connection with any form of information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed is forbidden.

The use in this publication of trade names, trademarks, service marks, and similar terms, even if they are not identified as such, is not to be taken as an expression of opinion as to whether or not they are subject to proprietary rights.

Printed on acid-free paper

9 8 7 6 5 4 3 2 1

springer.com

Preface

Urban transportation planning is carried out primarily by state and local agencies. Over the years, much experience has been gained in the planning and evaluation of urban transportation systems. This knowledge can be useful to planners and decision makers in the development and implementation of transportation system changes. In this context, it is important to understand the transportation and planning options that have been tried, and how they developed into the approaches we have today. This book describes the evolution of urban transportation planning over the last 70 years.

This is the third edition of this book which was first published in 1987. The earlier edition discussed urban transportation planning up to mid-1997. This edition updates the evolution of urban transportation planning and policy up to mid-2006. It also contains some additions and revisions to the earlier edition. This book is an updated version of *Evolution of Urban Transportation Planning* which was first published in 1979 as Chap. 15 in *Public Transportation Planning, Operations and Management*, edited by George E. Gray and Lester L. Hoel. It was revised and published in 1992 as Chap. 3 in *Public Transportation*, second edition, edited by George E. Gray and Lester L. Hoel.

The book focuses on the key events in the evolution of urban transportation planning including developments in technical procedures, philosophy, processes, and institutions. But, planners must also be aware of changes in legislation, policy, regulations, and technology. These events have been included to provide a more complete picture of the forces that have affected and often continue to affect urban transportation planning.

Summarizing so much history in a single book requires difficult choices. The efforts of many individuals and groups made important contributions to the development of urban transportation planning. Clearly, not all of these contributions could be included or cited. This book concentrates on the key events of national significance and thereby tries to capture the overall evolution of urban transportation planning. Focusing on key events also serves as a convenient point to discuss developments in a particular area.

The book is generally arranged chronologically. Each period is titled with the major theme pervading that period as viewed by the author. Not all key events fit precisely under a particular theme, but many do. The discussion of the background

for some events or the follow-on activities for others may cover more than one time period and is placed where it seemed most relevant.

The book takes a multimodal perspective and attempts to provide a balanced view among a number of subject areas including:

- Significant Federal legislation
- Major, relevant Federal regulations and policies
- Highway concerns
- Transit concerns
- Environmental issues
- Energy issues
- Safety issues
- Relevant conferences
- Technological developments
- Transportation service alternatives
- Manuals and methodological developments
- National transportation studies
- National data resources
- Local events with national significance

Over the years, the author has discussed these events with many persons in the profession. Often they had participated in or had firsthand knowledge of the events. The author appreciates their assistance, even though they are too numerous to mention specifically.

In preparing this book, the author was directly aided by several individuals who provided information on specific events. Their assistance is appreciated: Jack Bennett, Barry Berlin, Susan Binder, Norman Cooper, Frederick W. Ducca, Sheldon H. Edner, Christopher R. Fleet, Charles A. Hedges, Donald Igo, Anthony R. Kane, Thomas Koslowski, Ira Laster, William M. Lyons, James J. McDonnell, Florence Mills, Camille C. Mittelholtz, Norman Paulhus, Elizabeth A. Parker, John Peak, Sam Rea, Carl Rappaport, Elizabeth Riklin, James A. Scott, Mary Lynn Tischer, Martin Wachs, Jimmy Yu, and Samuel Zimmerman.

The author appreciates the review comments provided by: Donald Emerson, David S. Gendell, James Getzewich, Charles H. Graves, Thomas J. Hillegass, Howard S. Lapin, Herbert S. Levinson, Alfonso B. Linhares, Gary E. Maring, Ali F. Sevin, Gordon Shunk, Peter R. Stopher, Carl N. Swerdloff, Paul L. Verchinski, and George Wickstrom.

Any errors of fact or interpretation are the responsibility of the author.

Edward Weiner
Washington, DC

Contents

Preface	v
List of Abbreviations	xiii
1 Introduction	1
2 Early Highway Planning Federal-Aid Highway Act of 1921	7
Early Parkways	9
Radburn, New Jersey	10
Federal-Aid Highway Act of 1934	12
Electric Railway Presidents’ Conference Committee.....	12
Manual on Uniform Traffic Control Devices.....	13
AASHO Policy on Geometric Design of Rural Highways	13
Toll Road Study	14
Highway Capacity Manual	14
Interregional Highway Report	16
3 Launching Urban Transportation Planning and the Interstate Highway Program	17
Federal-Aid Highway Act of 1944	18
Early Urban Travel Surveys.....	18
Early Transit Planning	20
Dawn of Analytical Methods	21
AASHO Manual on User Benefit Analysis	22
Breakthroughs in Analytical Techniques	23
National Committee on Urban Transportation.....	24
Housing Act of 1954 - “701” Comprehensive Planning Program	24
Pioneering Urban Transportation Studies	25
Federal-Aid Highway Act of 1956	26
Sagamore Conference on Highways and Urban Development.....	28
Housing Act of 1961	28

4 Urban Transportation Planning Comes of Age.....	31
Joint Report on Urban Mass Transportation	31
President Kennedy’s Transportation Message	32
Federal-Aid Highway Act of 1962	32
Hershey Conference on Urban Freeways.....	33
Implementation of the 1962 Federal-Aid Highway Act.	34
Conventional Urban Travel Forecasting Process	35
Southeastern Wisconsin Regional Planning Commission	37
Highway Planning Program Manual.....	39
Urban Mass Transportation Act of 1964.....	40
Urban Development Simulation Models.....	40
Williamsburg Conference on Highways and Urban Development	41
Residential Location and Urban Mobility.....	42
5 Improving Intergovernmental Coordination.....	43
Housing and Urban Development Act of 1965.....	43
1966 Amendments to the Urban Mass Transportation Act	44
Highway and Motor Vehicle Safety Acts of 1966	44
Department of Transportation Act of 1966.....	46
National Historic Preservation Act of 1966.....	46
Demonstration Cities and Metropolitan Development Act of 1966	47
Dartmouth Conference on Urban Development Models	47
Freedom of Information Act of 1966.....	48
Reserved Bus Lanes	49
National Highway Needs Studies	50
Federal-Aid Highway Act of 1968	53
“Continuing” Urban Transportation Planning	54
Intergovernmental Cooperation Act of 1968	55
Bureau of the Budget’s Circular No. A-95	55
6 Rising Concern For The Environment And Citizen Involvement.....	59
Citizen Participation and the Two-Hearing Process for Highways.....	59
National Environmental Policy Act of 1969.....	60
Environmental Quality Improvement Act of 1970	60
Nationwide Personal Transportation Study	61
Clean Air Act Amendments of 1970	63
Boston Transportation Planning Review.....	64
Urban Corridor Demonstration Program	65
Census Journey-to-Work Surveys	65
The Case of Overton Park.....	67
7 Beginnings Of Multimodal Urban Transportation Planning.....	69
Urban Mass Transportation Assistance Act of 1970	69
Federal-Aid Highway Act of 1970	71

Conference on Urban Commodity Flow	72
Disaggregate Choice Models	73
Mt. Pocono Conference on Urban Transportation Planning	74
DOT Initiatives Toward Planning Unification	75
Process Guidelines for Highway Projects	76
UMTA's External Operating Manual	76
Williamsburg Conference on Urban Travel Forecasting.....	77
Federal-Aid Highway Act of 1973	78
Endangered Species Act of 1973	79
AASHTO Policy on Geometric Design of Urban Highways.....	80
1972 and 1974 National Transportation Studies.....	81
National Mass Transportation Assistance Act of 1974.....	82
PLANPAC and UTPS Batteries of Computer Programs	83
8 Transition To Short-term Planning.....	85
Emergency Energy Legislation	85
Service and Methods Demonstration Program	86
Taxicabs	87
OTA's Report on Automated Guideway Transit	89
Model 13(c) Labor Protection Agreement for Operating Assistance	90
Joint Highway-Transit Planning Regulations	91
Traffic Calming	93
Policy on Major Urban Mass Transportation Investments.....	95
Characteristics of Urban Transportation Systems.....	97
Light Rail Transit	98
Federal-Aid Highway Act of 1976	100
ITE Trip Generation Report.....	100
Urban System Study	101
Road Pricing Demonstration Program	102
National Transportation Trends and Choices.....	102
Transit Uniform System of Accounts and Records	103
Clean Air Act Amendments of 1977	104
9 Emphasizing Urban Economic Revitalization.....	107
1978 National Urban Policy Report.....	107
Surface Transportation Assistance Act of 1978.....	109
Quick Response Urban Travel Forecasting Techniques.....	110
National Energy Act of 1978	111
Council on Environmental Quality's Regulations.....	112
BART Impact Program	113
International Conferences on Behavioral Travel Demand.....	116
National Ridesharing Demonstration Program.....	118
Urban Initiatives Program	118
Section 504 Regulations on Accessibility for the Handicapped.....	119
National Transportation Policy Study Commission.....	120



Interstate Substitutions.....	121
Aspen Conference on Future Urban Transportation.....	122
Land Use Impacts of Beltways.....	123
Highway Performance Monitoring System.....	124
10 Decentralization of Decisionmaking.....	127
President Reagan’s Memorandum on Regulations.....	127
Conferences on Goods Transportation in Urban Areas.....	127
Airlie House Conference on Urban Transportation Planning in the 1980s.....	128
Federal-Aid Highway Act of 1981.....	129
E.O. 12372, Intergovernmental Review of Federal Programs.....	130
Woods Hole Conference on Future Directions of Urban Public Transportation.....	131
Easton Conference on Travel Analysis Methods for the 1980s.....	132
Surface Transportation Assistance Act of 1982.....	133
Advent of Microcomputers.....	135
New Urban Transportation Planning Regulations.....	135
11 Promoting Private Sector Participation.....	139
Paratransit Policy.....	139
Transportation Management Associations.....	140
Revised Major Transit Capital Investment Policy.....	141
Transportation Demand Management.....	143
Private Participation in the Transit Program.....	144
National Transit Performance Reports.....	145
Charter Bus Regulations.....	146
Surface Transportation and Uniform Relocation Assistance Act of 1987.....	148
National Conference on Transportation Planning Applications.....	150
Smuggler’s Notch Conference on Highway Finance.....	152
Revised FHWA/UMTA Environmental Regulation.....	152
Los Angeles’ Regulation XV.....	153
12 The Need for Strategic Planning.....	155
National Council on Public Works Improvement.....	155
Transportation 2020.....	156
Williamsburg Conference on Transportation and Economic Development.....	158
National Transportation Strategic Planning Study.....	158
Intelligent Vehicle Highway Systems.....	160
Lawsuit Against the Metropolitan Transportation Commission’s Travel Models.....	161





Geographic Information Systems 163

National Maglev Initiative 164

Clean Air Act Amendments of 1990 165

Strategic Planning and Management 170

Americans with Disabilities Act of 1990..... 171

Intermodal Surface Transportation Efficiency Act of 1991 172

Manual of Regional Transportation Modeling Practice
for Air Quality Analysis..... 182

13 The Growth of Sustainable Development..... 185

Charlotte Conference on Moving Urban America..... 186

Travel Model Improvement Program..... 186

Livable Communities Initiative..... 187

Energy Policy Act of 1992..... 188

Transportation Implications of Telecommuting..... 188

Metropolitan and Statewide Planning Regulations 189

Transportation-Air Quality Conformity Regulations..... 191

Making the Land Use, Transportation, Air Quality
Connection (LUTRAQ) 191

Transportation Management Systems 193

E.O. 12893 Principles of Federal Infrastructure Investment..... 194

E.O. 12898 on Environmental Justice..... 195

National Bicycling and Walking Study..... 195

Curbing Gridlock: Peak-Period Fees to Relieve
Traffic Congestion..... 197

Conference on Institutional Aspects of Metropolitan
Transportation Planning 199

Implication of Expanding Metropolitan Highway Capacity..... 200

National Highway System Designation Act of 1995 201

Major Investment Studies 202

14 Expanding Participatory Democracy..... 205

Deployment of Intelligent Transportation Systems 206

Activity-Based Travel Forecasting Conference 207

Public Involvement 209

National Transportation System..... 210

State Infrastructure Banks..... 211

Envision Utah..... 212

Context Sensitive Design 214

Transportation Equity Act for the 21st Century..... 215

Welfare to Work - Job Access and Reverse Commute Program..... 222

Georgia Regional Transportation Authority 222

Congestion Management Systems 223

Value Pricing Pilot Program..... 225



Conferences on Refocusing Transportation Planning for the 21st Century	226
National Transportation Policy Architecture for the 21st Century	227
15 Moving Towards Performance Based Planning.....	231
Asset Management.....	232
Conference on Performance Measures in Planning and Operations.....	233
The Alameda Corridor	234
Freight Analysis Framework.....	235
Central Texas Regional Transportation Authority	237
Bus Rapid Transit.....	238
Transportation Security.....	239
Transit Capacity and Quality of Service Manual.....	241
Clean Air Rules of 2004	242
Scenario Planning	243
Public-Private Partnerships	245
Norman Y. Mineta Research and Special Programs Act	247
Transportation-Air Quality Conformity.....	247
Energy Policy Act of 2005.....	248
Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users.....	249
Forum on Road Pricing and Travel Demand Modeling.....	257
Interstate 50.....	259
National Strategy to Reduce Congestion on America's Transportation Network	261
Metropolitan Travel Forecasting: Current Practice and Future Direction	263
16 Concluding Remarks.....	265
References.....	271

Abbreviations

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and transportation Officials
AGT	Automated Guideway Transit
ANPRM	Advanced Notice of Proposed Rulemaking
APTA	American Public Transit Association
ATA	American Transit Association
BART	Bay Area Rapid Transit
BMS	Bridge Management System
BOB	Bureau of the Budget
BPR	Bureau of Public Roads
BRT	Bus Rapid Transit
BTS	Bureau of Transportation Statistics
3C	Continuing, Comprehensive, and Cooperative
CAFE	Corporate Average Fuel Economy
CAMPO	Capital Area Metropolitan Planning Organization
CATI	Computer-Assisted Telephone Interviewing
CATS	Chicago Area Transportation Study
CBD	Central Business District
CEQ	Council on Environmental Quality
CFS	Commodity Flow Survey
CMS	Congestion Management System
COG	Council of Governments
CTRMA	Central Texas Regional Mobility Authority
CUTD	Characteristics of Urban Transportation Demand
CUTS	Characteristics of Urban Transportation Systems
DEIS	Draft Environmental Impact Statement
DMATS	Detroit Metropolitan Area Traffic Study
DOE	Department of Energy
DOT	Department of Transportation
DPM	Downtown People Mover

EIS	Environmental Impact Statement
E.O.	Executive Order
EPA	Environmental Protection Agency
ERGS	Electronic Route Guidance System
FAF	Freight Analysis Framework
FARE	Uniform Financial Accounting and Reporting Elements
FAUS	Federal Aid Urban System
FHWA	Federal Highway Administration
FOIA	Freedom of Information Act
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
FY	Fiscal Year
GARVEEs	Grant Anticipation Revenue Vehicles
GIS	Geographic Information Systems
GRT	Group Rapid Transit
GRTA	Georgia Regional Transportation Authority
HCM	Highway Capacity Manual
HEW	Department of Health, Education, and Welfare
HHFA	Housing and Home Finance Agency
HHS	Department of Health and Human Services
HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System
HP&R	Highway Planning and Research
HRB	Highway Research Board
HUD	Department of Housing and Urban Development
ICE	Interstate Cost Estimate
IM	Instructional Memorandum
I/M	Inspection/Maintenance Program
IMS	Intermodal Transportation Facilities and Systems Management System
IPG	Intermodal Planning Group
IRT	Institute for Rapid Transit
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
ITLUP	Integrated Transportation and Land-Use Package
ITS	Intelligent Transportation Systems
IVHS	Intelligent Vehicle-Highway Systems
JARC	Job Access and Reverse Commute Program
LCI	Livable Communities Initiative
LPO	Lead Planning Organization
LRT	Light Rail Transit
LRV	Light Rail Vehicle

LUTRAQ	Making the Land Use, Transportation, Air Quality Connection
MIS	Major Investment Study
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
NARC	National Association of Regional Councils
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act of 1969
NHS	National Highway System
NMI	National Maglev Initiative
NPRM	Notice of Proposed Rulemaking
NPTS	Nationwide Personal Transportation Study
NRC	National Research Council
NTS	National Transportation System
OMB	Office of Management and Budget
OTA	Office of Technology Assessment
PATS	Pittsburgh Area Transportation Study
PCC	Electric Railway Presidents' Conference Committee
PLANPAC	Planning Package (of computer programs)
PMS	Pavement Management System
PPM	Policy and Procedure Memorandum
PRT	Personal Rapid Transit
PTMS	Public Transportation Management System
QRS	Quick Response System
3R	Resurfacing, Restoration, and Rehabilitation
4R	Resurfacing, Restoration, Rehabilitation and Reconstruction
RMA	Regional Mobility Authority
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SEWRPC	Southeastern Wisconsin Regional Planning Commission
SHRP	Strategic Highway Research Program
SIB	State Infrastructure Bank
SIP	State Implementation Plan
SLRV	Standard Light Rail Vehicle
SLT	Shuttle Loop Transit
SMD	Service and Methods Demonstration
SMS	Safety Management System
SMSA	Standard Metropolitan Statistical Area
SOV	Single Occupancy Vehicle
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program

SUV	Sport Utility Vehicle
TAG	Transportation Alternatives Group
TAZ	Transportation Analysis Zone
TCM	Transportation Control Measure
TCP	Transportation Control Plan
TCQSM	Transit Capacity and Quality of Service Manual
TCRP	Transit Cooperative Research Program
TCSP	Transportation and Community and System Preservation Pilot Program
TDM	Transportation Demand Management
TEA-21	The Transportation Equity Act for the Twenty-First Century
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Topologically Integrated Geographic Encoding and Reference
TIP	Transportation Improvement Program
TMA	Transportation Management Association/Transportation Management Area
TMIP	Travel Model Improvement Program
TOD	Transit-Oriented Design
TOPICS	Traffic Operations Program to Improve Capacity and Safety
TRANSIMS	Transportation Simulation and Analysis System
TRB	Transportation Research Board
TRO	Trip Reduction Ordinance
TSM	Transportation System Management
TTC	Texas Transportation Commission
UMTA	Urban Mass Transportation Administration
UPWP	Unified Planning Work Program
UTCS	Urban Traffic Control Systems
UTPP	Urban Transportation Planning Package
UTPS	Urban Transportation Planning System
VMT	Vehicle Miles of Travel