Contents

Preface ix

1 Why Cities Exist 1
1.1 Introduction 1
1.2 Scale Economies 2
1.3 Agglomeration Economies 5
1.4 Transport Costs and Firm Location 10
1.5 The Interaction of Scale Economies and Transportation Costs in the Formation of Cities 16
1.6 Retail Agglomeration and the Economics of Shopping Centers 18
1.7 Summary 20

2 Analyzing Urban Spatial Structure 23
2.1 Introduction 23
2.2 Basic Assumptions 25
2.3 Commuting Cost 26
2.4 Consumer Analysis 27
2.5 Analysis of Housing Production 33
2.6 Population Density 39
2.7 Intercity Predictions 42
2.8 Summary 50

3 Modifications of the Urban Model 51
3.1 Introduction 51
3.2 A City with Two Income Groups 51
3.3 Commuting by Freeway 56
3.4 Adding Employment Outside the CBD 57
3.5 Durable Housing Capital 61
3.6 Cities in Developing Countries 65
3.7 Summary 68

4 Urban Sprawl and Land-Use Controls 69
4.1 Introduction 69
4.2 Empirical Evidence on the Spatial Sizes of Cities 70
4.3 Market Failures and Urban Sprawl 73
4.4 Behavioral Impacts of Urban Sprawl 80
4.5 Using Land-Use Controls to Attack Urban Sprawl 80
4.6 Other Types of Land-Use Controls 84
4.7 Summary 89

5 Freeway Congestion 91
5.1 Introduction 91
5.2 Congestion Costs 92
5.3 The Demand for Freeway Use 95
5.4 Traffic Allocations: Equilibrium and Social Optimum 99
5.5 Congestion Tolls 104
5.6 Choice of Freeway Capacity 110
5.7 Application to Airport Congestion 112
5.8 Summary 114

6 Housing Demand and Tenure Choice 115
6.1 Introduction 115
6.2 Housing Demand: The Traditional and Hedonic Approaches 116
6.3 The User Costs of Housing 119
6.4 Tenure Choice 124
6.5 Down-Payment Requirements, Tenure Choice, and Mortgage Default 130
6.6 Property Abuse and Tenure Choice 133
6.7 Summary 136

7 Housing Policies 137
7.1 Introduction 137
7.2 Rent Control 137
7.3 Housing-Subsidy Programs 145
7.4 Homelessness and Policies to Correct It 153
7.5 Summary 157

8 Local Public Goods and Services 159
8.1 Introduction 159
8.2 The Socially Optimal Level of a Public Good 161
8.3 Majority Voting and Voting with One's Feet 163

8.4 Public-Good Congestion and Jurisdiction Sizes 174
8.5 Capitalization and Property-Value Maximization 179
8.6 Tax and Welfare Competition 183
8.7 Summary 185

9 Pollution 187
9.1 Introduction 187
9.2 Pollution from a Single Factory and Governmental Remedies 188
9.3 Bargaining as a Path to the Social Optimum: The Coase Theorem 196
9.4 Cap-and-Trade Systems 200
9.5 Evidence on Air Pollution and Property Values 204
9.6 Summary 205

10 Crime 207
10.1 Introduction 207
10.2 The Economic Theory of Crime 208
10.3 Additional Aspects of the Theory 215
10.4 How to Divide a Police Force Between Rich and Poor Neighborhoods 221
10.5 Summary 229

11 Urban Quality-of-Life Measurement 231
11.1 Introduction 231
11.2 Theory: The Roback Model 233
11.3 Measuring Urban Quality of Life 241
11.4 Additional Issues 244
11.5 Summary 245

Exercises 247
References 273
Index 281