Contents

1	Orientation		
	1.1	Preview 2	
	1.2	Background 9	
2	Sti	ructure of an Urban Area	12
	2.1	General Structure of Systems 12	
		Closed-System Boundary 12	
		Feedback-Loop Structure 13	
	2.2	Structure of the Urban Model 14	
		Boundary of the Urban System 14	
		The Environment as a Point of Reference 17	
		Relative Attractiveness 18	
		The Internal System 19	
	2.3	Example of a Flow Rate 20	
		Example of a Level 30	
	2.5	Summary of Flow Rates 31	
		Underemployed Birth Rate UB 31	
		Labor to Underemployed LTU 31	
		Underemployed to Labor UTL 32	
		Underemployed Departures UD 32	
		Labor Birth Rate LB 32	
		Labor Arrivals LA 32	
		Labor Departures LD 32	
		Labor to Manager LTM 33	
		Managerial-Professional Birth Rate MPB 33	
		Manager Arrivals MA 33	
		Manager Departures MD 33	
		Premium-Housing Construction PHC 33	
		Premium-Housing Obsolescence PHO 34 *	
		Worker-Housing Construction WHC 34	
		Worker-Housing Obsolescence WHO 35	
		Low-Cost-Housing Program LCHP 35	
		Slum-Housing Demolition SHD 35	
		New-Enterprise Construction NEC 35	
		Naw Enterprise Decline NED 25	

xii Contents

	Declin	e-Business Decline MBD 36 ning-Industry Demolition DID 36 neters in the Simulation Model 36		
3	Growth a	and Stagnation	38	
			51	
4		in Urban Programs	-	
	4.1 Job Pr			
		ng Program 57 cial Aid 61		
		Cost-Housing Construction 65		
		В	-71	
5				
		er-Housing Construction 71		
		um-Housing Construction 77		
		Enterprise Construction 79		
		ning-Industry Demolition 81		
		Housing Demolition 83 uraging Housing Construction 91		
		traging Industry 101		
		nting Urban Decline 105		
			405	
6		Complex Systems	107	
		e of Complex Systems 107		
		terintuitive Behavior 109		
		sitivity to Parameter Changes 110		
		ance to Policy Changes 110		
		ol Through Influence Points 111		
		ctive Programs Counteracted by the System 111 Term Versus Short-Term Response 112		
		to Low Performance 112		
		odeling 112		
		del 112		
	Model	l Validity 113		
	Model	ling to Create Symptoms 113		
	Adequ	uacy of Information 113		
7	Interpretations			
100		aplicit Goal 115	115	
		de the City 115		
	7.2 The C	City in Its Environment 116		
		Evolution 116		
	The L	imitless Environment 117		
	The A	Attractiveness Concept 117		
	The St	tagnant Urban Condition 118		
	Soarin	ng Municipal Costs 119		
	1.3 Altern	natives Open to the City 119		
	7.4 Mainta	aining Economic Balance 122		
	Taxes	of Industry 123		
		Zoning 125		
	maile :	-oming and		

	7.5 Choice of Urban Pressures 126 Urban Transportation 127	
	7.6 The City-Master of Its Own Destiny 128	
AF	PPENDIXES	131
A	The Model—A Theory of Urban Interactions	133
	A.1 Underemployed Sector 133	
	A.2 Labor Sector 147	
	A.3 Managerial-Professional Sector 164	
	A.4 Premium-Housing Sector 170	
	A.5 Worker-Housing Sector 179	
	A.6 Underemployed-Housing Sector 186 A.7 New-Enterprise Sector 189	
	A.8 Mature-Business Sector 195	
	A.9 Declining-Industry Sector 198	
	A.10 Tax Sector 201	
	A.11 Job Sector 206	
	A.12 Urban-Development Programs 211	
	A.13 Simulation-Control Instructions 215	
	A.14 The Equilibrium Model 216	
В	Miscellaneous	218
	B.1 Political Power 218	
	B.2 Negative Income Tax 223	
	B.3 Parameter Sensitivity 227	
	Insensitive Parameters 231	
	Policy Not Affected 231	
	Reducing Sensitivity of Parameters 235	
	Policy Affected by Parameters 236	
	B.4 Normal Population Densities 241	
	B.5 Improvement in External Environment 249	
	B.6 Mechanization of Agriculture 253	
C	Definitions of Terms	261
Đ	Analyzer Tabulation	267
D	Analyzer Tabulation	207
E	274	
Re	ferences	281
Inc	lex	283