Contents

Pre	race		i
1	Transport and Economics		
	1.1	Transport economics	
	1.2	The emergence of modern transport economics	·
	1.3	The scope of the subject	(
	1.4	The economic characteristics of transport	13
	1.5	The framework of the book	1:
	Fur	ther reading	18
2	Transport, Transport Markets and Transport Industries		19
	2.1	Introduction	19
	2.2	The global picture	20
	2.3	Transport at the national level	29
	2.4	Local transport	36
	2.5	Emerging trends	4]
	Furt	ther reading	47
3	Movement, Transport and Location		48
	3.1	The desire for movement	48
	3.2	The 'chicken or egg' problem	49
	3.3	Transport and industrial location	53
	3.4	Gateways and corridors	60
	3.5	Output, market area and transport costs	64
	3.6	Urban transport and land values	68
	3.7	Transport and urban wage rates	73
	Further reading		76
4	The Demand for Transport		
	4.1	Introduction	78
	4.2	Factors that influence travel demand	80
	4.3	The notion of a 'need' for transport	96
	4.4	The valuation of travel time savings	99
	4.5	The demand for car ownership	108
	Further reading		115
5	The Direct Costs of Transport		
	5.1	The supply of transport	116 116

	5.2	Fixed and variable costs	118		
	5.3	Economies of scale, scope, density and experience	129		
	5.4	Specific, joint and common costs	133		
			133		
	3.3	5.5 Problems of common cost allocation – the road and rail track			
	- /	cases	135		
	5.6	Transport user costs and the notion of generalized costs	142		
	5.7	The bunching of services	147		
	5.8	Elements of economic performance	149		
	5.9	Costs and the measurement of economic efficiency	152		
	Furtl	ner reading	160		
6	The External Costs of Transport				
	6.1	Introduction	161		
	6.2	What are externalities?	161		
	6.3	Transport and the environment .	164		
	6.4	The valuation of externalities	167		
	6.5	The magnitude of the environmental externality problem	173		
	6.6	Energy use	187		
	6.7	Introduction to traffic congestion	191		
	6.8	The economic costs of congestion	197		
	6.9	Some refinements on the basic congestion model	199		
	6.10	Some broad aggregate calculations	204		
		ner reading	205		
	1 atti	torreading	200		
7		ng of Transport Services	207		
	7.1	The principles of pricing	207		
	7.2	Matching supply with demand	208		
	7.3	Marginal cost pricing	212		
	7.4	Difficulties of 'second-best' situations	216		
	7.5	Price differentiation, price discrimination and yield			
		management	218		
	7.6	Pricing with stochastic demand	23:		
	7.7	The problem of the peak	23'		
	7.8	Transport subsidies, operational objectives and pricing	24		
	7.9	Market instability, suboptimal supply and the empty core	244		
	7.10	Indirect pricing	24		
	Furtl	ner reading	250		
8	Containing the Environmental Costs of Transport				
J	8.1	Introduction	25 25		
	8.2	The basic approaches	25		
	8.3	The Coasian solution – tradable permits	25		
	8.4	The 'polluter-pays' principle	25		
	8.5	More on environmental standards	26		
	8.6	Transport subsidies and the environment	26		

	Protecting the sufferers Energy use Safety and accidents ther reading timizing Traffic Congestion	268 270 279 283
8.9Fur9 Opt9.19.2	Safety and accidents ther reading timizing Traffic Congestion	279
Fur 9 Opt 9.1 9.2	ther reading timizing Traffic Congestion	
9 Opt 9.1 9.2	timizing Traffic Congestion	283
9.1 9.2	<u> </u>	
9.2		284
	The economic approach	284
9.3	'Road pricing'	285
	Examples of urban road pricing	290
9.4	Some difficulties with road pricing	292
9.5	Outcomes of road pricing implementation	302
9.6	Parking policies	305
9.7	Congestion pricing at airports	307
9.8	Congested seaports	320
9.9	Non-congestion pricing options	321
Fur	ther reading	325
10 Son	ne Economics of Transport Logistics	327
10.1	Introduction	327
10.2	What is 'transport logistics'?	328
10.3	3 Transport costs, warehousing and inventory holdings	331
10.4	Consolidation and trans-shipment	335
10.5	-	337
10.6	Urban logistics	341
10.7	Green logistics	343
10.8	-	346
10.9		347
Fur	ther reading	354
11 Inve	estment Criteria – Private and Public Sector Analysis	356
11.1	•	356
11.2		358
11.3		361
11.4		365
11.5		371
11.6	• •	373
11.7		382
11.8	•	385
11.9		388
	ther reading	391
12 Trai	nsport Planning and Forecasting	392
12.1	•	392
12.2	•	396
12.3	•	401

vii

	12.4	Sequential travel demand forecasting	405
	12.5	Disaggregate modeling	412
	12.6	Interactive and stated preference modeling	415
	Furtl	ner reading	418
13	Transport and Development		419
	13.1	Transport and economic development	419
	13.2	Economic growth theory and transport	420
	13.3	Transport infrastructure investment and economic productivity	426
	13.4	The multiplier impacts of a transport investment	429
	13.5	Transport economics in less developed countries	434
	13.6	The transport policy of the European Union	441
	13.7	Transport and regional and urban development	452
	Further reading		459
14	The Economic Regulation of Transport		461
	14.1	The broad issues	461
	14.2	Theories of regulation	463
	14.3	The regulation of monopoly power	469
	14.4	Priorities in transport policy	473
	14.5	Alternative paths for regulatory reform	483
	14.6	Studying regulatory reform	488
	14.7	Coordination via the market, or by direction?	493
	Further reading		497
Ind	Index		