1 economics. pectrum of written an ly published f reference. Web at siert durch: zern The 2010

The Economics of Traffic Congestion Volume I



Edited by

Erik Verhoef

Professor of Spatial Economics, Vrije Universiteit Amsterdam, The Netherlands

THE INTERNATIONAL LIBRARY OF CRITICAL WRITINGS IN ECONOMICS

An Elgar Research Collection

Cheltenham, UK • Northampton, MA, USA

Contents

Acknowledg Introduction			ix xiii
PART I	CON 1.	A.C. Pigou (1920), 'Divergences between Marginal Trade Net Product and Marginal Individual Net Product', in <i>The Economics of Welfare</i> , Chapter VIII, London: Macmillan, 189–96, appendix	3
	2.	F.H. Knight (1924), 'Some Fallacies in the Interpretation of Social Cost', <i>Quarterly Journal of Economics</i> , 38 (4), August, 582–606	13
	3.	John Glen Wardrop (1952), 'Some Theoretical Aspects of Road Traffic Research', <i>Proceedings of the Institution of Civil Engineers:</i> Part II, 1 (2), June, 325–78	38
	4.	Martin Beckmann, C.B. McGuire and Christopher B. Winsten (1956), 'Equilibrium' and 'Efficiency', in <i>Studies in the Economics of Transportation</i> , Chapter 3 and Chapter 4, New Haven: Yale University Press, 59–79, 80–101, references	92
	5.	M.J. Lighthill and G.B. Whitham (1955), 'On Kinematic Waves. II: A Theory of Traffic Flow on Long Crowded Roads', <i>Proceedings of the Royal Society of London. Series A, Mathematical and Physical</i>	
	6.	Sciences, 229 (1178), May, 317–45 Paul I. Richards (1956), 'Shock Waves on the Highway',	136
	7.	Operations Research, 4 (1), February, 42–51 A.A. Walters (1961), 'The Theory and Measurement of Private and Social Cost of Highway Congestion', <i>Econometrica</i> , 29 (4),	165
	8.	October, 676–99 William S. Vickrey (1963), 'Pricing in Urban and Suburban Transport', <i>American Economic Review, Papers and Proceedings</i> , 53 (2), May, 452–65	175 199
	9.	Dietrich Braess, Anna Nagurney and Tina Wakolbinger (2005), 'On a Paradox of Traffic Planning', <i>Transportation Science</i> , 39 (4), November, 446–50. [Translated from the German: D. Braess (1968), 'Über ein Paradoxon aus der Verkehrsplanung',	199
		Unternehmensforschung, 12, 258–68]	213
PART II	DYN 10.	WAMIC MODELLING William S. Vickrey (1969), 'Congestion Theory and Transport Investment', American Economic Review, Papers and Proceedings, 59 (2), May, 251–60	221

	11.	Kenneth A. Small (1982), 'The Scheduling of Consumer Activities:	221
	12.	Work Trips', <i>American Economic Review</i> , 72 (3), June, 467–79 Richard Arnott, André de Palma and Robin Lindsey (1993), 'A	231
		Structural Model of Peak-Period Congestion: A Traffic Bottleneck	
		with Elastic Demand', American Economic Review, 83 (1), March, 161–79	244
	13.	Carson E. Agnew (1976), 'Dynamic Modeling and Control of	
		Congestion-Prone Systems', <i>Operations Research</i> , 24 (3), May–June, 400–419	263
	14.	G.F. Newell (1988), 'Traffic Flow for the Morning Commute',	200
		Transportation Science, 22 (1), February, 47–58	283
	15.	Xuehao Chu (1995), 'Endogenous Trip Scheduling: The Henderson	
		Approach Reformulated and Compared with the Vickrey Approach', <i>Journal of Urban Economics</i> , 37 (3), May, 324–43	295
		Journal of Orban Economics, 31 (3), May, 324-43	273
PART III	SEC	COND-BEST CONGESTION PRICING	
	16.	H. Lévy-Lambert (1968), 'Pricing of Variable-Quality Services –	
		Application to Road Tolls', <i>Econometrica</i> , 36 (3–4), July–October,	
		564–74 [Translated from the French: 'Tarification des Services à	217
	17	Qualité Variable: Application aux Péages de Circulation'], reset	317
	17.	Maurice Marchand (1968), 'A Note on Optimal Tolls in an	
		Imperfect Environment', <i>Econometrica</i> , 36 (3–4), July–October, 575–81	328
	18.	Erik Verhoef, Peter Nijkamp and Piet Rietveld (1996), 'Second-	
		Best Congestion Pricing: The Case of an Untolled Alternative',	
		Journal of Urban Economics, 40 (3), November, 279-302	335
	19.	Ralph M. Braid (1996), 'Peak-Load Pricing of a Transportation	
		Route with an Unpriced Substitute', Journal of Urban Economics,	
	••	40 (2), September, 179–97	359
	20.	B. De Borger, S. Proost and K. Van Dender (2005), 'Congestion and	
		Tax Competition in a Parallel Network', European Economic	270
	21.	Review, 49 , 2013–40 David M. Levinson (2000), 'Revenue Choice on a Serial Network',	378
	21.	Journal of Transport Economics and Policy, 34 (1), January, 69–98	406
	22.	Erik T. Verhoef (2002), 'Second-Best Congestion Pricing in General	700
		Networks. Heuristic Algorithms for Finding Second-Best Optimal	
		Toll Levels and Toll Points', Transportation Research Part B, 36,	
		707–29	436
	23.	Agachai Sumalee, Tony May and Simon Shepherd (2005),	
		'Comparison of Judgmental and Optimal Road Pricing Cordons',	
		Transport Policy, 12, 384–90	459
	24.	Se-il Mun, Ko-ji Konishi and Kazuhiro Yoshikawa (2003), 'Optimal	
		Cordon Pricing', Journal of Urban Economics, 54, 21–38	466

25.	Richard Arnott, André de Palma and Robin Lindsey (1990),	
	'Economics of a Bottleneck', Journal of Urban Economics, 27 (1),	
	January, 111–30	484
26.	Richard Arnott and Marvin Kraus (1998), 'When Are Anonymous	
	Congestion Charges Consistent with Marginal Cost Pricing?',	
	Journal of Public Economics, 67, 45–64	504
27.	Inge Mayeres and Stef Proost (2001), 'Marginal Tax Reform,	
	Externalities and Income Distribution', Journal of Public	
	Economics, 79, 343–63	524
28.	Ian W.H. Parry and Antonio Bento (2001), 'Revenue Recycling and	
	the Welfare Effects of Road Pricing', Scandinavian Journal of	
	Economics, 103 (4), December, 645-71	545
29.	André de Palma and Robin Lindsey (1998), 'Information and	
	Usage of Congestible Facilities under Different Pricing Regimes',	
	Canadian Journal of Economics, 31 (3), August, 666–92	572
30.	Amihai Glazer and Esko Niskanen (1992), 'Parking Fees and	
	Congestion', Regional Science and Urban Economics, 22 (1),	
	March, 123–32	599
31.	Richard Arnott and John Rowse (1999), 'Modeling Parking',	
	Journal of Urban Economics, 45 (1), January, 97–124	609
32.	Kenneth A. Small and José A. Gomez-Ibañez (1998), 'Road Pricing	
	for Congestion Management: The Transition from Theory to	
	Policy', in Kenneth J. Button and Erik T. Verhoef (eds), Road	
	Pricing, Traffic Congestion and the Environment: Issues of	
	Efficiency and Social Feasibility, Chapter 10, Cheltenham, UK and	
	Northampton, MA, USA: Edward Elgar, 213–46	637

The Economics of Traffic Congestion Volume II

Edited by

Erik Verhoef

Professor of Spatial Economics, Vrije Universiteit Amsterdam, The Netherlands



THE INTERNATIONAL LIBRARY OF CRITICAL WRITINGS IN ECONOMICS

An Elgar Research CollectionCheltenham, UK • Northampton, MA, USA

Contents

Acknowled An introdu	-	nts o both volumes by the editor appears in Volume I	ix
PART I	PRI	VATE ROADS	
	1.	Noel M. Edelson (1971), 'Congestion Tolls under Monopoly', American Economic Review, 61 (5), December, 873–82	3
	2.	David E. Mills (1981), 'Ownership Arrangements and Congestion- Prone Facilities', <i>American Economic Review</i> , 71 (3), June,	
	3.	493–502 Philip A. Viton (1995), 'Private Roads', Journal of Urban	13
	4.	Economics, 37 (3), May, 260–89 Louie Nan Liu and John F. McDonald (1998), 'Efficient Congestion Tolls in the Presence of Unpriced Congestion: A Peak and Off-Peak	23
		Simulation Model', <i>Journal of Urban Economics</i> , 44 (3), November, 352–66	53
	5.	André de Palma and Robin Lindsey (2000), 'Private Toll Roads: Competition under Various Ownership Regimes', <i>Annals of Regional Science</i> , 34 , 13–35	68
	6.	Eduardo Engel, Ronald Fischer and Alexander Galetovic (1997), 'Highway Franchising: Pitfalls and Opportunities', <i>American Economic Review, Papers and Proceedings</i> , 87 (2), May, 68–72	91
PART II	INV	ESTMENT AND FINANCING	
IAKI II	7.	Herbert Mohring and Mitchell Harwitz (1962), 'Highway Taxation and the Magnitude of Highway Benefits', from 'Benefits and the Tax System', in <i>Highway Benefits: An Analytical Framework</i> , Chapter 2, Evanston, IL: Northwestern University Press, 70–90,	
	8.	references Theodore E. Keeler and Kenneth A. Small (1977), 'Optimal Peak-Load Pricing, Investment, and Service Levels on Urban	99
	9.	Expressways', Journal of Political Economy, 85 (1), February, 1–25 Marvin Kraus (1981), 'Scale Economies Analysis for Urban Highway Networks', Journal of Urban Economics, 9 (1), January,	121
		1–22	146
	10.	David M. Newbery (1989), 'Cost Recovery from Optimally Designed Roads', <i>Economica</i> , New Series, 56 , (222), May, 165–85	168
	11.	William C. Wheaton (1978), 'Price-Induced Distortions in Urban Highway Investment', <i>Bell Journal of Economics</i> , 9 (2), Autumn,	
		622–32	189

	12.	John D. Wilson (1983), 'Optimal Road Capacity in the Presence of Unpriced Congestion', <i>Journal of Urban Economics</i> , 13 , 337–57	200
	13.	Edmond L. d'Ouville and John F. McDonald (1990), 'Optimal	200
	15.	Road Capacity with a Suboptimal Congestion Toll', <i>Journal of</i>	
		Urban Economics, 28 (1), July, 34–49	221
	14.	J. Berechman and D. Pines (1991), 'Financing Road Capacity and	
		Returns to Scale under Marginal Cost Pricing', Journal of	
		Transport Economics and Policy, XXV (2), May, 177–81	237
	15.	Kenneth A. Small (1999), 'Economies of Scale and Self-Financing	
		Rules with Non-Competitive Factor Markets', Journal of Public	
		Economics, 74 , 431–50	242
	16.	Richard Arnott and Marvin Kraus (1998), 'Self-Financing of	
		Congestible Facilities in a Growing Economy', in David Pines,	
		Efraim Sadka and Itzhak Zilcha (eds), Topics in Public Economics:	
		Theoretical and Applied Analysis, Chapter 7, Cambridge:	
		Cambridge University Press, 161–84	262
	17.	Hai Yang and Qiang Meng (2002), 'A Note on "Highway Pricing	
		and Capacity Choice in a Road Network under a Build-Operate-	
		Transfer Scheme", Transportation Research Part A, 36, 659–63	286
PART III	COI	NGESTION, ROAD PRICING AND URBAN LAND USE	
	18.	Robert M. Solow and William S. Vickrey (1971), 'Land Use in a	
		Long Narrow City', <i>Journal of Economic Theory</i> , 3 (4), December, 430–47	293
	19.	Robert M. Solow (1973), 'Congestion Cost and the Use of Land for	
		Streets', Bell Journal of Economics and Management Science,	
		4 (2), Autumn, 602–18	311
	20.	Yitzhak Oron, David Pines and Eytan Sheshinski (1973), 'Optimum	
		vs. Equilibrium Land Use Pattern and Congestion Toll', Bell	
		Journal of Economics and Management Science, 4 (2), Autumn,	
		619–36	328
	21.	Richard J. Arnott and James G. MacKinnon (1978), 'Market and	
		Shadow Land Rents with Congestion', American Economic Review,	246
	22	68 (4), September, 588–600	346
	22.	Alex Anas and Rong Xu (1999), 'Congestion, Land Use, and Job	
		Dispersion: A General Equilibrium Model', Journal of Urban	359
		Economics, 45 (3), May, 451–73	339
PART IV		CIAL ACCCEPTABILITY AND DISTRIBUTIONAL ASPECTS	
		ROAD PRICING	
	23.	Christopher D. Foster (1974), 'The Regressiveness of Road	
		Pricing', International Journal of Transport Economics, 1 (2),	205
		August, 133–41, reset	385

Harry W. Richardson (1974), 'A Note on the Distributional Effects	
of Road Pricing', Journal of Transport Economics and Policy,	
VIII (1), January, 82–5	393
C.D. Foster (1975), 'A Note on the Distributional Effects of Road	
Pricing: A Comment', Journal of Transport Economics and Policy,	
IX (2), May, 186–7	397
Harry W. Richardson (1975), 'A Rejoinder', Journal of Transport	
Economics and Policy, IX (2), May, 188	399
Richard Layard (1977), 'The Distributional Effects of Congestion	
Taxes', <i>Economica</i> , New Series, 44 (175), August, 297–304	400
Richard Arnott, André de Palma and Robin Lindsey (1994), 'The	
Welfare Effects of Congestion Tolls with Heterogeneous	
Commuters', Journal of Transport Economics and Policy,	
XXVIII (2), May, 139–61	408
P.B. Goodwin (1989), 'The "Rule of Three": A Possible Solution to	
the Political Problem of Competing Objectives for Road Pricing',	
Traffic Engineering and Control, 30 (10), October, 495–7	431
Kenneth A. Small (1992), 'Using the Revenues from Congestion	
Pricing', <i>Transportation</i> , 19 (4), 359–81	434
	of Road Pricing', Journal of Transport Economics and Policy, VIII (1), January, 82–5 C.D. Foster (1975), 'A Note on the Distributional Effects of Road Pricing: A Comment', Journal of Transport Economics and Policy, IX (2), May, 186–7 Harry W. Richardson (1975), 'A Rejoinder', Journal of Transport Economics and Policy, IX (2), May, 188 Richard Layard (1977), 'The Distributional Effects of Congestion Taxes', Economica, New Series, 44 (175), August, 297–304 Richard Arnott, André de Palma and Robin Lindsey (1994), 'The Welfare Effects of Congestion Tolls with Heterogeneous Commuters', Journal of Transport Economics and Policy, XXVIII (2), May, 139–61 P.B. Goodwin (1989), 'The "Rule of Three": A Possible Solution to the Political Problem of Competing Objectives for Road Pricing', Traffic Engineering and Control, 30 (10), October, 495–7 Kenneth A. Small (1992), 'Using the Revenues from Congestion