# Kenneth A. Small

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ECONOMICS | SOCIAL SCIENCES | UC IRVINE

KENNETH A. SMALL Department of Economics University of California Irvine, CA 92697-5100

# **EDUCATION**

B.S., A.B.	University of Rochester, 1968, Physics, Mathematics
M.A.	University of California, Berkeley, 1972, Physics
Ph.D.	University of California, Berkeley, 1976, Economics

#### ACADEMIC AND PROFESSIONAL POSITIONS HELD

2006-	Professor Emeritus of Economics, University of California at Irvine
1986-2005	Professor of Economics, University of California at Irvine
1983-86	Associate Professor of Economics, University of California at Irvine
1976-83	Assistant Professor of Economics, Princeton University
1972	Intern, President's Council on Environmental Quality
1971-76	Teaching and Research Assistant positions, University of California, Berkeley
1969-70	Research Assistant, Dept. of Environmental Medicine, Johns Hopkins University

#### ADMINISTRATIVE POSITIONS HELD

2001-03	Vice Chair, Department of Economics, UC Irvine
1992-95	Chair, Department of Economics, UC Irvine
1986-92	Associate Dean for Graduate Studies, School of Social Sciences, UC-Irvine
	(Acting Dean, various periods, 1988-92)

# FIELDS OF SPECIALIZATION

Urban Economics, Transportation Economics, Discrete-Choice Econometrics, Environmental Economics

#### VISITING POSITIONS

Nonresident Fellow, Resources for the Future, Washington, D.C., 2010-current Professor II (10%), Molde University College (Norway), 2007-current Visiting Professor, Universitat Autònoma de Barcelona, Oct 2008 Visiting Patterson Scholar, Northwestern University, Apr.-June 2004 Gilbert White Fellow, Resources for the Future, Washington, D.C. 1999-2000 Visiting Professor, Katholieke Universiteit Leuven, Belgium, May 2000 Visiting Professor, Harvard University, 1991-92 Visiting resident: Boston College (Jan.-June 1992), Tel Aviv University (March-April 1990) Research Associate, Brookings Institution, 1978-79

#### **EDITORIAL POSITIONS**

Editorial Boards: Journal of Urban Economics (since 1989); Journal of Transport Economics and Policy (since 1995); Transportation Research, Part B: Methodological (since 2008); Economics of Transportation (founding member, since 2011).
Associate Editor: Transportation Research, Part B: Methodological, 2003-07
North American co-editor, Urban Studies, 1992-97; Editorial Board, 1997-2003
Book series co-editor, Transp. Research, Economics and Policy, Kluwer Academic Pub., 1993-2003
Editorial Board (founding member), Journal of Economic Geography, 1999-2003
Other editorial boards: Regional Science and Urban Economics (1987-2010); Transportation (1993-2010).

# PROFESSIONAL AFFILIATIONS & AWARDS

Founding President, International Transportation Economics Association, 2011-Excellence in Refereeing Award, *American Economic Review*, 2009, 2011 Faculty Achievement Award (for research, teaching, and service), Univ. of Calif.-Irvine, 2007 Fellow, Regional Science Association International, 2006 Visiting Patterson Scholar, Northwestern University, 2004 Distinguished Transportation Research Award, Transportation Research Forum, 2004 Distinguished Member Award, Transp'n & Public Utilities Group, American Economic Association, 1999 Gilbert White Fellow, Resources for the Future, 1999-2000

Special issue of Journal of Urban Economics entitled Essays in Honor of Kenneth A. Small, vol. 62, 2007

Listed in: Edward Elgar, Who's Who in Economics; Gale Research, Contemporary Authors; Marquis Who's Who in the World, Who's Who in America, Who's Who in Science and Engineering, Who's Who in Finance and Industry; Academic Keys Who's Who in Social Sciences Higher Education.

Professional memberships: American Economic Assoc.; Association of Environmental and Resource Economists; Econometric Society; International Association for Travel Behaviour Research; International Transportation Economics Association; Regional Science Association; Transportation Research Board.

Other affiliations:

Transportation Center, University of California (system-wide); Institute of Transportation Studies, UC-Irvine; Institute of Mathematical Behavioral Sciences, UC-Irvine; Dept. of Planning, Policy and Design, UC-Irvine

#### REFEREEING, CONSULTING, AND PUBLIC SERVICE ACTIVITIES

#### **Advisory Groups:**

Advisory Committee, Center for Energy Economics and Policy, Resources for the Future, 2012-. Peer Review Panel for Ridership and Revenue Forecasting, California High-Speed Rail Authority, 2010-. Advisory Board, GRACE project (Generalisation of Research on Accounts and Cost Estimation),

funded by European Union through Univ. of Leeds, 2005-07.

Advisory Board, Mobility Project, Reason Foundation, 2005-07.

Committee on the Status of Women in the Economics Profession, American Economic Assoc., 1995-97. Advisory Council, South Coast Air Quality Management District (Calif.), 1989-92.

Technical Oversight Committee, Congestion Pricing Study, Southern California Association of Governments, 1990-91.

#### **Academic Reviews:**

External Review Committee, Transportation Center, Northwestern University, 1999. External Review Committee, Dept. of Economics, Oregon State University, 1994.

#### **Study Committees:**

- Committee on Equity Implications of Alternative Transportation Finance Mechanisms, National Research Council, 2008-2011.
- Committee for the Evaluation of the Congestion Mitigation and Air Quality Improvement Program, National Research Council, 1999-2002.

Review Committee, Highway Cost Allocation Study, Transportation Research Board, 1995-97. Committee for the Study on Urban Transportation Congestion Pricing, Nat'l Research Council, 1992-94.

#### Referee of journal articles:

American Economic Journal: Economic Policy; American Economic Review; Annals of Regional Science; ASCE Journal of Transportation Engineering; Berkeley Electronic Press Journals in Economic Analysis & Policy; Canadian Journal of Economics; Communications in Statistics; Contemporary Economic Policy; Econometric Theory; Econometrica; Economic Geography; Economic Inquiry; Economic Journal; Economics of Transportation: Journal of the ITEA; Energy Economics; Energy Journal; European Econ. Review; Geographical Analysis; Growth and Change; International Econ. Review; International Regional Science Review; Jour. of Public Transportation; Jour. of Applied Econometrics; Jour. of Business and Economic Statistics; Jour. of Econometrics; Jour. of Economic Geography; Jour. of Economic Literature; Jour. of Environmental Econ. and Management; Jour. of Housing Econ.; Jour. of Law and Economics; Jour. of Policy Analysis and Management; Jour. of Political Economy; Jour. of Public Economics; Jour. of Real Estate Economics and Finance; Jour. of Regional Science; Jour. of the American Real Estate and Urban Econ. Assoc.; Jour. of the American Statistical Association; Jour. of Transport Economics and Policy; Jour. of Transport Geography; Jour. of Urban Economics; Logistics and Transportation Review; National Tax Journal; Policy Studies Journal; Public Finance and Management; Quarterly Journal of Economics; Regional Science and Urban Econ.; Research in Transportation Econ.; Review of Economics and Statistics; Review of Urban and Regional Development Studies; Scandinavian Journal of Economics; Transport Policy and Decision Making; Transport Policy; Transport Reviews; Transportation; Transportation Research A, B, C; Transportation Research Record; Transportation Science; Urban Studies; World Bank Economic Review

- Referee of articles for edited volumes (since 1995): Measuring the Full Costs and Benefits of Transportation; Handbooks in Transport; The Leading Edge of Travel Behaviour Research.
- Referee of book proposals or manuscripts (since 1990): Brookings Institution; Kluwer Academic Publishers; Blackwell Publishers; Harper Collins College Publishers; John Wiley & Sons; American Enterprise Institute.
- Reviewer of reports (since 1995): National Academy of Sciences/National Research Council; U.S. Congress Office of Technology Assessment; World Bank; U.S. Federal Highway Administration; Reason Foundation; RAND Corporation.
- **Reviewer of conference papers:** International Transport Economics Conference (2) (Apr 09);

#### **Program committee for conferences:**

Second World Congress of Environmental and Resource Economists (Monterey, Calif., June 2002) World Conference on Transport Research (Berkeley, Calif., June 2007) Kuhmo-Nectar Fourth Annual Conference on Transport and Urban Economics (Copenhagen, July 2009) Summer conference, Association of Environmental and Resource Economists (Seattle, June 2011).

# **Referee of research proposals** (since 1993):

National Science Foundation California Policy Research Center, Univ. of California University Transportation Centers: Region One (M.I.T.); Region Two (New York University); METRANS (Univ. of Southern Calif.); University of California Transportation Center Research Grants Council of Hong Kong Fund for Scientific Research (Belgium). Hampton Fund Committee, Univ. of British Columbia Social Science and Humanities Research Council (Canada)

- Univ. of California Energy Institute
- **Reviewer of fellowship applications** (since 1995): Fulbright Fellowship; Guggenheim Foundation; University of Alberta.

Consultant (since 1995): National Cooperative Highway Research Program; San Diego Assoc. of Governments; UK Dept. of Environment, Transport, & Resources; Commission of the European Communities; EcoNorthwest; California Air Resources Board; California Attorney General; Vermont Attorney General; Parsons Brinckerhoff; Energy and Environmental Analysis, Inc.; Resources for the Future; National Transportation Commission (Australia); Weiss and Lurie; Economic Development Research Group; California High Speed Rail Authority; ICF International; Paul, Weiss, Rifkind, Wharton & Garrison LLP;

# INVITED TALKS - INTERNATIONAL - SELECTED

Presented resource paper, "Long run trends in transport demand, fuel price elasticities and implications of the oil outlook for transport policy" (with Kurt Van Dender), Research Round Table on *Oil Dependence: Is Transport Running Out of Affordable Fuel?*, Joint OECD/ITF Transport Research Centre, Organisation of Economic Co-operation and Development and International Transport Forum, Paris, Nov 2007.

Keynote speaker, "Transport Economics: Impacts on Research and Policy," European Transport Conference, Noordweikerhout, Netherlands, Oct 2007.

Keynote speaker, "Transport Economics: Impacts on Research and Policy," Kuhmo Nectar Conference, Urbino, Italy, July 2007.

"Travelers' Evaluation of Reliability of Service," Public Transport Forum, Institute of Transport Economics, Oslo, Norway, March 2007. (Repeated at Molde University College, Molde, Norway.)

Panelist, Roundtable on Privatisation and Regulation of Urban Transit Systems, European Conference of Ministers of Transport, Paris, Nov. 2006.

Keynote speaker, "Transport Economics: Impacts on Research and Policy," Workshop on Transportation and Sustainable Cities, University of Chile, August 7-11, 2006.

Luncheon speaker, "The Future of Congestion Pricing," First International Conference on Funding Transportation Infrastructure, Banff, Alberta, August 2-3, 2006.

Speaker & discussant, International Symposium on Spatial Economics & Transportation, Sendai, Japan, June 2005.

Luncheon speaker, "Out on a Limb: Pricing Futures," International Symposium on Road Pricing, Key Biscayne, Florida, Nov. 2003.

Speaker and panelist, NSF Open Workshop on Decision-Based Design, ASME International Design Engineering Technical Conferences, Montreal, Sept. 2002.

Keynote speaker & panelist, "The Transport Sector in an Era of Environmental Management," 60th Anniversary Internat'l Conference of Japan Society of Transportation Economics, Osaka, Japan, July 2001.

Panelist, International Conference on "Urbanization in China: Challenges and Strategies of Growth and Development," Chinese Economists Society, Xiamen, China, June 2001.

Keynote speaker, "Mechanisms of Urban Agglomeration and Its Measurement," Seminar on Urban Economic Policy, Government Institute for Economic Research, Helsinki, Finland, Aug. 1999.

Keynote speaker, "Environment and Transportation Policy: A Review and Prospectus," International Workshop on Environment and Transport in Economic Modelling, University of Venice, Nov. 1995.

"Simulation of Urban Highway Congestion Incorporating Travel Reliability," Int'l Symposium on Transport Econ. & Policy Implications, Korea Transport Inst. & Korean Air Transport Research Inst., Seoul, July '95.

Speaker, workshop on "Internalizing Transport-Related Externalities in the European Union," Directorates-General for Transport and Economic & Financial Affairs, European Commission, Brussels, March 1994.

Speaker, "Real Costs of Transportation and Influence of Pricing Policies," Tenth Convocation of the Council of Academies of Engineering and Technological Sciences, Zurich, Sept. 1993.

Plenary speaker, "Economics and Urban Transportation Policy in the United States," Regional Science Association International, European Congress, Louvain-La-Neuve, Belgium, Aug. 1992.

# INVITED TALKS – U.S. – SELECTED

Speaker, "Energy Policies for Transportation," Workshop on *Toward a New National Energy Policy: Assessing the Options*, Resources for the Future, Washington, D.C., June 2010.

Speaker, "Gasoline and Carbon Taxes," Conference on *Transportation Revenue Options: Infrastructure, Emissions and Congestion*, Harvard Kennedy School, Cambridge, Mass., May 2010.

Panelist, Workshop on "Pricing and Social Equity," Keston Institute for Public Finance and Infrastructure Policy, Univ. of Southern California, April 2010.

Speaker, Public Affairs Symposium and Forum, Federal Reserve Bank of Atlanta, Oct. 2009.

Speaker and panelist, Forum on "Reinventing Los Angeles: Easing Sprawl, Growth, and Gridlock," Hammer Museum, UCLA, Jan. 2009.

Member, Expert Panel, National Cooperative Highway Research Program Project on Global Climate Change, Washington, D.C., July 2008.

Speaker, "Reducing Congestion through Variable (or Differentiated) Pricing," Workshop on Using Payment Innovations to Improve Transportation Networks, Federal Reserve Bank of Chicago, June 2007.

Speaker, "Urban Transportation Policy: A Guide and Road Map," Conference on "Unraveling the Urban Enigma: City Prospects, City Policies," Wharton School, Univ. of Pennsylvania, May 2007.

Introduction, Workshop on Modeling Growth for the Nation's Capital, Resource for the Future, Washington, D.C., March 2007.

Speaker and panelist, Policy Session, Executive Committee, Transportation Research Board, Washington, D.C., Jan. 2006.

Panelist, Roundtable on Transport, Urban Form and Economic Growth, European Conference of Ministers of Transport, Univ. of Calif., Berkeley, Mar. 2006.

Expert Panel on Benefit-Cost Analysis and Public Investment in Transit and Highways, National Research Council & U.S. General Accountability Office, Washington, D.C., June 2004.

Leadoff speaker, Session on Transportation Issues, Conference on Urban Sprawl and Transportation Policy, Weidenbaum Center Forum, Washington University, St. Louis, May 7, 2004.

Lecture series, "Measuring the Demand for Goods" and "Project Evaluation for Decision-making." NSF Symposium on *Decisions and Engineering*, for academic engineers. Univ. of Calif. at Irvine, Oct. 2001.

Public lecture, "Urban Agglomeration and Sprawl: Measurement, Mechanisms, Diagnoses", Resources for the Future, Washington, DC, Mar. 2000.

Panelist and speaker, Chairman's Roundtable: "Urban Sprawl," Lincoln Institute of Land Policy, Cambridge, Mass., Nov. 1999.

Speaker, "Is 'Value Pricing' an Alternative to New Highway Construction for Congestion Relief?" European Science Foundation & National Science Foundation, conference on Social Change and Sustainable Transport, Berkeley, Calif., Mar. 1999.

Speaker, "Congestion Management and Transportation Pricing," (with Martin Wachs), Office of the Secretary, US Department of Transportation, Washington, D.C., March 1995.

Panel speaker and moderator, "Mobility Versus Environment: Transportation's Dilemma," Presidents' Circle Meeting, National Academy of Sciences, Irvine, Calif., Nov. 1993.

Speaker, "New Ways of Paying for Roads," American Trucking Associations Foundation, Key Largo, Florida, April 1992.

# PRESENTATIONS AT COLLOQUIA & PROFESSIONAL MEETINGS (since 1997)

#### **Colloquia presentations:**

National Chengchi Univ. (Taiwan, 1997)), Academia Sinica (Taiwan, 1997), Univ. of Hong Kong (1997), Hong Kong Univ. of Science and Technology (1997), Washington Univ. (1999), Georgetown Univ. (1999), Harvard Univ. (1999), M.I.T. (1999), Boston College (1999), U.S. Environmental Protection Agency (2000), Tinbergen Institute (Amsterdam, 2000), Imperial College (London, 2000), Univ. of Calif. at Davis (2000), World Bank (2000), Doshisha Univ. (Kyoto, Japan, 2001), Univ. of Maryland at College Park (2000, 2004), Univ. of Illinois at Urbana-Champaign (2004), Univ. of Texas at Austin (2004), Federal Reserve Bank of Chicago (2004), Univ. of Southern California (2004), Univ. of Tokyo (2005), Brigham Young Univ. (2005), Resources for the Future (2000, 2006), Oregon State Univ. (2006), Portland State Univ. (1992, 2006), Stanford Univ. (2004, 2006), Federal Reserve Bank of New York (2007), University of Leeds (2007), Danish Transport Research Institute and University of Copenhagen (2007), Universitat Autònoma de Barcelona (2008), Universitat de Barcelona (2008), Catholic University of Leuven, Belgium (2000, 2008), Northwestern Univ. (2003, 2004, 2009, 2010).

#### Presentations of papers at conferences and meetings of professional societies:

American Economic Association (1998, 2002); American Real Estate and Urban Economics Association (1997); Regional Science Association (1999, 2006); Transportation Research Board (2000); International Assoc. of Travel Behaviour Research (1997, 2003); Conference on Environmental Economics, UC Santa Barbara (2001); Second World Congress of Environmental and Resource Economists (2002); STELLA (Sustainable Transport in Europe and Links and Liaisons with America) (2003); Conference on Theory and Practice of Congestion Charging, Imperial College, London (2003); Brookings-Wharton Conference on Urban Affairs (2005); World Conference on Transport Research (2007); Oslo Workshop on Valuation Methods in Transport Planning (2007); Kuhmo-Nectar Conference on Transport and Urban Economics (Amsterdam 2008, Copenhagen 2009, Valencia 2010, Stockholm 2011); Rena Sivitanidou Annual Research Symposium, Lusk Center for Real Estate, Univ. of Southern Calif. (2009); International Transport Economics Conference, Minneapolis (2009).

# Invited discussant at conferences and meetings of professional societies:

American Economic Assoc. (1997); Regional Science Assoc. (1999); Transportation Research Board (1997); Brookings-Wharton Conference on Urban Affairs (2000), Workshop on Industrial Organization and Public & Environmental Economics, Stanford Univ. (2003); Rena Sivitanidou Annual Research Symposium, Lusk Center for Real Estate, Univ. of Southern Calif. (2006); National Bureau of Economic Research (2000, 2002, 2008); Lincoln Institute of Land Policy (2010).

# Chair or organizer of sessions:

American Economic Assoc. (1997); Second World Congress of Environmental & Resource Economists (2002); Conference on "Transportation Financing in California," Center for Urban Infrastructure, UC Irvine (March 2003); Conference on "Taxation and Decentralization," Center for the Study of Democracy, UC Irvine (2005); World Conference on Transport Research (2007).

# **GRANTS** (selected)

- 2010 "Response of Light-Duty Vehicle Travel and Fuel Consumption to Fuel Costs," UC Center for Energy and Environmental Economics (\$13,686).
- 2006-2007 "Effects of Policies to Reduce Light-Duty Vehicle Fuel Consumption," Energy and Environmental Analysis, Inc., subcontract on project for US Dept. of Energy (\$110,000) (with Kurt Van Dender).
- 2005-2006 "The Impact of Transportation Fuel Conservation Strategies in California," University of California Energy Institute (\$35,000).

#### <u>GRANTS</u> – (Continued)

- 2003-2005 "Study to Evaluate the Effect of Improved Fuel Economy on Vehicle Miles Traveled and Resulting Economic Impacts," Calif. Air Resources Board (\$75,590) (with Kurt Van Dender).
- 2001-2002 "Fuel Taxes and the Control of Externalities from Motor Vehicles," University of California Energy Institute (\$39,400).
- 2000-2001 "Diversity in the Value of Travel Time and Reliability," U.S. Dept. of Transportation and Calif. Dept. of Transportation (\$15,687). Funded through U.C. Transportation Center.
- 2000-2001 "Viability of Public Transit with Road Pricing Measures," University of California Energy Institute (\$24,900).
- 1999-2001 "Travel Demand Modeling for State Route 91 Express Lanes," U.S. Dept. of Transportation (\$30,000). Funded as subcontract to Cal Poly San Luis Obispo.
- 1999-2000 "Viability of Value Pricing Demonstrations," U.S. Dept. of Transportation and Calif. Dept. of Transportation (\$70,000). Funded through U.C. Transportation Center.
- 1997-98 "Travel Behavior on a Congestion Pricing Project," U.S. Dept. of Transportation and Calif. Dept. of Transportation (\$58,912). Funded through U.C. Transportation Center.
- 1996-99 "Benefits, Acceptance and Marketability of Value-Pricing Services," ITF Intertraffic, a subsidiary of Daimler-Benz AG (\$149,500).
- 1995-96 "Valuation of Travel-Time Savings and Predictability in Congested Conditions for Highway User-Cost Estimation," National Cooperative Highway Research Program, National Research Council (\$70,126) (with David Lewis, Hickling Corp.).
- 1993-94 "Congestion Pricing and Financial Self-Sufficiency," U.S. Dept. of Transportation and Calif. Dept. of Transportation (\$22,379). Funded through U.C. Transp. Center.
- 1993-94 "Socio-Economic Attributes and Impacts of Travel Reliability: A Stated Preference Approach," California Department of Transportation (\$120,036). Funded through California PATH (Partners for Advanced Transit and Highways).
- 1988-93 "Travel Flows and Sub-Center Development," U.S. Dept. of Transportation and Calif. Department of Transportation (\$222,708) (with G. Giuliano). Funded through U.C. Transportation Center, five separate proposals and grants (first joint with R. Teal).
- 1987-88 "Methanol Fuel for Los Angeles Area Transit Buses: Costs and Benefits": The John Randolph Haynes and Dora Haynes Foundation (\$34,532).
- 1985-87 "Aggregate Welfare Measures and Probabilistic Criteria for Welfare Improvement": National Science Foundation (\$23,863).
- 1985-86 "Costs and Benefits of Methanol as a Replacement for Oil Fuels": Univ. of California Energy Research Group (\$5,000), (with D. Brownstone, S. Erfle, G.J. Fielding, and C. Lave).
- 1984-89 "Effects of Marginal Cost Pricing of Motor Freight", "Work Trip Scheduling and Traffic Congestion", "Activity and Transportation Systems Development", "Costs and Benefits of Methanol Fuel", "New Specification Tests for Travel Demand Models", "Statistical Analysis of Road-Test Data": Univ. of California, Institute of Transportation Studies (\$79,821).
- 1982-84 "Discrete Choice Econometrics: Estimation of Two Probability Models": National Science Foundation (\$33,402).
- 1980-82 "Qualitative Choice Analysis and Trip Timing Behavior": National Science Foundation (\$50,982), (with D. Brownstone).
- 1977-78 "Analysis of Urban Travel Demand": National Science Foundation (\$24,400).

# **PUBLICATIONS**

# **Books**

Bradbury, Katharine, Anthony Downs, and Kenneth A. Small. *Futures for A Declining City: Simulations for the Cleveland Area*, Academic Press, 1981.

Bradbury, Katharine, Anthony Downs, and Kenneth A. Small. Urban Decline and the Future of American Cities, Brookings Institution, 1982.

Extract pre-published as: "Forty Theories of Urban Decline," *Urban Affairs Papers*, Vol. 3, No. 2 (Spring 1981), pp. 13-20.

Small, Kenneth A., Clifford Winston, and Carol Evans. *Road Work: A New Highway Pricing and Investment Policy*, Brookings Institution, 1989. (Nominated for Abel Wolman Award of the Public Works Historical Society).

Japanese summary: Expressways and Automobiles, Vol. 34 (1991), No. 7, pp. 56-61; No. 8 pp. 58-61.

Small, Kenneth A., *Urban Transportation Economics*, Vol. 51 of *Fundamentals of Pure and Applied Economics* series, Harwood Academic Publishers, 1992.

Revised version in *Urban and Regional Economics*, ed. by Richard Arnott, Volume 1 of *Encyclopedia of Economics*, Harwood Academic Publishers (1996), pp. 251-439.

Japanese version in *Japanese Transportation Policy Research Series*, Vol. 13, Keiso Shobo Ltd., Tokyo (1999).

Gomez-Ibañez, José A., and Kenneth A. Small, *Road Pricing for Congestion Management: A Survey of International Practice*, National Cooperative Highway Research Program Synthesis of Highway Practice No. 210, National Academy Press (1994).

Small, Kenneth A., Robert Noland, Xuehao Chu, and David Lewis, *Valuation of Travel-Time Savings and Predictability in Congested Conditions for Highway User-Cost Estimation*, National Cooperative Highway Research Program Report 431, National Academy Press (1999).

Small, Kenneth A. and Erik T. Verhoef, *The Economics of Urban Transportation*. London and New York: Routledge (2007). (This book is a revision of the 1992 book listed above.)

#### **Edited Books and Special Issues of Journals**

Small, Kenneth A., guest editor. Special Issue on Transportation. *Regional Science and Urban Economics*, Vol. 22, No. 1 (March 1992).

Small, Kenneth A., guest editor. Special Issue on Congestion Pricing. Transportation, 19(4), 1992.

Oum, Tae Hoon, John S. Dodgson, David A Hensher, Steven A. Morrison, Christopher A. Nash, Kenneth A. Small, and W.G. Waters II, eds., *Transport Economics: Selected Readings*, Korea Research Foundation for 21st Century (1995). Updated version: Harwood Academic Publishers, Chur, Switzerland (1997).

Roson, Roberto, and Kenneth A. Small, eds., *Environment and Transport in Economic Modelling* (Kluwer Academic Press, 1998).

Small, Kenneth A., guest editor. Special Issue on "Assessment and Amelioration of Environmental Impacts of Transport", *Journal of Transport Economics and Policy*, 34(2), 2000.

Edited Books and Special Issues of Journals - (Continued)

Small, Kenneth A., guest editor. Special Issue on "Evaluating Policies to Reduce Transportation Air Pollution", *Regional Science and Urban Economics*, 31(4), 2001.

Small, Kenneth A., guest editor. Special Issue on "Chinese Urban Development." *Urban Studies*, 39(12), 2002.

Fosgerau, Mogens, and Kenneth A. Small, guest editors. Special Issue on "Transportation Economics." *Transportation Research Part A: Policy and Practice*, 46(6), July 2012.

# **Coauthored Committee Reports**

National Research Council, Committee for Study on Urban Transportation Congestion Pricing. *Curbing Gridlock: Peak-Period Fees to Relieve Traffic Congestion.* Vol. 1: Committee Report and Recommendations; Vol. 2: Commissioned Papers. Transportation Research Board Special Report 242. National Academy Press, 1994.

National Research Council, Committee for the Evaluation of the Congestion Mitigation and Air Quality Improvement Program, *The Congestion Mitigation and Air Quality Improvement Program: Assessing 10 Years of Experience*. Transportation Research Board Special Report 264. National Academy Press, 2002.

National Research Council, Committee on the Equity Implications of Evolving Transportation Finance Mechanisms, *Equity of Evolving Transportation Finance Mechanisms*. Transportation Research Board Special Report 303. National Academy Press, 2011. <u>http://onlinepubs.trb.org/onlinepubs/sr/sr303.pdf</u>

# Journal Articles and Book Chapters

Small, Kenneth A. and Edward P. Radford, et al. "A Rapid Method for Simultaneous Measurement of Carboxy and Methemoglobin in Blood." *Journal of Applied Physiology*, 31 (1971), pp. 154-160.

Small, Kenneth A. "Air Pollution and Property Values: Further Comment." *Review of Economics and Statistics*, 57 (1975), pp. 105-107.

Pozdena, Randall J. and Kenneth A. Small. "Balancing Gains and Losses from the Gasoline Shortage." In Joseph Garbarino (ed.) *Policy Options for the Gasoline Shortage*, Berkeley: Univ. of California, Institute of Business and Economic Research (1974), pp. 45-57.

Faris, John, Fred A. Reid and Kenneth A. Small. "Effects of Temporal Disaggregation of Trip Data on Traveler Behavior Models." In *Transportation Research Forum Proceedings*, 17 (1976), pp. 432-442.

Keeler, Theodore E. and Kenneth A. Small. "Optimal Peak-Load Pricing, Investment, and Service Levels on Urban Expressways." *Journal of Political Economy*, 85 (1977), pp. 1-25.

- Reprinted in *The Economics of Transport*, ed. Herbert Mohring, in series *The International Library of Critical Writings in Economics*. Edward Elgar (1994), pp. 503-527.
- Reprinted in *Transport Economics: Selected Readings*, ed. by Tae Hoon Oum et al., Harwood Academic Publishers, Chur, Switzerland (1997), pp. 425-455.

Reprinted in *Transport and Land Use*, ed. J. Berechman, H. Kohno, K.J. Button, and P. Nijkamp, in series *Modern Classics in Regional Science*. Cheltenham, UK: Edward Elgar (1996), pp. 582-606.

Reprinted in *The Economics of Traffic Congestion*, ed. by Erik T. Verhoef, in series: *The International Library of Critical Writings in Economics* (Edward Elgar, 2010), Vol. II, ch. 8.

Small, Kenneth A. "Estimating the Air Pollution Costs of Transport Modes." *Journal of Transport Economics and Policy*, 11 (1977), pp. 109-132.

Small, Kenneth A. "Priority Lanes on Urban Radial Freeways: An Economic-Simulation Model." *Transportation Research Record*, 637 (1977), pp. 8-13.

Small, Kenneth A. "Studies of the Valuation of Commuter Travel Time Savings: A Comment." *Journal of Transport Economics and Policy*, 12 (1978), pp. 86-89.

Small, Kenneth A. "Land Use Goals in Transportation Policy: The Case of Central City Decline," *Eastern Economic Review*, 5 (1979), pp. 429-443.

Bradbury, Katharine L., Anthony Downs, and Kenneth A. Small. "Some Dynamics of Central City - Suburban Interactions," *American Economic Review, Papers & Proceedings*, 70 (1980), pp. 410-414.

Small, Kenneth A. and Harvey S. Rosen. "Applied Welfare Economics with Discrete Choice Models." *Econometrica*, 49, No. 1 (Jan. 1981), pp. 105-130.

Reprinted in David A. Hensher and John M. Rose, eds. *Choice Modeling: Foundational Contributions*, Edward Elgar (2012), ch. 10.

Small, Kenneth A. "Energy Scarcity and Urban Development Patterns," *International Regional Science Review*, 5 (1980), pp. 97-117.

Abridged versions in S. Mehay and G. Nunn (eds.), *Urban Economics: Readings and Analysis*, Scott Foresman, 1984, pp. 282-292; and in *Urban Development Commentary*, 5(3) (July 1981), pp. 7-10.

Small, Kenneth A. "A Comment on Gasoline Prices and Urban Structure." *Journal of Urban Economics*, 10 (1981), pp. 311-322.

Small, Kenneth A. "The Scheduling of Consumer Activities: Work Trips." *American Economic Review*, 72, No. 3 (June 1982), pp. 467-479.

Reprinted in *The Economics of Transport*, ed. by Herbert Mohring, in series *The International Library of Critical Writings in Economics* (Cheltenham, UK: Edward Elgar, 1994), pp. 363-375.
Reprinted in *The Economics of Traffic Congestion*, ed. by Erik T. Verhoef, in series: *The International Library of Critical Writings in Economics* (Edward Elgar, 2010), Vol. I, ch. 11.

Small, Kenneth A. "Energy Prices and Real Income Distribution: The Urban Sector." In Hans Landsberg (ed.) *High Energy Costs: Assessing the Burden*, Resources for the Future (1982), pp. 226-251.

Bradbury, Katharine L. and Kenneth A. Small. "Central City Decline: The Case for Attacking the Symptoms." In J. V. Henderson (ed.) *Research in Urban Economics*, Vol. 3: COUPE Papers on Public Economics, JAI Press (1983), pp. 191-216.

Small, Kenneth A. "The Incidence of Congestion Tolls on Urban Highways." *Journal of Urban Economics*, 13 (1983), pp. 90-111.

Reprinted in *Transport and Land Use*, ed. by Joseph Berechman, Hirotada Kohno, Kenneth J. Button, and Peter Nijkamp, in series *Modern Classics in Regional Science*. Cheltenham, UK: Edward Elgar (1996), pp. 621-642.

Small, Kenneth A. "Bus Priority and Congestion Pricing on Urban Expressways." In T. E. Keeler (ed.), *Research in Transportation Economics*, Vol. 1, JAI Press (1983), pp. 27-74.

Small, Kenneth A. "Transportation and Urban Change." In Paul E. Peterson (ed.) *The New Urban Reality*, Brookings Institution (1985), pp. 197-223.

Small, Kenneth A. and Cheng Hsiao. "Multinomial Logit Specification Tests." *International Economic Review*, 26 (1985), pp. 619-627.

Small, Kenneth A. "Effects of the 1979 Gasoline Shortages on Philadelphia Housing Prices." *Journal of Urban Economics*, 19 (1986), pp. 371-381.

Small, Kenneth A. and Clifford Winston. "Welfare Effects of Marginal Cost Taxation of Motor Freight Transportation: A Study of Infrastructure Pricing." In Harvey S. Rosen (ed.) *Studies in State and Local Public Finance*, Univ. of Chicago Press for National Bureau of Economic Research (1986), pp. 113-128.

Small, Kenneth A. and Clifford Winston. "Efficient Pricing and Investment Solutions to Highway Infrastructure Needs." *American Economic Review, Papers & Proceedings*, 76, (1986), pp. 165-169.

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Fosgerau, Mogens, and Kenneth A. Small, "Hypercongestion in Downtown Metropolis," working paper (April 2012). Presented to the Kuhmo Nectar Conference on Transportation Economics, Berlin, June 2012.

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Small, Kenneth A., "Energy Policies for Automobile Transportation: A Comparison Using the National Energy Modeling System," report for *Toward a New National Energy Policy: Assessing the Options*, Resources for the Future and National Energy Policy Institute (June 2010). http://www.rff.org/Documents/Features/NEPI/RFF-BCK-Small-AutoPolicies.pdf

#### TEACHING EXPERIENCE

(\*indicates newly initiated courses)

Undergraduate courses:

Introduction to Economics (for non-majors) Principles of Microeconomics (for majors) Urban Economics\* Transportation Economics\* Environmental Economics\* Industrial Organization Intermediate Microeconomic Theory Economics of Alcohol Fuels\* Freshman Seminar on Global Warming\* Independent Study (various)

#### Graduate courses:

Transportation Economics\* Urban Economics\* Discrete Choice Econometrics\* Environmental Economics Writing\* Graduate Colloquium in Economics Colloquium in Transportation Science Independent Study (various) Woodrow Wilson School of Public and International Affairs, Princeton Univ.: Workshop on Declining Cities\*; Urban Economics (for Public Policy students) Harvard University: Urban and Regional Economics; Seminar in Urban Economics, Transportation, and Regional Economic Development Other Teaching Activities: Director of Undergraduate Studies, Dept. of Economics, Princeton Univ. (1979-82) Associate Dean for Graduate Education, School of Social Sciences, U.C. Irvine (1986-92) Director of Graduate Studies, Dept. of Economics, U.C. Irvine (1984-86) Director of Undergraduate Studies, Dept. of Economics, U.C. Irvine (2001-2003) Graduate dissertation committees Freshman advising (1996, 1999, 2002, 2003) Undergraduate and Graduate qualifying examinations External examiner of PhD. Thesis for: Univ. of Adelaide (Australia); State Univ. of N.Y. at Buffalo ('99) Supervise: Junior independent papers, Senior theses, Graduate independent papers Participant, coordinator: faculty/graduate study group in transportation economics (1987-present). Reading lists and course outlines, in Edward Tower, ed., Economics Reading Lists, Course Outlines,

Exams, Puzzles and Problems (Eno River Press), 1981, '85, '90, '95: Urban Econ. (undergrad & graduate), Transportation Econ. (undergrad & grad), Discrete-choice Econometrics (graduate). Selection committee, Justin Zubrod Paper Competition, Northwestern Univ. (June 2004) Screening committee, Grad Student Paper Competition, N. American Regional Science Council (2010) Guest lecturer:

Advanced Travel Demand (graduate), M.I.T. (Nov. 1991)

Transportation Planning (graduate), UCLA (Feb. 1994)

Introduction to Social Sciences (lower division), UCI (Jan., May 1994)

Lecture series - Transportation and Environment, Catholic Univ. of Leuven, Belgium (May 2000)

Lecture series - Transportation and Land Use, Royal Inst. of Technology, Stockholm (May 2000)

Travel Demand (graduate), Northwestern Univ. (May 2004)

Teaching Experience - (Continued)

(Other Teaching Activities - continued)

Faculty, Kuhmo-Nectar Summer School on Transportation and Urban Economics: Urbino, Italy: July, 2007
Amsterdam: June-July 2008
Copenhagen: June-July 2009
Valencia, Spain: July 2010

Stockholm: June 2011

- Transportation Economics (graduate), one-week short course, part of LOG904, Seminar in Logistics, Molde University College, Molde, Norway [Nov. 2007; Oct. 2008; Oct. 2009; Aug. 2010; Sept. 2011]
- Transportation Economics (graduate), one-week short course, Valencia Summer School on Business and Economics, Valencia, Spain, July 2009.
- Faculty, Cost-Benefit Analysis (graduate), special one-week course at Molde University College, Molde, Norway, Aug. 2010.
- Faculty, Summer School in Environmental and Energy Economics, University of California Center for Energy and Environmental Economics, Berkeley, Calif., Aug. 2011.

#### UNIVERSITY SERVICE, UNIVERSITY OF CALIFORNIA

- Economics Department: Department Chair (1992-95); Vice Chair (2001-03); Co-chair of Recruiting Committee (1983-84, 1998-99, 2000-01); Member of Recruiting Committee (2004-05); Director of Undergraduate Studies (2001-03); Director of Graduate Studies (1984-86); Graduate Committee (1983-86, 1998); Undergraduate Honors Committee (1985-87); Visitors Committee (1983-84); Personnel committees for faculty promotions, various (1983-present).
- School of Social Sciences: Associate Dean for Graduate Education, 1986-92; Acting Dean, various times, 1986-92; Distinguished Student Scholar Prize Committee, 1986; Executive Committee, Institute for Mathematical Behavioral Sciences, 1994-97; Ad Hoc Committee for Graduate Student Award, 1998; Acting Department Chair for personnel actions of current department chair, 2005-07.
- Irvine Campus: *Ad hoc* personnel committees for faculty promotions, various, 1984-present; speaker at campus-sponsored conferences, 1983-present; Executive Committee, Inst. of Transportation Studies, Irvine branch, 1984-1991; faculty representative to Social Science Librarian Search Committee, fall 1985; Committee on Educational Policy, 1985-87 (Chair, Policy Subcommittee, 1986-87); Research Computer Advisory Committee, 1986-88; external review panel for UCI writing programs, winter-spring 1989; search committee for assistant professor in Civil and Environmental Engineering, 1996; review committee for UCI Pacific Rim research proposals, 1997; nominating committee, Phi Beta Kappa, 1997; Committee on Academic Freedom, 1996-98 (Chair, 1997-98); Council on Rights, Responsibilities and Welfare, 1998-99 (Vice Chair); Campus Review Panel, School of Engineering Graduate Program Review, 1998-99; Chair, Faculty Search Committee, Inst. of Transp. Studies & Program in Transp. Science, 2003-04. Member, UCI Expert Database (referrals to media), continuing.
- University of California system-wide: Subcommittee on Housing, Faculty Welfare Committee, Academic Senate, U.C. System-wide, 1983-86 and 1991-93; Executive Committee, Institute of Transportation Studies, U.C. System-wide, 1984-86; Executive Committee, U.C. Transportation Center, 1996-99.