

ALEX ANAS

## CURRICULUM VITAE

### **OFFICE ADDRESS**

Department of Economics  
University at Buffalo  
State University of New York  
Amherst, New York 14260  
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### **DEGREES**

Ph.D. University of Pennsylvania, 1975  
M.C..P. University of Pennsylvania, 1974  
M.A. University of Pennsylvania, 1974  
B.S. and B.A. Carnegie-Mellon University, 1972.

### **FIELDS**

Applied microeconomic theory  
Urban and land economics (housing markets, transportation, land use, urban sprawl  
economics of land preservation)  
Computable general equilibrium models of urban economies, land use and transportation  
Environmental impacts of urban growth and form  
Real estate markets and regulation

### **PROFESSIONAL MEMBERSHIPS**

American Economics Association  
American Environmental and Resource Economics Association  
American Real Estate and Urban Economics Association  
Regional Science Association International

### **ACADEMIC POSITIONS**

Visiting Research Economist, University of California at Riverside, Center for Sustainable Suburban Development, Riverside, California (summers 2010-2014).

Visiting Professor, University of Southern California, School of Policy and Urban Development. Summer, 1995.

Chairman Department of Economics, State University of New York at Buffalo, September 1991-June 1992.

Frank H. and Josephine L. Goodyear Professor, September 1991 – August, 1999.

Professor, Department of Economics, University at Buffalo, State University of New York, 1991-present.

Professor Department of Economics, The College of Arts and Sciences, Northwestern University, September, 1985 - August, 1991.

Professor, Departments of Civil Engineering (*Program in Urban and Regional Planning*) and Industrial Engineering/Management Sciences, McCormick School of Engineering and Applied Science, Northwestern University, September, 1985 - August, 1991.

Chairman, Council on Urban and Regional Planning and *Director* of the Interdepartmental Graduate Program in Urban Systems and Policy Planning, Northwestern University, September 1983-August, 1991.

Senior Research Fellow, Northwestern Community Urban Economic Development Institute, Evanston, Illinois, September, 1987- August, 1991.

Visiting Scholar, Istituto Richerche Economico-Sociali del Piemonte, Torino, Italy, 1985.

Member, Urban Studies Advisory Committee, College of Arts and Sciences, Northwestern University, September 1984 - August 1990.

Research Scholar. National Center for Supercomputing Applications. University of Illinois at Urbana- Champaign. 1986-1988.

Visiting Professor, Departments of Economics and Urban and Regional Planning, The University of Illinois at Urbana-Champaign, September, 1986-August, 1988.

Visiting Scholar and Guest Researcher, Stockholm Regional Planning Office and Research Group in Urban and Regional Planning, Department of Mathematics, Royal Institute of Technology, Stockholm, Sweden. August-September 1983, September 1985, July 1986.

Visiting Scholar, Center for Regional Science Research, Umea University, Umea, Sweden. June-July, 1984.

Visiting Associate Professor of Infrastructure Planning and Management, Department of Civil Engineering, Stanford University, July 1981- August 1982.

Associate Professor, Department of Civil Engineering (*Program in Urban and Regional Planning*), Northwestern University 1979-1985.

Assistant Professor, Department of Civil Engineering (*Program in Urban and Regional Planning*), Northwestern University, September 1975 - August 1979.

### **AWARDS AND HONORS**

United Parcel Service Research Development Grant, Stanford University, 1981-1982.

Frank H. and Josephine L. Goodyear Professorship, State University of New York at Buffalo, 1991-1999

Lusk Center Summer Research Fellowship, University of Southern California, 1995.

David E. Lincoln Fellowship, Lincoln Institute for Land Policy, 2001.

Fellow of the Regional Science Association International. Selected 2006. A “*high honor by the Association in recognition of distinguished scholarship in, and contribution to Regional Science*” (inducted August 2006).

Fellow of the Weimer School of Advanced Studies in Real Estate and Urban Economics, North Palm Beach, Florida (inducted January 2009).

The subject field of urban and regional economics was ranked as the top subject field in economics at the University at Buffalo and 15<sup>th</sup> in the nation: “*A Guide to Graduate Study in Economics: Ranking Economics Departments by Fields of Expertise*”, Therese C. Grijalva and Clifford Nowell, *Southern Economic Journal* 2008, 74(4), 971–996. .

### **EDITORIAL BOARDS**

*The Economics of Transportation*, 2011-present

*Journal of Housing Economics*, 1991-present

*Journal of Urban Economics*, 1988-present

*Journal of Regional Science*, 1986-present

*Journal of the American Real Estate and Urban Economics Association*, 1991-1993

*Regional Science and Urban Economics*, 1986-1998

*International Regional Science Review*, 1979-1984

## **REVIEWING**

*The National Science Foundation, The Public Policy Institute of California, Department of Housing and Urban Development, Prentice-Hall Inc., The Ohio State University, American Economic Review, Quarterly Journal of Economics, Journal of Political Economy, Econometrica, Review of Economics and Statistics, Journal of Public Economics, Journal of Economic Behavior and Organization, Journal of Urban Economics, Journal of Regional Science, Regional Science and Urban Economics, Urban Studies, Geographical Analysis, Journal of Economic Geography, Environment and Planning A, Transportation Research, Transportation Science.*

## **ACADEMIC EVALUATION COMMITTEES**

Microeconomics preliminary examination committee (since 1992, twice per year)  
Urban and regional economics field examination (since 1992, as needed)

## **UNIVERSITY SERVICE**

Environmental Stewardship, Subcommittee on Research, Teaching and Public Service (since 2008)  
Faculty Senate from CAS (*ad interim* appointment from July 1, 2010 through June 30, 2011)  
Faculty Senate (elected at-large from CAS for term from July 1, 2011 through June 30, 2013)

## **COURSES TAUGHT (last 15 years)**

Undergraduate: Principles of microeconomics; Intermediate microeconomics; Urban and regional economics, Topics in microeconomics.

Applied M.A. in economics: Topics in microeconomics; Urban and regional economics.

Ph.D. economics program: Microeconomic Theory I; Urban and regional economics; Computational analysis of economic models, Public Finance and Fiscal Policy.

## **RECENT KEYNOTE ADDRESSES AND INVITED LECTURES**

“Unified Models of Transportation and Urban form: Insights from RELU-TRAN and Related Research,” at the *Workshop on Sustainable Cities and Transport*, Universita de Chile, Santiago de Chile, August 7-11, 2006.

“Unified Economic Models of Transportation and Urban Development”, at the *46<sup>th</sup> Congress of the European Regional Science Association*, Volos, Greece, August 31, 2006.

“The Economics of Traffic and Urban Sprawl,” Lecture at the 2<sup>nd</sup> Kuhmo-Nectar Summer

School on Transport: Networks and Urban Interactions, University of Urbino, Urbino, Italy, July 9-10 2007.

“General Equilibrium Models of Transportation and Urban Land Use,” Lecture at the 2<sup>nd</sup> *Kuhmo-Nectar Summer School and Conference on Transport: Networks and Urban Interactions*, University of Urbino, Urbino, Italy, July 9-10 2007.

“New Results in the Theory of Urban Sprawl”, *Keynote Address at the International Conference on Urban and Regional Economics*, National Taipei University, Taipei, Taiwan, December 3, 2007.

“Overlapping Generations, General Equilibrium Models of Housing Markets and Housing Finance,” at The Weimer School of Advanced Studies in Real Estate and Land Economics, North Palm Beach Florida, January 17, 2008.

“General Equilibrium Models of Transportation and Urban Land Use,” Lecture at the 3<sup>rd</sup> *Kuhmo-Nectar Summer School and Conference on Transport and Urban Economics*, VU University, The Tinbergen Institute, Amsterdam, The Netherlands, June 30 - July 4 2008.

“General Equilibrium Models of Transportation and Urban Land Use,” at the 4<sup>th</sup> *Kuhmo-Nectar Summer School and Conference on Transport and Urban Economics*, Technical University of Denmark, Copenhagen, Denmark, June 29-July 3 2009.

“Sprawl, Infrastructure Lock-ins and Transit Oriented Development: What have we learned from urban economics?” Keynote Address at the Workshop on Urban Dynamics: Urbanics, Sponsored by the Instituto Milenio Sistemas Complejos de Ingeniería, Marbella, Chile, March 22-25, 2010.

“Road Pricing and Urban Structure,” at the 5<sup>th</sup> *Kuhmo-Nectar Conference on Transport Economics and Summer School 2010: Inaugural Meeting of the International Transport Economics Association*, Fundació Universitat-Empresa (ADEIT), Valencia, Spain 8-12 July, 2010.

“Transport Supply and Finance in an Urban Economy,” at the Center for Energy Policy and Economics (CEPE) Institute for Transport Planning and Systems, (IVT) Chair for Information Architecture (IA), Swiss Federal institute of technology, Zurich, Switzerland, March 17, 2011.

“Urban CGE Models: The Interaction of Travel, Housing and Labor Markets,” at the Center for Energy Policy and Economics (CEPE) Institute for Transport Planning and Systems, (IVT) Chair for Information Architecture (IA), Swiss Federal institute of technology, Zurich, Switzerland, March 18, 2011.

### **GRANTS AND RESEARCH AWARDS (since 1976)**

#### **From the National Science Foundation:**

National Science Foundation, Research Applied to National Needs Division: "Prediction of Urban Recreation Demand" (\$166,000). September 1976 -August 1978. (Co-principal investigator with George L. Peterson)

National Science Foundation: "Analytical Evaluation of Value Capture/ Joint Development Strategies for the Location and Financing of Public Facilities" (\$43,000). September 1977 - August 1978. (Sole principal investigator).

National Science Foundation: "Empirical Estimation of a Probabilistic Residential Location Model and Application to Value Capture/Joint Development Policies" (\$49,929). September 1978 - August 1980. (Sole principal investigator).

National Science Foundation: "Development and Empirical Testing of Disequilibrium Models of Real Estate Price Adjustment" (\$52,178). September 1980 - December 1982. (Sole principal investigator).

National Science Foundation: "Cooperative Research Methods for Urban Systems Management" (\$8,700). February, 1984 - January, 1986.

National Science Foundation: "Modeling of the Regulated Housing Market: Analysis of Swedish Rent Control Policies" (\$45,000). September, 1984 - September, 1985. (Sole principal investigator).

National Science Foundation: "Dynamic Modeling of the Regulated Housing Market: Policy Simulations with the Stockholm Prototype" (\$45,000). September, 1985 - January, 1988. (Sole principal investigator).

National Science Foundation, Office of Advanced Scientific Computing: "CPU Hours Engineering Supercomputer Initiation Grant for Computational Research on Large Scale, Unified Urban Location, Land Use and Travel Models". October, 1985 - 1991.(Sole principal investigator).

National Science Foundation, Urban Research Initiative competition, 1998: "Infrastructure and Metropolitan Development." (\$ 450,000). January 1999 – present. (Project Director and principal investigator).

**From the United States Department of Transportation and other transportation agencies:**

United States Department of Transportation, University Research Program : "The Effects of Transportation on the Tax Base and Development of Cities" (\$166,300). September 1979 December 1982. (Sole principal investigator).

Federal Transit Administration, through the Regional Plan Association, New York  
"Development of an Operational Equilibrium Model to Predict the Effects of Transportation Improvements on Property Values in the New York Area" (\$ 80,000). September 1, 1990-August 31, 1991. (Sole Principal Investigator).

**From the Department of Housing and Urban Development:**

Department of Housing and Urban Development: "A Comprehensive Housing-Land Use Model for Evaluating Housing Rehabilitation Programs" (\$ 135,000). September, 1987 - January, 1989. (In collaboration with Richard J. Arnott).

**From the Fannie Mae Foundation:**

Federal National Mortgage Association: "Longitudinal Calibration and Testing of the Chicago Prototype Housing Market Model" (\$ 110,000). February 1990 – December, 1991.(In collaboration with Richard J. Arnott)

**From the Lincoln Institute for Land Policy:**

"Application of a Dynamic Urban Simulation Model to Evaluate Land Value Taxation." (\$ 37,000). December, 2000 -- December, 2003. (Sole Principal Investigator.)

**From the United States Environmental Protection Agency:**

"A Long Term Integrated Framework Linking Urban Development, Demographic Trends and Technology Changes to Stationary and Mobile Source Emissions." Science to Achieve Results Program (\$ 675,000). December 2004 through October 2010. (Principal Investigator and Project Director)

**From the University of California:**

"A Virtual Co-laboratory for Policy Analysis in the Greater L.A. Region" ( \$ 2.3 million). January 1, 2010 through December 31, 2014. Multicampus Research Initiative Project competition 2009. University of California at Riverside (Author of proposal and scientific director of project.)

**WORKING PAPERS**

"Moving costs, security of tenure and eviction" (with Richard J. Arnott and Elijah dePalma).

"Public Goods and Congestion in a System of Cities: How Do Fiscal and Zoning Policies Improve Efficiency?" (with David Pines).

“Multinomial logit as a model of stochastic matching: Gumbel meets Alonso”, (with Francisco Martinez)

“Lock-in Effects of Road Expansion on CO2 Emissions: Results from a Core-Periphery Model of Beijing” (with Govinda Timilsina)

“The Effect of the Price of Gasoline on the Urban Economy: From Route Choice to General Equilibrium”. Presented at the 5th Kuhmo Nectar Conference on Transport Economics and Summer School, Valencia, Spain July 5-9, 2010; presented at the sessions of the Urban Economics Association at the 57<sup>th</sup> Annual Meetings of the Regional Science Association International, Denver, November 10-13, 2010 (with Tomoru Hiramatsu)

“General Equilibrium Impacts of an Urban Growth Boundary: Application of RELU-TRAN2 to the Chicago MSA”. (Presentation at the *Fall Meeting of Japanese Economic Association*, Kwansai Gakuin University, Japan, September 18-19, 2010, (with Tomoru Hiramatsu)

“Impacts of Road Pricing Policies on Sprawl, Fuel Use and CO2 Emissions”. Presented at the 57th Annual Meetings of the Regional Science Association International, Denver, November 10-13, 2010, (with Tomoru Hiramatsu)

“Metropolitan Decentralization and the Stability of Travel Time”. (Presented at the 5th Kuhmo Nectar Conference on Transport Economics and Summer School, Valencia, Spain July 5-9, 2010; at the 57th Annual Meetings of the Regional Science Association International, Denver, November 10-13, 2010; at the Folke Snickars Symposium, Royal Institute of Technology, Stockholm, Sweden, May 26-28, 2011; at the Technische Universität Dresden, Dresden, Germany, May 30, 2011).

## **PUBLICATIONS (including currently in press)**

### **Books**

Anas, Alex, *Residential Location Markets and Urban Transportation : Economic theory, econometrics and policy analysis with discrete choice models*. Academic Press, New York, 1982. ISBN 0-12057920-0.

Anas, Alex, Goran Cars, Joong-Rae Cho, Bjorn Harsman, Ulf Jirllow, Folke Snickars, *Economics of the Regulated Housing Market : Policy Perspectives and Modeling Methods*. Swedish Council for Building Research, Stockholm, 1987. ISBN 91-540-4777-3.

Anas, Alex, *Modeling in Urban and Regional Economics*, Volume 26 in Fundamentals of Pure and Applied Economics, Jacques Lesourne and Hugo Sonnenschein (editors-in-chief), Harwood Academic Publishers, New York 1987. ISBN 3-7186-0467-1.



(• Reprinted as chapter 26 in Volume 2 of the *Encyclopaedia of Pure and Applied Economics: Urban and Regional Economics*, Harwood Academic Publishers, New York 1997)

### Special issues of journals edited:

*Environment and Planning A* (Co-Editor of special issue, 1984. With Lewis D. Hopkins)  
*Urban Studies*, Guest Editor of special issue on *Transportation and Land Use*, 35,7,1998.

### Reports

Anas, Alex, *The Effects of Transportation on the Tax Base and Development of Cities*, US Department of Transportation, University Research Program, DOT/OST/P-30/85/005, April 1983.

Anas, Alex and Kyu-Sik Lee, *Infrastructure Investment and Productivity : The Case of Nigerian Manufacturing. A Framework for Policy Study*, Report INU 14, Infrastructure and Urban Development Department, The World Bank, May 1988.

Anas, Alex and Kyu-Sik Lee, *Manufacturers' Responses to Infrastructure Deficiencies in Nigeria : Private Alternatives and Policy Options*, Report IN'U 98, Infrastructure and Urban Development Department, The World Bank, February 1992.

Anas, Alex, *NYSIM : The New York Area Simulation Model : A Model for the Cost-Benefit Analysis of Transportation Projects*, The Regional Plan Association, New York City, New York, February 1992.

Anas, Alex, *Transit, Access and Land Value: Modeling the Relationship in the New York Metropolitan Area*, U.S. Department of Transportation, Federal Transit Administration, FTA-NY-06-0152-93-1, September 1993.

Krassimir Kostov and Alex Anas, "Demographic Transition and Income Distribution Forecasts for the Chicago Metropolitan Area (1990 – 2050)", June 2007.

Metropolitan Planning Council, *The Costs of Road Congestion in the Chicago Metropolitan Area, Final Report*, (wrote chapters 5 and 6 and Appendix, in collaboration with HDR Decision Economics, Inc.), June 11, 2008.

### Articles in Refereed Journals

Anas, Alex, "A Dynamic Disequilibrium Model of Residential Location", *Environment and Planning*, 5, 633-647, 1973.

Anas, Alex, "Empirical Calibration and Testing of a Simulation Model of Residential Location", *Environment and Planning*, 7, 899-920, 1975.

Anas, Alex , “Housing Durability, Expectations and Urban Development Patterns”, *Northeast Regional Science Review*, 6, 48-60, 1976.

Anas, Alex, “Dynamics of Urban Residential Growth”, *Journal of Urban Economics*, 5, 66 -87, 1978.

(• Reprinted in *Analytical Urban Economics*, volume 3 of Modern Classics in Regional Science, edited by Harry Richardson, Kenneth Button and Peter Nijkamp. ISBN : 1-85898-110-7).

Anas, Alex, “Equilibration Properties of Logit Models”, *Transportation Research Record*, No.728, 8-14, 1979.

Anas, Alex , “The Impact of Transit Investment on Housing Values: A Simulation Experiment”, *Environment and Planning A*, 239-255 (1979).

Anas, Alex and Leon N. Moses , “Mode Choice, Transport Structure and Urban Land Use”, *Journal of Urban Economics*, 6, 228-246, 1979.

(• Reprinted in *Transport and Land Use*, volume 2 of Modern Classics in Regional Science, edited by Joseph Berechman, Hirotado Kohno, Kenneth J. Button, Peter Nijkamp, ISBN : 1-85898-109-3)

Anas, Alex, “A Probabilistic Approach to the Structure of Rental Housing Markets”, *Journal of Urban Economics*, 7, 225-247, 1980.

(• Reprinted in *Regional Housing and Labor Markets*, volume 5 of Modern Classics in Regional Science, edited by Manfred Fischer, Kenneth J. Button and Peter Nijkamp. ISBN : 1-85898-110-7)

Anas, Alex, “A Model of Residential Change and Neighborhood Tipping”, *Journal of Urban Economics*, 7, 358-370, 1980.

Anas, Alex, “Evaluating the Effects of Transportation - Land Use Policies on Housing Values and Household Welfare”, *Environment and Planning A*, 12, pp. 747 -764, 1980.

Anas, Alex and Gun Y. Lee, “The Potential for a Value Capture Policy to Finance Rapid Transit Projects in Chicago's Southwest Corridor : An Empirical Simulation Analysis”, *Research in Urban Economics*, 2, pp. 171-202, 1981.

Anas, Alex, “The Estimation of Multinomial Logit Models of Joint Location and Mode Choice from Aggregated Data”, *Journal of Regional Science*, 21, 2, 223-242, 1981.

Anas, Alex, “Discrete Choice Theory, Information Theory and the Multinomial Logit and Gravity Models”, *Transportation Research B*, 17B, I, 13-23, 1983.

(• Reprinted in *Planning History and Methodology*, edited by M. Wegener, K. Button, P. Nijkamp, Edward Elgar Publishing, Northampton, Mass. ISBN:1-84542-091-8)

Anas, Alex , “Discrete Choice Models and the Housing Price and Travel to Work Elasticities of Location Demand”, *Journal of Urban Economics*, 15, 1, 107-123, 1984, (with Chaushie Chu).

Anas, Alex and Leon N. Moses, “Qualitative Choices and the Blending of Discrete Alternatives”, *The Review of Economics and Statistics*, 66(4), 547-555, 1984.

Anas, Alex and Sung-Jick Eum, "Hedonic Analysis of a Housing Market in Disequilibrium", *Journal of Urban Economics*, 15, 1, 87-106, 1984.

Anas, Alex, “Discrete Choice Theory and the General Equilibrium of Employment, Housing and Travel Networks in a Lowry Type Model of the Urban Economy”, *Environment and Planning A*, 16,11, 1489-1502, 1984.

Anas, Alex and Liang-Shyong Duann, “Dynamic Forecasting of Travel Demand, Residential Location and Land Development: Policy Simulations with the Chicago Area Transportation Land Use Analysis System”, *Sistemi Urbani*, 1, 37-70, 1984.

(• Reprinted in *Papers of the Regional Science Association*, 56, 38-58, 1985.)

(• Reprinted in *Advances in Urban Systems Modeling*, B. Hutchinson and M. Batty (eds.), Elsevier, North-Holland, Amsterdam, 1986.)

Anas, Alex, “The Capitalization of Public Investments: The Case of Transportation”, *Perspectives on Local Public Finance and Public Policy*, 2, pp. 59-77, 1985.

Anas, Alex, “The Combined Equilibrium of Travel Networks and Residential Location Markets”, *Regional Science and Urban Economics*, 15, 1, 1 -21, 1985.

Anas, Alex, Bjorn Harsman, Ulf Jirllow, Jan Gustafsson and Folke Snickars, “The Swedish Housing Market: Structure, Policy and Issues”, *Scandinavian Journal of Housing and Planning Research*, 2, 169-187, 1985.

Anas, Alex and Joong Rae Cho, “Existence and Uniqueness of Price Equilibria: Theory and Application to Discrete Choice Models”, *Regional Science and Urban Economics*, 16, 211-240, 1986.

Anas, Alex and Sung Jick Eum, “Disequilibrium Models of Single Family Housing Prices and Transactions: The Case of Chicago: 1972-1976”, *Journal of Urban Economics*, 20, 75 -96, 1986.

Anas,Alex, “Agglomeration and Taste Heterogeneity : Equilibria, Stability, Welfare and Dynamics”, *Regional Science and Urban Economics*, 18, 7-35, 1988.

Anas, Alex and Cheng Min Feng, "Invariance of Expected Utilities in Logit Models", *Economics Letters*, 27, pp.41-45 1988.

Anas, Alex and Joong Rae Cho, "A Dynamic, Policy Oriented Model of the Regulated Housing Market : The Swedish Prototype", *Regional Science and Urban Economics*, 18, 201-232, 1988.

Anas, Alex, "Statistical Properties of Mathematical Programming Models of Stochastic Network Equilibrium", *Journal of Regional Science*, 28,4, 511-530, 1988.

Anas, Alex, "Optimal Preservation and Pricing of Natural Public Lands in General Equilibrium", *Journal of Environmental Economics and Management*, 15, 158-172 , 1988.

Anas, Alex and Kyu Sik Lee, "Infrastructure Investment and Productivity : The Case of Nigerian Manufacturing. A Framework for Policy Study", *Review of Urban and Regional Development Studies*, 2, 65-76, 1989.

Anas, Alex and Ikki Kim, "Network Loading versus Equilibrium Estimation of the Stochastic Route Choice Model Maximum Likelihood versus Least Squares Revisited", *Journal of Regional Science*, 30, 1, 89-103, 1990.

Anas, Alex, "Taste Heterogeneity and Urban Spatial Structure : The Logit Model and Monocentric Theory Reconciled", *Journal of Urban Economics*, 28, 318-335, 1990.

(• Reprinted in *Analytical Urban Economics*, volume 3 of Modern Classics in Regional Science, edited by Harry Richardson, Kenneth Button and Peter Nijkamp. ISBN: 1-85898-110-7).

Anas, Alex and Richard J. Arnott, "Dynamic Housing Market Equilibrium with Taste Heterogeneity, Idiosyncratic Perfect Foresight and Stock Conversions", *Journal of Housing Economics*, 1,1, 2-32, 1991.

Anas, Alex, "On the Birth and Growth of Cities : Laissez-Faire and Planning Compared", *Regional Science and Urban Economics*, 22, 243-258, 1992.

Anas, Alex and Ikki Kim, "Income Distribution and the Residential Density Gradient", *Journal of Urban Economics*, 31,164-180, 1992.

Anas, Alex and Kyu Sik Lee, "Costs of Deficient Infrastructure : The Case of Nigerian Manufacturing", *Urban Studies*, 29,7, 1071-1092, 1992.

Anas, Alex and Richard J. Arnott, "Technological Progress in a Model of the Housing-Land Cycle", *Journal of Urban Economics*, 34, 2, 186-206, 1993.

Anas, Alex and Richard J. Arnott, "A Fall in Construction Costs Can Raise Housing Rents",

*Economics Letters*, 41, 221-224, 1993.

Anas, Alex and Richard J. Arnott, "Development and Testing of the Chicago Prototype Housing Market Model", *Journal of Housing Research*, 4 (1), 73-130, 1993.

(• Downloadable from <http://www.fanniemaefoundation.org/programs/jhr.shtml>)

Anas, Alex, Andre de Palma and Jacques-Francois Thisse, "Variety and Size Regulation in Discrete Choice Oligopoly", *International Journal of Industrial Organization*, 11,21-34, 1993.

Anas, Alex and Richard J. Arnott, "The Chicago Prototype Housing Market Model with Tenure Choice and its Policy Applications", *Journal of Housing Research* 5 (1), 23-90, 1994.

(• Downloadable from <http://www.fanniemaefoundation.org/programs/jhr.shtml>)

Anas, Alex, "Capitalization of Urban Travel Improvements into Residential and Commercial Real Estate Simulations with a Unified Model of Housing, Travel Mode and Shopping Choices", *Journal of Regional Science*, 35 (3), pp. 351-375, 1995.

Anas, Alex and Ikki Kim, "General Equilibrium Models of Polycentric Urban Land Use with Endogenous Congestion and Job Agglomeration", *Journal of Urban Economics*, 40, 217-232, 1996.

Anas, Alex and Richard J. Arnott, "Taxes and Allowances in a Dynamic Equilibrium Model of Urban Housing Market with a Size -Quality Hierarchy", *Regional Science and Urban Economics*, 27, 547-580, 1997.

Anas, Alex, "Rent Control with Matching Economies: A Model of European Housing Market Regulation" *Journal of Real Estate Finance and Economics*, 15(1), 111-137, 1997.

Anas, Alex, Richard J. Arnott and Kenneth A. Small, "Urban Spatial Structure", *Journal of Economic Literature*, 36, 1426-1464, 1998.

(• Reprinted as Chapter 8 in Readings in Urban Economics: Issues and Public Policy, edited by Robert W. Wassmer. Blackwell Publishers, Malden, Massachusetts, 2000.)

(• Reprinted in *Housing Economics* edited by A. Marsh and K. Gibb, Sage Publications.)

Anas, Alex, "The Costs and Benefits of Fragmented Metropolitan Governance and the New Regionalist Policies," *Planning and Markets* (an electronic journal), Vol. 1 (2), 1999.

(• Downloadable at <http://www-pam.usc.edu/archive.html>)

Anas, Alex and Rong Xu, "Congestion, Land Use and Job Dispersion : A General Equilibrium Analysis", *Journal of Urban Economics*, 45,3, 451-473, 1999.

Anas, Alex , Richard J. Arnott and Kenneth A. Small, "The Panexponential Monocentric Model", *Journal of Urban Economics*, 47, 2, 165-179, 2000.

Anas, Alex , "Prejudice, Exclusion and Compensating Transfers: The Economics of Ethnic Segregation", *Journal of Urban Economics*, 52, 3, 409-432, 2002.

Anas, Alex and Kai Xiong, "Intercity Trade and the Industrial Diversification of Cities", *Journal of Urban Economics*, 54, 258-276, 2003.

Anas, Alex. "Vanishing Cities: What Does the New Economic Geography Imply about the Efficiency of Urbanization?", *Journal of Economic Geography*, 4, 181-199, 2004.

Anas, Alex and Kai Xiong, "The Formation and Growth of Specialized Cities: Efficiency without Developers or Malthusian Traps," *Regional Science and Urban Economics*, in press. 35, 4, 445-470, 2005.

Anas, Alex and H-J Rhee, "Curbing Urban Sprawl with Congestion Tolls and Urban Boundaries" *Regional Science and Urban Economics*, 36, 510-541, 2006.

Anas, Alex and H-J Rhee, "When are urban growth boundaries not second-best policies to congestion tolls?" *Journal of Urban Economics*, 61, 263-286, 2007.

Anas, Alex, "A unified theory of consumption travel and trip-chaining," accepted for publication in the *Journal of Urban Economics*, 62(2), 162-186, 2007.

Anas, Alex and Liu, Yu, "A regional economy, land use and transportation model (RELU-TRAN): formulation, algorithm design and testing," accepted for publication in the *Journal of Regional Science*, 47(3), 415-455, 2007.

Alex Anas and David Pines, "Anti-sprawl policies in a system of congested cities," *Regional Science and Urban Economics*, 38, 408-423, 2008.

Alex Anas and Robin Lindsey, "Urban road pricing, public transport and externalities," *Review of Environmental Economics and Policy*, Symposium issue: Transportation and the Environment, 1-23, June 2011.

Alex Anas and Tomoru Hiramatsu, "The effects of the price of gasoline on the urban economy: from route choice to general equilibrium," *Transportation Research, Part A: Policy and Practice*, 46, 855-873, 2012.

Alex Anas and David Pines, "Public goods and congestion in a system of cities: how do fiscal and zoning policies improve efficiency?" *Journal of Economic Geography*, 1-28, 2012.

Alex Anas, "The optimal pricing, finance and supply of urban transportation in general

equilibrium: A theoretical exposition,” *The Economics of Transportation* 1, 64-76, 2012.

Alex Anas and Tomoru Hiramatsu, “The economics of cordon tolling: general equilibrium and welfare analysis,” *The Economics of Transportation*, in press. Appears in 2013.

### **Book Chapters**

Anas, Alex, “Short Run Dynamics in the Spatial Housing Market”, Chapter 16 in *Mathematical Land Use Theory*, G. J. Papageorgiou, (ed.), Lexington Books, 1976.

Anas, Alex and Dimitrios Dendrinis, “The New Urban Economics: A Brief Survey with a Bibliography”, Chapter 3 in *Mathematical Land Use Theory*, G. J. Papageorgiou (ed.), Lexington Books, 1976.

Anas, Alex and Leon N. Moses, “The Transportation - Land Use System in the Emerging Metropolis”, Chapter 8 in *Mature Metropolis*, C. Leven (ed.), Lexington Books, 1978.

Anas, Alex, “The Pattern and Timing of Land Development in a Long Run Equilibrium Urban Land Use Model”, in *Geographia Polonica*, Vol. 42, pp. 91-106, G. J. Papageorgiou (ed.), 1979.

- (Reprinted as Chapter 12 (pages 163-183) in *The Economics of Land Use: The International Library of Environmental Economics and Policy*, P.J.Parks and I.W.Hardie (editors), Ashgate, 2003.)

Anas, Alex, “Land Market Theory and Methodology in Wildland Management”, *Valuation of Wildland Resource Benefits*, G. L. Peterson and A. Randall (eds.), 1984, Westview Press, Boulder.

Anas, Alex, “Modeling the Dynamic Evolution of Land Use in Response to Transportation Improvement Policies”, in *Transportation and Mobility in an Era of Transition*, G. R. M. Jansen, P. Nijkamp and C. J. Ruijgrok (eds.), 1985 North-Holland Elsevier, Amsterdam.

Anas, Alex and Liang-Shyong Duann, “Dynamic Forecasting of Travel Demand, Residential Location and Land Development: Policy Simulations with the Chicago Area Transportation/Land Use Analysis System”, in *Advances in Urban Systems Modeling*, B. Hutchinson and M. Batty (eds.), Elsevier, North-Holland, Amsterdam, 1986.

Anas, Alex, “From Physical to Economic Urban Models: The Lowry Framework Revisited”, in *Advances in Urban Modeling*, Bruce Hutchinson and Michael Batty (eds.), Elsevier, Amsterdam, 1986.

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