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CURRICULUM VITAE

Joel L. Horowitz

EDUCATION

1967 Ph.D. (Physics) Cornell University, Ithaca, New York
1962 B.S. (Physics) Stanford University, Stanford, California

EMPLOYMENT

2001-present Charles E. and Emma H. Morrison Professor of Economics, Northwestern University
1987-2001 Professor, Department of Economics, University of Iowa. From 1997, Henry B. Tippie Research Professor of Economics
1982-1987 Associate professor, University of Iowa.
1971-1982 Senior Operations Research Analyst, U.S. Environmental Protection Agency.
1972-1982 Professorial Lecturer (part time), Department of Operations Research, The George Washington University.
1967-1971 Member of the Technical Staff, Research Analysis Corporation, McLean, VA.

VISITING APPOINTMENTS

Hong Kong University of Science and Technology, University of Bristol, University College London; Humboldt University, Berlin; Catholic University of Louvain; Tilburg University; Australian National University, Macquarie University, Massachusetts Institute of Technology, University of Technology Sydney, University of Montreal, UCLA.

OTHER PROFESSIONAL ACTIVITIES

International Fellow, Centre for Microdata Methods and Practice, University College, London, UK.
Fellow of Centre interuniversitaire de recherche en économie quantitative, University of Montreal, Canada.
Distinguished Guest Lecturer, Department of Economics, University of Pennsylvania, January 1996.
Co-Editor of *Econometrica* July 2000- July 2004

Co-Editor of: *Econometric Theory*, 1992-2000.

Associate Editor of: *Econometrica*, 1993-2000; *Review of Economics and Statistics*; 1996-2002; *Transportation Science*, 1988-1995; *Econometric Theory*, 1988-1992.

Member of: Economics Advisory Panel, National Science Foundation, 1994-1995; Editorial Advisory Board, *Transportation Research*, 1979-1997; Editorial Advisory Board, *Annals of the Association of American Geographers*, 1985-1988; National Research Council Committee on Roadway Congestion Pricing, Roadway Congestion Pricing, 1991-1994; National Research Council Committee on Data and Research for Policy on Illegal Drugs, 1998-2001; National Research Council Committee on Congestion Management and Air Quality, 1999-present; National Research Council Committee to Improve Research Information and Data on Firearms, 2001-present; Committee on National Statistics, National Research Council, 2000-present.

HONORS

Fellow of the Econometric Society

Fellow of the American Statistical Association

Elected member of the International Statistical Institute

Alexander von Humboldt Research Award for Senior U.S. Scientists, 1999.

Richard Stone Prize in Applied Econometrics, 1994.

Award for Professional Excellence in the Training of Economists, Department of Economics, 1991, 1999.

PROFESSIONAL SOCIETIES

The Econometric Society, American Economic Association, American Statistical Association, Transportation Research Board, American Association for the Advancement of Science, Institute of Mathematical Statistics, International Statistical Institute

PUBLICATIONS

Books

Semiparametric and Nonparametric Methods in Econometrics, Springer-Verlag, 2009.

Semiparametric Methods in Econometrics, Springer-Verlag, 1998.

Air Quality Analysis for Urban Transportation Planning, the MIT Press, Cambridge, MA, 1982.

Chapters in Books

“Semiparametric Models,” in *Handbook of Computational Statistics*, J.E. Gentle, W. Härdle, and Y.Mori, eds., Springer, pp.697-718.

“Semiparametric Models,” in *International Encyclopedia of Behavioral and Social Sciences*, N.J. Smelser and P.B. Baltes eds., Elsevier, 2001, pp. 13891-13897.

“The Bootstrap in Econometrics,” in *Handbook of Econometrics*, Vol. 5, J.J. Heckman and E.E. Leamer, eds., Elsevier Science B.V., 2001, Ch. 52, pp. 3159-3228.

“Modelling Non-Work Destination Choices with Choice Sets Defined by Travel-Time Constraints,” in M.M. Fischer and A. Getis, eds., *Recent Developments in Spatial Analysis*, Springer-Verlag, 1997 (with J.-C. Thill).

“What Can Be Learned about Population Parameters when the Data Are Contaminated?” in G.S. Maddala and C.R. Rao, eds., *Handbook of Statistics*, vol. 15, Elsevier, 1997 (with C.F. Manski).

“Accounting for Response Bias,” in T. F. Golob, R. Kitamura, and L. Long, eds., *Panels for Transportation Planning*, Kluwer Academic Publishers, 1997.

“Bootstrap Methods in Econometrics: Theory and Numerical Performance,” in D.M. Kreps and K.F. Wallis, eds., *Advances in Economics and Econometrics: Theory and Applications, Seventh World Congress*, vol. 3, Cambridge University Press, 1997.

“Semiparametric and Nonparametric Estimation of Quantal Response Models,” in G.S. Maddala, ed., *Handbook of Statistics*, vol. 10: Econometrics, North-Holland Publishing Company, 1993, pp. 45-72.

“Specification Tests for Probabilistic Discrete Choice Models of Consumer Behaviour,” in R.G. Golledge and H. Timmermans, ed., *Behavioural Modelling in Geography and Planning*, Croom-Helm, London, 1988, pp. 124-137.

“Modeling Choices of Residential Location and Mode of Travel to Work,” in S. Hanson, ed., *The Geography of Urban Transportation*, Guilford Press, New York, 1986, pp. 207-226.

“Sampling, Specification, and Data Errors in Probabilistic Discrete-Choice Models,” in D. Hensher and L. Johnson, *Applied Discrete Choice Modelling*, Croom-Helm, London, 1980, pp. 417-435.

Articles

“Goodness-of-Fit Tests for Functional Data, *The Econometrics Journal*, 12, S1-S18, 2009 (with F. Bugni, P. Hall, and G. Neumann).

“Testing a Parametric Quantile Regression Model with an Endogenous Explanatory Variable against a Nonparametric Alternative,” *Journal of Econometrics*, 152, 141-152 (with S. Lee).

“Asymptotic Properties of Bridge Estimators in Sparse, High-Dimensional Regression Models,” *Annals of Statistics*, 36, 587-613, 2008 (with J. Huang and S. Ma).

“Oracle-Efficient Nonparametric Estimation of an Additive Model with an Unknown Link Function,” *Econometric Theory*, forthcoming (with E. Mammen).

“A Nonparametric Test for Exogeneity,” *Review of Economic Studies*, 74, 1035-1058, 2007 (with R. Blundell).

“Rate-optimal estimation for a general class of nonparametric regression models with unknown link functions,” *Annals of Statistics*, 35, 2589-2619, 2007 (with E. Mammen).

“Nonparametric Instrumental Variables Estimation of a Quantile Regression Model,” *Econometrica*, 75, 1191-1208, 2007 (with S. Lee).

“Asymptotic Normality of a Nonparametric Instrumental Variables Estimator,” *International Economic Review*, 48, 1329-1349, 2007.

“Methodology and Convergence Rates for Functional Linear Regression,” *Annals of Statistics*, 35, 70-91, 2007 (with P. Hall).

“Testing a Parametric Model against a Nonparametric Alternative with Identification through Instrumental Variables,” *Econometrica*, 74, 521-538, 2006.

“Nonparametric Estimation of an Additive Quantile Regression Model,” *Journal of the American Statistical Association*, 100, 1238-1249, 2005 (with S. Lee).

“Optimal Estimation in Additive Regression Models,” *Bernoulli*, 12, 271-298, 2006 (with J. Klemelä and E. Mammen).

“Nonparametric Methods for Inference in the Presence of Instrumental Variables,” *Annals of Statistics*, 33, 2904-2929, 2005 (with P. Hall).

“Nonparametric Estimation of an Additive Model with a Link Function,” *Annals of Statistics*, 32, 2412-2443, 2004 (with E. Mammen).

“Bootstrapping the Box-Pierce Q Test: A Robust Test of Uncorrelatedness,” *Journal of Econometrics*, 133, 841-862, 2006 (with I.L. Lobato, J.C. Nankervis, and N.E. Savin).

“Semiparametric Estimation of a Panel Data Proportional Hazards Model with Fixed Effects,” *Journal of Econometrics*, 119, 155-198, 2004 (with S. Lee).

“Identification and Estimation of Statistical Functionals Using Incomplete Data,” *Journal of Econometrics*, 132, 445-459, 2006. (with C.F. Manski)

“Computation of Bounds on Population Parameters when the Data are Incomplete,” *Reliable Computing*, 9, 419-440, 2003 (with C.F. Manski, M. Ponomareva, and J. Stoye).

“The Bootstrap in Econometrics,” *Statistical Science*, 18, 211-218, 2003.

“Bootstrap Methods for Time Series,” *International Statistical Review*, 71, 435-459, 2003 (with W. Härdle and J.-P. Kreiss).

“Bootstrap Methods for Markov Processes,” *Econometrica*, 71, 1049-1082, 2003.

An Adaptive, Rate-Optimal Test of Linearity for Median Regression Models, *Journal of the American Statistical Association*, 97, 822-835, 2002 (with V.G. Spokoiny).

“Semiparametric Methods in Applied Econometrics: Do the Models Fit the Data?” *Statistical Modelling*, 2, 3-22, 2002 (with Sokbae Lee).

“Binary Response Models: Logits, Probits, and Semiparametrics,” *Journal of Economic Perspectives*, 15, 43-56, 2001 (with N.E. Savin).

“Should the DEA’s STRIDE Data Be Used for Economic Analyses of Markets for Illegal Drugs? *Journal of the American Statistical Association*, 96, 1254-1262, 2001. Rejoinder to discussants, *Journal of the American Statistical Association*, 96, 1269-1271, 2001.

“The Bootstrap and Hypothesis Tests in Econometrics,” *Journal of Econometrics*, 100, 37-40, 2001. “Response to Comments,” *Journal of Econometrics*, 100, 97-98, 2001.

“An Adaptive, Rate-Optimal Test of a Parametric Mean-Regression Model against a Nonparametric Alternative,” *Econometrica*, 69, 599-631, 2001 (with V.G. Spokoiny).

“Nonparametric Estimation of a Generalized Additive Model with an Unknown Link Function,” *Econometrica*, 69, 499-513, 2001.

“Three Analyses of the Firm Size Premium,” *Journal of Empirical Finance*, forthcoming (with T. Loughran and N.E. Savin).

“Nonparametric Analysis of Randomized Experiments with Missing Covariate and Outcome Data,” *Journal of the American Statistical Association*, 95, 77-84, 2000 (with C.F. Manski).

“The Disappearing Size Effect,” *Research in Economics*, forthcoming (with T. Loughran and N.E. Savin).

“Bootstrap Critical Values for Tests Based on the Smoothed Maximum Score Estimator,” *Journal of Econometrics*, 111, 141-167, 2002.

“Semiparametric Estimation of a Proportional Hazard Model with Unobserved Heterogeneity,” *Econometrica*, 67, 1001-1028, 1999.

“Empirically Relevant Critical Values for Hypothesis Tests: A Bootstrap Approach,” *Journal of Econometrics*, 95, 375-389, 2000 (with N.E. Savin).

“Internet-Based Econometric Computing,” *Journal of Econometrics*, 95, 333-345, 2000 (with Wolfgang Härdle).

“Semiparametric Estimation of a Censored Regression Model with an Unknown Transformation of the Dependent Variable,” *Journal of Econometrics*, 90, 155-191, 1999 (with Tue Gørgens).

“Bootstrap Methods for Median Regression Models,” *Econometrica*, 66, 1327-1351, 1998.

“Bootstrap Methods for Covariance Structures,” *Journal of Human Resources*, 33, 39-61, 1998.

“Censoring of Outcomes and Regressors Due to Survey Nonresponse: Identification and Estimation Using Weights and Imputations,” *Journal of Econometrics*, 84, 1-36, 1998 (with C.F. Manski).

“Direct Semiparametric Estimation of a Single-Index Model with Discrete Covariates,” *Journal of the American Statistical Association*, 91, 1632-1640, 1996. (with W. Härdle).

“Travel-Time Constraints on Destination Choice Sets,” *Geographical Analysis*, 29, 108-123, 1997 (with J.-C. Thill).

“Bootstrap Critical Values for Tests Based on Generalized-Method-of-Moments Estimators,” *Econometrica*, 64, 891-916, 1996 (with P. Hall)

“Comments on 'Bootstrapping Time Series Models,’” *Econometric Reviews*, 15, 165-168.

“Semiparametric Estimation of Regression Models for Panel Data,” *Review of Economic Studies*, 63, 145-168, 1996 (with M. Markatou).

“Robust Scale Estimation in the Error Components Model Using the Empirical Characteristic Function,” *Canadian Journal of Statistics*, 23, 369-381, 1995 (with M. Markatou).

“Semiparametric Estimation of a Regression Model with an Unknown Transformation of the Dependent Variable,” *Econometrica*, 64, 103-137, 1996.

“On Blocking Rules for the Bootstrap with Dependent Data,” *Biometrika*, 82, 561-574, 1995 (with P. Hall and B.-Y. Jing).

“What Is the Role of Consideration Sets in Choice Modeling?” *International Journal of Research in Marketing*, 12, 39-54, 1995 (with J.J. Louviere).

“Robust Scale Estimation Based on the Empirical Characteristic Function,” *Statistics and Probability Letters*, 25, 185-192, 1995 (with M. Markatou and R.V. Lenth).

“Identification and Robustness with Contaminated and Corrupted Data,” *Econometrica*, 63, 281-302, 1995 (with C.F. Manski).

“Advances in Random Utility Models,” *Marketing Letters*, 5, 311-322, 1994 (with others).

“Testing a Parametric Model against a Semiparametric Alternative,” *Econometric Theory*, 10, 821-848, 1994 (with W.Härdle).

“Bootstrap-Based Critical Values for the Information Matrix Test,” *Journal of Econometrics*, 61, 395-411, 1994.

“Fairness in Simple Bargaining Experiments,” *Games and Economic Behavior*, 6, 347-369, 1994 (with R. Forsythe, N.E. Savin and M. Sefton).

“Testing Predicted Choices against Observations in a Probabilistic Discrete-Choice Model,” *Marketing Science*, 12, 270-279, 1993 (with Jordan J. Louviere).

“Semiparametric Estimation of a Work-Trip Mode Choice Model,” *Journal of Econometrics*, 58, 49-70, 1993.

“Optimal Rates of Convergence of Parameter Estimators in the Binary Response Model with Weak Distributional Assumptions,” *Econometric Theory*, 9, 1-18, 1993.

“The Role of the List Price in Housing Markets: Theory and an Econometric Model,” *Journal of Applied Econometrics*, 7, 115-129, 1992.

“A Smoothed Maximum Score Estimator for the Binary Response Model,” *Econometrica*, 60, 505-531, 1992.

“A Generalized Moments Specification Test of the Proportional Hazards Model,” *Journal of the American Statistical Association*, 87, 234-240, 1992 (with G.R. Neumann).

“Reconsidering the Multinomial Probit Model,” *Transportation Research*, 25B, 433-438, 1991.

“Estimating a Destination-Choice Model from a Choice-Based Sample with Limited Information,” *Geographical Analysis*, 23, 298-315, 1991 (with J.-C. Thill).

“Modeling the Choice of Choice Set in Discrete-Choice Random Utility Models,” *Environment and Planning A*, 23, 1237-1246, 1991.

“Bandwidth Selection in Semiparametric Estimation of Censored Linear Regression Models,” *Econometric Theory*, 6, 123-150, 1990 (with P. Hall).

“The External Validity of Choice Models Based on Laboratory Choice Experiments,” in M.M. Fischer, P. Nijkamp, and Y.Y. Papageorgiu, eds., *Spatial Choices and Processes*, North-Holland Publishing Co., 1990, pp. 247-263 (with J.J. Louviere).

“Computational and Statistical Efficiency of Semiparametric GLS Estimators of Censored Regression Models,” *Econometric Reviews*, 8, 223-225, 1989 (with G.R. Neumann).

“Specification Testing in Censored Regression Models: Parametric and Semiparametric Approaches,” *Journal of Applied Econometrics*, 4, S61-S86, 1989 (with G.R. Neumann).

“The Asymptotic Efficiency of Semiparametric Estimators for Censored Linear Regression Models,” *Empirical Economics*, 13, 123-140, 1988.

“What Should We Expect from Models of the Sale Process and Price Formation in Housing Markets?” *Environment and Planning A*, 20, 829-831, 1988.

“Semiparametric Estimation of Employment Duration Models,” *Econometric Reviews*, 6, 5-40, 1987 (with G.R. Neumann).

“Semiparametric M Estimation of Censored Linear Regression Models,” *Advances in Econometrics*, 7, 45-83, 1988.

“Specification Tests for Nested Logit Models,” *Environment and Planning A*, 19, 395-402, 1987.

“Identification and Stochastic Specification in Rosen's Hedonic Price Model,” *Journal of Urban Economics*, 22, 165-173, 1987.

“A Distribution-Free Least Squares Estimator for Censored Linear Regression Models,” *Journal of Econometrics*, 32, 59-84, 1986.

“Bidding Models of Housing Markets,” *Journal of Urban Economics*, 20, 168-190, 1986.

“Travel and Location Behavior: State of the Art and Research Opportunities,” *Transportation Research*, 19A, 441-453, 1985.

“Random Utility Travel Demand Models,” in G.R.M. Jansen, P. Nijkamp, and C.J. Ruigrok, eds., *Transportation and Mobility in an Era of Transition*, North Holland Publishing Co., 1985, pp. 141-155.

“The Usefulness of Prediction Success Tables for Discriminating among Random Utility Travel Demand Models,” *Transportation Research Record*, 1037, 40-43, 1985.

“Testing Probabilistic Discrete Choice Models of Travel Demand by Comparing Predicted and Observed Aggregate Choice Shares,” *Transportation Research*, 19B, 17-38, 1985.

“Testing Disaggregate Travel Demand Models by Comparing Predicted and Observed Market Shares,” *Transportation Research Record*, 976, 1-7, 1984.

“Estimating Compensating and Equivalent Income Variations from Hedonic Price Models,” *Economics Letters*, 14, 303-308, 1984.

“The Stability of Stochastic Equilibrium in a Two-Link Transportation Network,” *Transportation Research*, 18B, 13-28, 1984.

“Evaluation of Discrete-Choice Random Utility Models as Practical Tools of Transportation Systems Analysis,” Special Report No. 201, Transportation Research Board, pp. 127-136, 1983.

“Statistical Comparison of Non-Nested Probabilistic Discrete Choice Models,” *Transportation Science*, 17, 319-350, 1983.

“An Evaluation of the Usefulness of Two Standard Goodness-of-Fit Indicators for Comparing Non-Nested Random Utility Models,” *Transportation Research Record*, 874, 19-25, 1982.

“An Investigation of the Accuracy of the Clark Approximation for the Multinomial Probit Model,” *Transportation Science*, 16, 382-401, 1982 (with J. Spärmann and C. Daganzo).

“Modeling Traveler Responses to Alternative Gasoline Allocation Plans,” *Transportation Research*, 16A, 117-133, 1982.

“Statistical Estimation of the Parameters of Daganzo's Gap Acceptance Model,” *Transportation Research*, 16B, 373-381, 1982.

“Specification Tests for Probabilistic Discrete Choice Models,” *Transportation Research*, 16A, 383-394, 1982.

“The Control of Motor-Vehicle-Related Air Pollution,” *Transport Policy and Decision Making*, 1, 327-347, 1981.

“Identification and Diagnosis of Specification Errors in the Multinomial Logit Model,” *Transportation Research*, 15B, 345-360, 1981.

“Testing the Multinomial Logit Model Against the Multinomial Probit Model without Estimating the Probit Parameters,” *Transportation Science*, 15, 153-163, 1981.

“Sources of Error and Uncertainty in Behavioral Travel Demand Models,” in W. Brög, A. Meyburg and P. Stopher, eds., *New Horizons in Behavioral Travel Research*, D.C. Heath and Co., 1981, pp. 543-558, 1981.

“Transport Management to Reduce Air Pollution: The U.S. Experience,” *Proceedings of the Planning and Transport Research and Computation Summer Meeting*, University of Warwick, England, 1980.

“The Accuracy of the Multinomial Logit Model as an Approximation to the Multinomial Probit Model of Travel Demand,” *Transportation Research*, 14B, 331-341, 1980.

“A Utility Maximizing Model of the Demand for Multi-Destination Non-Work Travel,” *Transportation Research*, 14B, 369-386, 1980.

“Random Utility Models of Urban Non-Work Travel Demand: A Review,” *Papers of the Regional Science Association*, 45, 125-137, 1980.

“Extreme Values from a Nonstationary Stochastic Process: An Application to Air Quality Analysis,” *Technometrics*, 22, 469-478, 1980.

“Confidence Intervals for the Choice Probabilities of the Multinomial Logit Model,” *Transportation Research Record*, 728, 23-29, 1980.

“Statistical Analysis of the Maximum Concentration of an Air Pollutant: Effects of Autocorrelation and Non-Stationarity,” *Atmospheric Environment*, 13, 811-818, 1979 (with S. Barakat).

“Integrated Planning and Management of Transportation and Air Quality,” *Transportation Research Record*, 670, 60-62, 1979.

“A Disaggregate Model of Nonwork Travel that Includes Multi-Destination Travel,” *Transportation Research Record*, 673, 65-71, 1979.

“Comparison of Actual and Forecast Traffic Volumes on Urban Interstate Highways,” *Transportation Research*, 12, 29-32, 1978.

“An Aggregate Supply Model of Urban Bus Transit,” *Transportation Research Record*, 626, 12-15, 1977.

“Effects of Travel Time and Cost on the Frequency and Structure of Automobile Travel,” *Transportation Research Record*, 592, 1-5, 1976.

“Modifying Urban Transportation systems to Improve the Urban Environment,” *Computers and Operations Research*, 3, 175-183, 1976.

“Comparison of Automobile Emissions According to Trip Type in Two Metropolitan Areas,” *Transportation Research Record*, 580, 13-21, 1976 (with L. Pernela).

“Analysis of Urban Area Automobile Emissions According to Trip Type,” *Transportation Research Record*, 492, 1-8, 1974.

“Retrofit for Reducing Automobile Emissions,” *Journal of the Air Pollution Control Association*, 23, 395-418, 1973.

“Inspection and Maintenance for Reducing Automobile Emissions: Effectiveness and Cost,” *Journal of the Air Pollution Control Association*, 23, 273-276, 1973.

“Critical Path Problems with Concave Cost-Time Curves,” *Management Science*, 19, 446-455, 1972 (with J. Falk).

“RAM-1: A Model for the Allocation of Budget Funds to Projects of the National Air Pollution Control Administration,” *Proceedings of the Society for Engineering Science*, 490-534, 1970 (with J. Falk, C. Fisk, and R. Holmes).

“Investigation of the Accuracy of the Tomonaga Intermediate Coupling Approximation,” *The Physical Review*, 2018-2022, 1969.

Book Reviews

Handbook of Econometrics, volume 4, R. Engle and D. McFadden, eds., reviewed in *Econometric Theory*, 13, 119-132, 1997 (with B.E. Hansen)

Analog Estimation in Econometrics, by C.F. Manski, Chapman and Hall, 1988, reviewed in *Econometric Theory*, 6, 268-272, 1990.

Discrete Choice Analysis: Theory and Application to Travel Demand, by M. Ben-Akiva and S.R. Lerman, MIT Press, 1985, reviewed in *Transportation Science*, 20, 290-291, 1986.

Categorical Data Analysis for Geographers and Environmental Scientists, by N. Wrigley, Longmans Group Ltd., 1985, reviewed in *Economic Geography*, 62, 192-194, 1986.

Structural Analysis of Discrete Data with Econometric Applications, C.F. Manski and D. McFadden, eds., MIT Press, 1981, reviewed in *Transportation Research*, 17A, 73-74, 1983.

Multinomial Probit: The Theory and Its Application to Demand Modeling, by C. Daganzo, Academic Press, 1979, reviewed in *Transportation Science*, 15, 379-381, 1981.

GRANTS RECEIVED

“Semiparametric and Nonparametric Methods in Econometrics,” National Science Foundation, 2004-2007.

“Nonparametric, Semiparametric, and Bootstrap Methods in Econometrics,” National Science Foundation, 2000-2003.

“Bootstrap and Semiparametric Methods in Econometrics,” National Science Foundation, 1997-1999.

“Research on Semiparametric and Nonparametric Estimation of Econometric Models,” National Science Foundation, 1993-1996.

“Robust Estimation and Testing of Econometric Models for Panel Data,” National Science Foundation, 1992-1994 (with M. Markatou).

“An Investigation of Behavior in Experiments with Simple Bargaining Games,” National Science Foundation, 1990-1992 (with R. Forsythe and N.E. Savin).

“Tests of the External Validity of Spatial Choice Models Estimated from Choice Experiments,” National Science Foundation, 1986-1988 (with J.J. Louviere).

“The State Budget Process: An Analysis of Forecasting Models, Forecasting Error, and Optimal Reserves,” Legislative Extended Advisory Group, 1985-1986 (with J. Barnard).

“Benefits Analysis Using Indirect or Imputed Market Methods,” U.S. Environmental Protection Agency, 1985-1987.

“Development of a Self-Instructing Course in Disaggregate Mode Choice Modeling,” U.S. Department of Transportation, 1984-1986.

“Applications of Discrete-Choice Analysis to Environmental Policy Problems,” U.S. Environmental Protection Agency, 1983-1985.

“Validation of Random Utility Travel Demand Models by Comparison with Real-World Data,” U.S. Department of Transportation, 1983-1985.