

**CURRICULUM VITA**  
**Leon Nathan Moses**

---

**Birthdate**

October 27, 1924, New York City

**Death**

October 12, 1913, Evanston, Illinois

**Education**

Ohio State University, B.A. 1945

Harvard University, M.A. 1950, Ph.D. 1952

**Positions Held**

1946	Teaching Fellow, Department of Economics, University of Buffalo
1946–47	Instructor, Department of Economics, University of Miami
1950–51	Instructor, Department of Economics, Northwestern University
1951–52	Industrial Economist, Tennessee Valley Authority
1952–59	Research Associate, Harvard Economic Research Project
1957–59	Assistant Professor, Harvard University
1959–63	Associate Professor, Department of Economics, and Assistant Director of Research, Transportation Center, Northwestern University
1963–2005	Professor, Department of Economics, Northwestern University (Robert and Emily King Chair, 1994–1999)
1970–72	Chair, Department of Economics, Northwestern University
1974–79	Director, Transportation Center, Northwestern University
1975–78	Professor, Department of Managerial Economics and Decisions Sciences, J. L. Kellogg Graduate School of Management, Northwestern University
2005–13	Professor Emeritus, Department of Economics, Northwestern University

## Visiting Positions

- Summer 1964 Department of Economics, New York University  
Summer 1969 Professor, University College, Dar Es Salaam, Tanzania  
Summer 1973 Lecturer, American Studies Program, Kyoto, Japan

## Fields of Specialization

Microeconomics, Regulation, Transportation, Logistics, Urban and Regional Economics

## Honors

- 1964 Foundation Fellowship  
1969 Rockefeller Foundation Fellowship  
1972 President, Regional Science Association  
1980, 1981 Honor Roll of Outstanding Teachers  
1995 Outstanding Research Paper Award, Transportation Research Forum

## Publications

### *Books*

- *Methods of Regional Analysis: An Introduction to Regional Science.* Walter Isard in association with David F. Bramhall, Gerald A. P. Carrothers, John H. Cumberland, Leon N. Moses, Daniel O. Price, and Eugene W. Schooler. Cambridge, MA: Massachusetts Institute of Technology, 1960.
- *Transportation Safety in an Age of Deregulation.* Leon N. Moses and Ian Savage, eds. New York: Oxford University Press, 1989.
- *Transportation of Hazardous Materials: Issues in Law, Social Science, and Engineering.* Leon N. Moses and Dan Lindstrom, eds. Boston: Kluwer Academic Publishers, 1993.

### *Articles*

- “Frickey, Burns and Mitchell, and the Transport Building Cycle,” with Walter Isard, *Review of Economics and Statistics*, Vol. 32, No. 4, November 1950, pp. 347–351.
- “Regional Economics: Discussion,” *American Economic Review*, Vol. 45, No. 2, May 1955, pp. 150–153.
- “Location Theory, Input-Output, and Economic Development: An Appraisal,” *Review of Economics and Statistics*, Vol. 37, No. 3, August 1955, pp. 308–312.

- “The Stability of Interregional Trading Patterns and Input-Output Analysis,” *American Economic Review*, Vol. 45, No. 5, December 1955, pp. 803–826. Reprinted in Heinz D. Kurz, Erik Dietzenbacher, and Christian Lager, eds., *Input-Output Analysis, Vol. 2*. Elgar Reference Collection, International Library of Critical Writings in Economics, Vol. 92. Cheltenham, U.K., and Northampton, MA: Elgar, 1998, pp. 246–275.
- “The Stability of Interregional Trading Patterns and Input-Output Analysis: Appendix,” with John Fei, *American Economic Review*, Vol. 45, No. 5, December 1955, pp. 827–832.
- “Location and the Theory of Production,” *Quarterly Journal of Economics*, Vol. 72, No. 2, May 1958, pp. 259–272. Reprinted in Robert D. Dean, William H. Leahy, and David L. McKee, eds., *Spatial Economic Theory*. New York: The Free Press, 1970, pp. 59–71.
- “Interregional Flow Analysis and Balance of Payments Statements,” in Walter Isard, *et al.*, *Methods of Regional Analysis: An Introduction to Regional Science*. Cambridge, MA: Massachusetts Institute of Technology, 1960, pp. 122–181.
- “Regional Cycle and Multiplier Analysis,” with Eugene W. Schooler, in Walter Isard, *et al.*, *Methods of Regional Analysis: An Introduction to Regional Science*. Cambridge, MA: Massachusetts Institute of Technology, 1960, pp. 182–231.
- “A General Equilibrium Model of Production, Interregional Trade, and Location of Industry,” *Review of Economics and Statistics*, Vol. 42, No. 4, November 1960, pp. 373–397.
- “Transportation and the Spatial Distribution of Economic Activity,” with G. W. Bleile, *Highway Research Board Bulletin 311*, 1961, pp. 27–30.
- “Transportation and the Spatial Distribution of Economic Activity,” with Arthur P. Hurter, in Ronald R. Boyce, ed., *Regional Development and the Wabash Basin*. Urbana: University of Illinois Press, 1964, pp. 197–212.
- “Towards a Theory of Intra-Urban Wage Differentials and Their Influence on Travel Patterns,” *Regional Science Association Papers and Proceedings*, Vol. 9, 1962, pp. 53–63.
- “Income, Leisure, and Wage Pressure,” *Economic Journal*, Vol. 72, No. 286, June 1962, pp. 320–334.
- “Nuovi Metodi per lo studio dell’ economia regionale,” *Mercurio*, Anno. V-N, 2, pp. 81–87, February 1962.
- “Competition Under Uneven Regulation,” with David Alexander, *American Economic Review*, Vol. 53, No. 2, May 1963, pp. 466–473.
- “Value of Time, Choice of Mode, and the Subsidy Issue in Urban Transportation,” with Harold F. Williamson, Jr., *Journal of Political Economy*, Vol. 71, No. 3, June 1963, pp. 247–264. Reprinted in Herbert Mohring, ed., *The Economics of Transport, Vol. 1*. Elgar Reference Collection, International Library of Critical Writings in Economics, No. 34. Aldershot, U.K.: Elgar, 1994, pp. 89–106.
- “Regional Investment and Interregional Programming, with Arthur P. Hurter, *Regional Science Association Papers*, Vol. 13, 1964, pp. 105–119.
- “Transportation Demand the Benefits from Transport Investment,” *Essays in Transportation*, West Virginia University, Vol. 2, pp. 86–95, 1966.

- “The Location of Economic Activity in Cities,” with Harold F. Williamson, Jr., *American Economic Review*, Vol. 57, No. 2, May 1967, pp. 211–222. Reprinted in a considerably expanded and revised version in Scott Greer, Dennis L. McElrath, David W. Minar, and Peter Orleans, eds., *The New Urbanization*. New York: St. Martin’s Press, 1968, pp. 113–131. Reprinted in William H. Leary, David L. McKee, and Robert D. Dean, eds., *Urban Economics: Theory, Development, and Planning*. New York: The Free Press, 1970, pp. 65–77.
- “Rationality and Migration in Ghana,” with Ralph E. Beals and Mildred B. Levy, *Review of Economics and Statistics*, Vol. 49, No. 4, November 1967, pp. 480–486.
- “Spatial Economics II: The General Equilibrium Approach,” in David J. Sills, ed., *International Encyclopedia of the Social Sciences*, Vol. 15. New York: The Macmillan Company and The Free Press, 1968, pp. 100–108.
- “The Demand for Freight Transportation: The Influence of Time,” with Michel V. Beuthe, in *Transportation: A Service*, Sesquicentennial Forum on Transportation Engineering. New York: New York Academy of Sciences, pp. 61–65, 1968.
- “Choice of Mode in U.S. Overseas Trade: A Study of Air Cargo Demand,” with W. Bruce Allen, *Transportation Research Forum*, pp. 83–91, September 1968.
- “The 1968 National Highway Needs Resort: An Evaluation,” *The Bureau of Public Roads*, pp. 12–21, 1968.
- “The General Equilibrium Approach,” in Robert D. Dean, William H. Leahy, and David L. McKee, eds., *Spatial Economic Theory*. New York: The Free Press, 1970, pp. 15–29.
- “Land-Use Theory and the Spatial Structure of the Nineteenth-Century City,” with Raymond L. Fales, *Regional Science Association Papers*, Vol. 28, 1972, pp. 49–80.
- “Thünen, Weber, and the Spatial Structure of the Nineteenth Century City,” with Raymond L. Fales, in Mark Perlman, Charles L. Leven, and Benjamin Chinitz, eds., *Spatial, Regional, and Population Economics: Essays in Honor of Edgar M. Hoover*. New York: Gordon and Breach, Science Publishers, Inc., 1972, pp. 137–168.
- “A Survey of Urban Economics,” with Gerald S. Goldstein, *Journal of Economic Literature*, Vol. 11, No. 2, June 1973, pp. 471–515.
- “Outputs and Prices in Inter-Industry Models,” *Regional Science Association Papers*, Vol. 32, 1974, pp. 1–18. (Presidential Address)
- “Interdependence and the Location of Economic Activities,” with Gerald S. Goldstein, *Journal of Urban Economics*, Vol. 2, No. 1, January 1975, pp. 63–84.
- “Transportation Controls and the Spatial Structure of Urban Areas,” with Gerald S. Goldstein, *American Economic Review*, Vol. 65, No. 2, May 1975, pp. 289–294.
- “Transport Controls, Travel Costs, and Urban Spatial Structure,” with Gerald S. Goldstein, *Public Policy*, Vol. 23, No. 3, Summer 1975, pp. 355–380.
- “Dynamics and Land Use: The Case of Forestry,” with John Ledyard, in Ronald E. Grieson, ed., *Public and Urban Economics: Essays in Honor of William S. Vickrey*. Lexington, MA: Lexington Books, 1976, pp. 141–157.

- “Transportation and Land Use in the Mature Metropolis,” with Alex Anas, in Charles L. Leven, ed., *The Mature Metropolis*. Lexington, MA: Lexington Books, 1978, pp. 149–168.
- “Mode Choice, Transport Structure, and Urban Land Use,” with Alex Anas, *Journal of Urban Economics*, Vol. 6, No. 2, April 1979, pp. 228–246. Reprinted in Joseph Berechman, et al., eds., *Transport and Land Use*. Elgar Reference Collection, Modern Classics in Regional Science, Vol. 2. Cheltenham, U.K., 1996, pp. 147–165.
- “Competition, Regulation, and Efficiency,” with A. F. Daughety and F. Inaba. *Railroad Research Study Papers*. Oxford, Indiana: Richard B. Cross and Company, pp. 103–111.
- “Interregional Input-Output: The Search for a Model of Interregional Trade and Factor Mobility.” Cambridge, MA: Joint Center for Urban Studies, 1981.
- “Inventory Investment and the Theory of the Firm,” with Lanny Arvan, *American Economic Review*, Vol. 72, No. 1, March 1982, pp. 186–193.
- “Inventory Investment and the Theory of the Firm: Errata,” with Lanny Arvan, *American Economic Review*, Vol. 73, No. 1, March 1983, p. 251.
- “Qualitative Choice and the Blending of Discrete Alternatives,” with Alex Anas, *Review of Economics and Statistics*, Vol. 66, No. 4, November 1984, pp. 547–555.
- “A Model of the Firm in Time and Space,” with Lanny Arvan, *Journal of Economic Dynamics and Control*, Vol. 9, No. 1, September 1985, pp. 77–100.
- “Competition and Collusion, Side by Side: The Corrugated Container Antitrust Litigation,” with Robert C. Goldberg and Craig S. Hakkio, in Ronald E. Grieson, ed., *Antitrust and Regulation*. Lexington, MA, and Toronto: Heath, Lexington Books, 1986, pp. 105–125.
- “Air Safety in the Age of Deregulation,” with Ian Savage, *Issues in Science and Technology*, Vol. 4, No. 3, 1988, pp. 31–37.
- “Transportation Safety in an Age of Deregulation: Introduction,” with Ian Savage, in Leon N. Moses and Ian Savage, eds., *Transportation Safety in an Age of Deregulation*. New York: Oxford University Press, 1989, pp. 3–7.
- “Summary of Other Aviation Issues,” with Ian Savage, in Leon N. Moses and Ian Savage, eds., *Transportation Safety in an Age of Deregulation*. New York: Oxford University Press, 1989, pp. 206–215.
- “Summary and Policy Implications,” with Ian Savage, in Leon N. Moses and Ian Savage, eds., *Transportation Safety in an Age of Deregulation*. New York: Oxford University Press, 1989, pp. 308–331.
- “The Effect of Airline Pilot Characteristics on Perceptions of Job Safety Risks,” with Ian Savage, *Journal of Risk and Uncertainty*, Vol. 2, No. 4, December 1989, pp. 335–351.
- “Competition, Monopsony, and Local Factor Prices: Policies for Community Development,” with Lanny Arvan, in Manas Chatterji and Robert E. Kuenne, eds., *New Frontiers in Regional Science: Essays in Honor of Walter Isard*. New York: New York University Press, 1990.
- “Aviation Deregulation and Safety: Theory and Evidence,” with Ian Savage, *Journal of Transport Economics and Policy*, Vol. 24, No. 2, May 1990, pp. 171–188.

- “The Effectiveness of Motor Carrier Safety Audits,” with Ian Savage, *Accident Analysis and Prevention*, Vol. 24, No. 5, 1992, pp. 479–496.
- “Introduction,” in Leon N. Moses and Dan Lindstrom, eds., *Transportation of Hazardous Materials: Issues in Law, Social Science, and Engineering*. Boston: Kluwer Academic Publishers, 1993, pp. xiii-xliii.
- “Annual License Fees and Other Charges for Road Transportation of Hazardous Materials,” with Ian Savage, in Leon N. Moses and Dan Lindstrom, eds., *Transportation of Hazardous Materials: Issues in Law, Social Science, and Engineering*. Boston: Kluwer Academic Publishers, 1993, pp. 259–275.
- “Characteristics of Motor Carriers of Hazardous Materials,” with Ian Savage, in Frank F. Saccomanno and Keith Cassidy, eds., *Transportation of Dangerous Goods: Assessing the Risks*. Waterloo, Ontario: University of Waterloo, Institute for Risk Research, 1993.
- “A Test of Market Behavior in the Transport of Petroleum and Liquid Hazardous Materials,” with Ronald R. Braeutigam, in Leon N. Moses and Dan Lindstrom, eds., *Transportation of Hazardous Materials: Issues in Law, Social Science, and Engineering*. Boston: Kluwer Academic Publishers, 1993, pp. 295–309.
- “The Effect of Firm Characteristics on Truck Accidents,” with Ian Savage, *Accident Analysis and Prevention*, Vol. 26, No. 2, 1994, pp. 173–179.
- “Identifying Dangerous Trucking Firms,” with Ian Savage, *Risk Analysis*, Vol. 16, No. 3, 1996, pp. 359–366.
- “A Cost-Benefit Analysis of United States Motor Carrier Safety Programs,” with Ian Savage, *Journal of Transport Economics and Policy*, Vol. 31, No. 1, January 1997, pp. 51–67. Reprinted in Kenneth Button, ed., *Recent Developments in Transport Economics*. Elgar Reference Collection, International Library of Critical Writings in Economics, Vol. 164. Cheltenham, U.K.: Edward Elgar Publishing, 2003, pp. 308–324.
- “Inventory Investment, Product Cycles, and the Imperfectly Competitive Firm,” with Philip C. Jones and James L. Zydiak, *International Journal of Production Economics*, Vol. 54, No. 3, May 1998, pp. 267–276.
- “Multiplant Monopolist in a Spatial Environment,” with Arthur P. Hurter, Tony E. Smith and Michael G. Van Buer, in Michael L. Lahr and Ronald E. Miller, eds., *Regional Science Perspectives in Economic Analysis: A Festschrift in Memory of Benjamin H. Stevens*. Amsterdam: North Holland, Elsevier, 2001.

### **Research Reports**

- *Growth and Change in Metropolitan Areas and Their Relation to Metropolitan Transportation: A Summary of Findings*. Evanston, IL: Transportation Center, Northwestern University, 1962, 91 pages. (Summary of seven reports prepared by the Transportation Center under a grant from the Automobile Manufacturers Association.)
- *Cost-Benefit Analysis for Inland Navigation Improvements*. Evanston, IL: Econometrics Research Center, Northwestern University, for the U.S. Army Engineer Institute for Water Resources, 1970.

- Vol. 1 *Summary Report*, with Lester B. Lave, 68 pages.
- Vol. 2 *Demand and Cost Analysis*, James P. Stucker, W. Bruce Allen, Michel V. Beuthe, Joseph S. DeSalvo, and Leland S. Case, 368 pages.
- Vol. 3 *Regulatory Policy*, Richard B. Heflebower and Andrew J. Gold, 344 pages.
- *Year 2000 Alternative Transportation Futures*. Transportation Center, Northwestern University, and Chicago Area Transportation Study, 1976, 145 pages.

***Working Papers, Conference Presentations, Etc. (Not Elsewhere Published)***

- “The Rationality of Migration,” with Ralph E. Beals. Evanston, IL: Transportation Center, Northwestern University, 1965, 11 pages. (Prepared for presentation at the Seventh World Conference of the Society for International Development, Washington, DC, March 11–13, 1965.)
- “A Dynamic Model of Regulatory Change in Transportation,” with A. F. Daughety and F. S. Inaba. Evanston, IL: Transportation Center, Northwestern University, 1976, 21 pages.
- “The Great Metropolis, Its Past and Future,” with Alex Anas. Evanston, IL: Transportation Center, Northwestern University, 1978, 29 pages.
- “Disutility, Work Constraints, and Travel Demand Theory,” with Alex Anas. Evanston, IL: Transportation Center, Northwestern University, 1980, 35 pages.
- “Regional Analysis: The Search for a Model of Intra-national Trade.” Evanston, IL: Transportation Center, Northwestern University, 1980, 35 pages.
- “Transport and the Spatial Structure of Cities and Regions.” Evanston, IL: The Center, Publications Division, Northwestern University, 1981, 401 pages (collected articles by L. N. Moses).
- “Amtrak vs. Conrail: Ramsey as Arbiter,” with Ronald R. Braeutigam, Center for Mathematical Studies in Economics and Management Science, Discussion Paper 539, Northwestern University, 1982, 34 pages.
- “Analytical Logistics: Modeling the Geographic and Temporal Decisions of Firms,” with Lanny Arvan and M. Weidner. Evanston, IL: Transportation Center, Northwestern University, 1983, 42 pages.
- “Risk: Measurement, Modelling, and Management.” Evanston, IL: Transportation Center, Northwestern University, 1994, 23 pages.

**Selected Grant-Funded Projects**

- “The Location of Truck Terminals,” \$30,000, funded by a number of trucking firms, 1959.
- “Impact Analysis for Highway Investments,” \$45,000, Bureau of Public Roads, 1961.
- “Government Regulation and the Growth of Private and Unregulated Carriage,” \$85,000, funded by a number of transportation firms, 1963.

- “Transport, Trade, and Economic Development in Puerto Rico,” \$35,000, Commonwealth of Puerto Rico, 1964.
- “The New Cities Study,” \$110,000, The Automobile Manufacturer’s Association, 1967.
- “Cost-Benefit Analysis for Inland Navigation Improvements,” \$300,000, U.S. Army Engineer Institute for Water Resources, 1970.
- “Regulation and the Demand for Freight Transport,” \$90,000, National Science Foundation and Transportation Center, Northwestern University, 1975.
- “Economic Regulation and the Motor Carrier Industry,” \$80,000, U.S. Department of Transportation, 1978.
- “Economic Deregulation and the Airline Industry,” U.S. Department of Transportation, \$92,000, 1980.
- “Attitude of Commercial Airline Pilots to Safety Related Job Risks,” co-principal investigator with Ian Savage, Airline Pilots Association and Aviation Research and Education Foundation, \$35,000, July 1987 to April 1988.
- “Transportation Deregulation and Safety Conference,” U.S. Department of Transportation and industry sources, \$165,000, September 1986 to March 1988.
- “Economics of Motor Carrier Safety: Industry Structure and the Costs and Benefits of Increased Safety Standards and Surveillance,” co-principal investigator with Ian Savage, U.S. Department of Transportation through the University Transportation Centers Program, \$150,202, April 1989 to August 1995.
- “Hazmat Transport ’91: A National Conference on the Transportation of Hazardous Materials and Wastes,” U.S. Dept. of Transportation and industry sources, 1991.

## Conferences Organized

- “Regulatory Reform and the Federal Aviation Act of 1975,” Evanston, IL, February 29 and March 1, 1976. Proceedings published as: *Regulatory Reform and the Federal Aviation Act of 1975: Report of the Fifth Workshop on National Transportation Problems, February 29 and March 1, 1976, Program of University Research*. Washington, DC: U.S. Department of Transportation, Office of the Secretary, Office of University Research, 1976, 183 pages.
- “Motor Carrier Economic Regulation.” Washington DC, April 7–8, 1977. Proceeding published as: *Motor Carrier Economic Regulation : Proceedings of a Workshop conducted by Committee on Transportation, Assembly of Engineering, National Research Council, in cooperation with the Transportation Center at Northwestern University*. Washington DC: National Academy of Sciences, 643 pages.
- “In Search of a Rational Liner Shipping Policy,” New York City, March 13–14, 1978. Proceedings published as: *Proceedings : In Search of a Rational Liner Shipping Policy: a Northwestern University Transportation Center Forum*. Evanston, IL: Northwestern University Transportation Center, 1978, 126 pages.



- “Corporate Planning under Deregulation: The Case of the Airlines,” Evanston, IL, June 11–12, 1979. Proceedings published as: *Corporate Planning Under Deregulation: The Case of the Airlines, A Conference Jointly Sponsored by the Transportation Center and the J. L. Kellogg Graduate School of Management, Northwestern University*. Leon N. Moses and Shirley A. Ambroziak, eds. Evanston, IL: Transportation Center, Northwestern University, 1979, 104 pages.
- “Transportation Deregulation and Safety: An Investigation into the Linkages between Economic Deregulation and Safety Performance in the U.S. Aviation and Motor Carrier Industries,” Evanston, IL, June 23–25, 1987. Proceedings published as: *Transportation Deregulation and Safety*. Leon N. Moses and Ian Savage, eds. Evanston, IL: Northwestern University Transportation Center, 1988, 932 pages. Selected papers published in: *Transportation Safety in an Age of Deregulation*. Leon N. Moses and Ian Savage, eds. New York: Oxford University Press, 1989.
- “Hazmat Transport ’91: A National Conference on the Transportation of Hazardous Materials and Wastes,” Evanston, IL, June 17–19, 1991. Proceeding published as: *Hazmat Transport ’91*. Leon N. Moses and Dan Lindstrom, eds. Evanston, IL: Northwestern University Transportation Center, 1988, 851 pages. Selected papers published in: *Transportation of Hazardous Materials: Issues in Law, Social Science, and Engineering*. Leon N. Moses and Dan Lindstrom, eds. Boston: Kluwer Academic Publishers, 1993.

*Vita edited by:*

*Joseph S. DeSalvo (University of South Florida)*

*Ian Savage (Northwestern University)*

*February 2008*

*Updated: October 2013*