

## JEFFREY H. ROHLFS

Received an A.B. degree from Amherst College and a Ph.D. in Economics from MIT. He has taught economics at the Stanford Graduate School of Business.

Dr. Rohlfs is a founding principal of Strategic Policy Research, Inc. ("SPR") and has been a consultant since 1983. He is an economist who specializes in the telecommunications and mass media industries. He has numerous publications, including theoretical, empirical and policy analyses.

Dr. Rohlfs has consulted on telecommunications and public policy for a variety of clients with regard to ground rules for telecommunications competition, cost estimation, interconnection pricing, regulatory reform, restructuring and privatization in many countries, and policies regarding spectrum and mobile telecommunications.

Prior to his career in consulting, Dr. Rohlfs spent 14 years at Bell Labs, rising to Department Head of Economic Modeling Research. While at Bell Labs, Dr. Rohlfs wrote a seminal paper on the theory of network externalities. This theory has been widely cited and applied to universal-service policy and technical standards. Dr. Rohlfs also wrote a seminal empirical analysis on optimal telecommunications pricing and rate rebalancing.

From 1979 to 1981, Dr. Rohlfs was Manager of Microeconomic Analysis at AT&T. He provided analytical support for AT&T's regulatory and public affairs efforts.

Dr. Rohlfs has substantial international consulting experience, including Australia, Bolivia, Canada, Cape Verde, Ecuador, European Union, Germany, Honduras, Hungary, Jamaica, Japan, Latvia, Mexico, New Zealand, Panama, Paraguay, Peru, Puerto Rico, Thailand, Venezuela and the United Kingdom.

His book, *Bandwagon Effects in High-Technology Industries*, published by MIT Press, was released in 2001.

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**EDUCATION**


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**MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

Ph.D., Economics, 1969

**AMHERST COLLEGE**

 A.B., Economics, 1965
 

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**EMPLOYMENT**


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1992-Present **STRATEGIC POLICY RESEARCH, INC.**—Bethesda, Maryland  
*Principal.* Telecommunications, mass media and public policy consulting services for a variety of clients in the telecommunications industry.

1989-1992 **NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC. ("NERA")**—Washington, D.C.  
*Vice President.* Telecommunications, mass media and public policy consulting services for a variety of clients in the telecommunications industry.

1983-1988 **SHOOSHAN & JACKSON INC.**—Washington, D.C.  
*Principal.* Telecommunications, mass media and public policy consulting services for a variety of clients in the telecommunications industry.

1981-1983 **ECONOMIC MODELING RESEARCH DEPARTMENT, BELL LABORATORIES**—Murray Hill, New Jersey  
*Department Head.* Economics research.

1979-1981 **MICROECONOMIC ANALYSIS, AT&T**—New York, New York  
*Manager.* Analytical support for AT&T's regulatory and public affairs efforts.

1978-1979 **ECONOMIC MODELING RESEARCH DEPARTMENT, BELL LABORATORIES** — Murray Hill, New Jersey  
*Department Head.* Economics research.

1975-1978 **ECONOMICS RESEARCH, BELL LABORATORIES**—Murray Hill, New Jersey  
*Member of Technical Staff.* Economics research.

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- 1974-1975 STANFORD BUSINESS SCHOOL—Stanford, California  
*Visiting Lecturer.* Teaching and research in business economics.
- 1969-1974 ECONOMICS RESEARCH, BELL LABORATORIES—Murray Hill, New Jersey  
*Member of Technical Staff.* Economics research.
- 1967-1969 CHARLES RIVER ASSOCIATES—Cambridge, Massachusetts  
*Research Associate.* Economics research.

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### PROFESSIONAL ACTIVITIES

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- Member, American Economic Association.
- Member, International Telecommunications Society.

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### TESTIMONIES

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*Expert Report of Jeffrey H. Rohlf's.* Prepared for the U.S. Department of Justice for submission in the U.S. District Court for the Eastern District of Virginia, Alexandria Division, in Case No. 00-1571-A, *Satellite Broadcasting & Communications Ass'n of America et al., Plaintiffs v. Federal Communications Commission, et al., Defendants.* April 25, 2001.

Direct Testimony. Before the Michigan Public Service Commission in Case No. U-12797, *Metromedia Fiber Network Services, Inc., Complainant v. City of Dearborn, Respondent.* March 29, 2001. Supplemental Testimony, April 9, 2001.

With John Haring. *Economic Need for a National License in the 1670-75 MHz Band.* Before the Federal Communications Commission ("FCC"), In the Matter of Reallocation of the 216-200 MHz, 1390-1395 MHz, 1427-1429 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands in ET Docket No. 00-221, RM-9267, RM-9692, RM-9797 and RM-9854. *Comments of ArrayComm, Inc., Appendix A.* March 8, 2001.

With Arturo Briceño, David E. Fintzen and Kirsten M. Pehrsson. *Variation in Productivity Growth Among Telephone Companies.* Prepared for Global Crossing North America, Inc., for submission before the FCC in CC Docket Nos. 96-262, 94-1, 99-249 and 99-45 (CALLS Proposal). May 10, 2000.

Rebuttal testimony on behalf of Bell Atlantic–New Jersey before the Board of Public Utilities in New Jersey, BPU Docket No. TO99120934. September 8, 2000.

With Kirsten M. Pehrsson. *Analysis of Productivity Trends of Citizens Communications*. Submitted before the FCC, *In the Matter of Price Cap Performance Review for Local Exchange Carriers; Access Charge Reform*, CC Docket 94-1 and 96-262. January 24, 2000.

With Robert W. Crandall. *The Economic Case for the CALLS Proposal*. Prepared for submission before the FCC. December 3, 1999.

With others. *Review of NTT's Top Down Cost Model*. Prepared for presentation before the Ministry of Posts and Telecommunications of Japan. August 23, 1999.

*Analysis of Reverse Billing of Call Charges for Paging Companies*. Prepared on behalf of Ameritech. Presented in Lansing, Michigan. July 8, 1999.

With others. Submission to the FCC in *Second Further Notice of Proposed Rulemaking, In the Matter of Implementation of the Local Competition Provisions In the Telecommunications Act of 1996*, CC Docket No. 96-98. *Comments of Strategic Policy Research, Inc.* May 25, 1999. *Reply Comments*. June 10, 1999.

With John Haring. *Cost-of-Capital for Payphone Enterprises*. Prepared for submission before the FCC. May 14, 1999.

Affidavits on behalf of *Telstra New Zealand Limited v. Telecom of New Zealand Limited*, April 1999 and May 1999.

With John Haring. *Declaration of John Haring and Jeffrey H. Rohlf's*. Prepared on behalf of American Public Communications Council for submission at the FCC. April 21, 1999.

With Kirsten M. Pehrsson. *One Size Does Not Fit All: Further Evidence Against the Inadequacy of a Single X- Factor*. Submitted before the FCC, *In the Matter of Price Cap Performance Review for Local Exchange Carriers; Access Charge Reform*, CC Docket Nos. 94-1 and 96-262. April 23, 1998.

With John Haring. *MCI's "Further Thoughts" Yield Negative Returns*. Prepared on behalf of American Public Communications Council for submission before the FCC. December 16, 1998.

With John Haring. *Comments of American Public Communications Council*. Submitted before the FCC. "Declaration of John Haring and Jeffrey H. Rohlf's." July 13, 1998. "Reply Declaration of John Haring and Jeffrey H. Rohlf's." July 27, 1998.

With Kirsten M. Pehrsson. *One Size Does Not Fit All: The Inadequacy of a Single X- Factor for All Price-Cap Companies*. Prepared for submission before the FCC, *In the Matter of Price Cap Performance Review for Local Exchange*

*Carriers; Access Charge Reform*, CC Docket Nos. 94-1 and 96-262. July 11, 1997.

Invited participant in FCC Workshop on Validation of Cost Models. January 16, 1997.

Invited participant in FCC Workshop on Technical Standards for Advanced Television. November 1, 1996.

With John Haring and Calvin S. Monson. *Comments on FCC's Industry Demand and Supply Simulation Model*. Prepared for submission before the FCC, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*. CC Docket No. 96-98. *Supplemental Comments*. July 8, 1996.

With Harry M. Shooshan III and Calvin S. Monson. *Bill-and-Keep: A Bad Solution to a Non-Problem*. Prepared for submission before the FCC, *In the Matter of Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers* (CC Docket No. 95-185) and *Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Service Providers* (CC Docket No. 94-54). March 4, 1996.

With John Haring. *Comments on Pricing Flexibility Issues*. Prepared for submission before the FCC, *In the Matter of Price Cap Performance Review for Local Exchange Carriers*, CC Docket No. 94-1. January 10, 1996.

With John Haring and Harry M. Shooshan III. *Disabilities of Continued Asymmetric Regulation of AT&T*. Prepared for submission before the FCC. June 30, 1995.

With Charles L. Jackson. *Report on Capital Needs of a Telephone Company*. Direct and rebuttal testimony before the United States Tax Court. Docket Nos. 7970-91 and 7971-91. June 1994. [Confidential]

Testimony in *Turner Broadcasting System, Inc., et al., Plaintiffs, v. Federal Communications Commission, et al., Defendants*. United States District Court for the District of Columbia. Docket No. C.A. No. 92-2247 (and related cases C.A. Nos. 92-2292, 92-2494, 92-2495, 92-2558) (TPJ). *Expert's Report*, April 21, 1995; *Expert Declaration*, May 25, 1995.

With Charles L. Jackson. *Quantifying the Costs of Billed Party Preference*. Report filed before the FCC, *In the Matter of Billed Party Preference for 0+ InterLATA Calls*, CC Docket No. 92-77. September 14, 1994.

With Charles L. Jackson. *The Many Costs and Few Benefits of Billed Party Preference*. Prepared for submission before the FCC, *In the Matter of Billed Party Preference for 0+ InterLATA Calls*, CC Docket No. 92-77. August 1, 1994.

With Harry M. Shooshan III. *Diversification and Growth: Achieving Synergies in the Global Entertainment/Information Economy*. Prepared for submission before the Canadian Radio-Television and Telecommunications Commission. May 12, 1994.

With John Haring. *Comments on "Transition Issues."* Prepared for submission at the FCC on behalf of BellSouth, CC Docket No. 94-1, *In the Matter of Price Cap Performance Review for Local Exchange Carriers*. April 1994.

With John Haring. *The Absence of a Public Policy Rationale for Applying Affiliate-Transaction Rules to AT&T*. Prepared for submission before the FCC, CC Docket No. 93-251, *Notice of Proposed Rulemaking, Amendment of Parts 32 and 64 of the Commission's Rules to Account for Transactions between Carriers and Their Nonregulated Affiliates*. December 10, 1993.

With John Haring. *Statement re: In the Matter of Policies and Rules Concerning Rates for Dominant Carriers*. Prepared for submission before the FCC on behalf of AT&T, *Notice of Proposed Rulemaking*, CC Docket No. 87-313. July 6, 1993.

With Harry M. Shooshan III. *Evidence of Strategic Policy Research, Inc.* Prepared for submission before the Canadian Radio-Television and Telecommunications Commission. May 10, 1993.

With John Haring and Harry M. Shooshan III. *Efficient Regulation of Basic-Tier Cable Rates*. Expert report prepared for submission in the FCC's rulemaking proceeding on cable rate regulation (MM Docket No. 92-266). January 26, 1993.

With John Haring and Harry M. Shooshan III. *The Competitive Impact of the Proposed Merger between Financial News Network and Consumer News and Business Channel*. Prepared for submission before the Federal Trade Commission. Washington, D.C. April 11, 1991.

*Competition in the Provision of Air-to-Ground Telephone Service*. Prepared for submission before the FCC. November 14, 1990.

Testimony on price cap regulation before the Florida Public Service Commission, Docket No. 891246-TL, on behalf of Central Telephone-Florida. October 1, 1990.

Testimony before Puerto Rico legislature on privatization and price-cap regulation of telecommunications. June 1990.

With William E. Taylor. *Analysis of AT&T's Comparison of Interstate Access Charges Under Incentive Regulation and Rate of Return Regulation*. Prepared for submission before the FCC. July 21, 1989.

Testimony before the Public Utilities Commission of Ohio on behalf of GTE North. Critique of stand-alone cost allocations. May 1988.

“Marginal Costs of Telephone Services in Washington, D.C.” Testimony before the Public Service Commission of the District of Columbia. November 1983. Also presented to the Econometrics Society. 1984.

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## PUBLICATIONS

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With John Haring. *The Disincentives for Broadband Deployment Afforded by the FCC’s Unbundling Policies*. Before the FCC, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability* in CC Docket Nos. 01-338; 96-98 and 98-147. Attachment to the *Comments of High Tech Broadband Coalition*. April 5, 2002.

With John Haring and Harry M. Shooshan III. *And Now...But First: Propelling the Broadband Bandwagon*. Prepared for the U.K. Office of Telecommunications and Office of the E-Envoy. March 15, 2002.

*Bandwagon Effects in High-Technology Industries*. MIT Press. September 2001.

“Bandwagon Effects and the Internet.” September 3, 2001. Also presented in panel discussion at the International Telecommunications Society 12<sup>th</sup> European Regional Conference, *Regulating and Restructuring Telecoms and Broadcasting for Global Digitalization*. Dublin, Ireland. September 3, 2001.

With John Haring and Arturo Briceño. *The Effect of Pricing Structure on Residential Internet Demand*. Prepared for the Internet Access Coalition. April 2001.

With Arturo Briceño, John Haring and Harry M. Shooshan III. *The Internet and the New Economy*. March 29, 2001.

With others. *Report on Findings: Effects of the Entrance of a Second GSM Operator on the Cellular Telecommunications Market and on the Incumbent Operator*. Prepared for The World Bank. October 20, 1998. Also presented at the 28<sup>th</sup> Annual Telecommunications Policy Research Conference. Alexandria, Virginia. September 24, 2000.

With John Haring. *Implications of Packet Technology for Efficient Telecommunications Pricing*. Prepared for the United Kingdom’s Office of Telecommunications (“OFTEL”). February 23, 2000. Also presented at the *International Telecommunications Society*, Buenos Aires, Argentina. July 4, 2000.

With Joseph H. Weber and Calvin S. Monson. *TELCOMP<sup>®</sup>—A Model for Determining the Viability of Local Exchange Competition*. Prepared for submission before the FCC. June 17, 1999. Also presented at the

*Telecommunications Policy Research Conference.* Alexandria, Virginia. September 26, 1999.

With Arturo Briceño and Kirsten M. Pehrsson. *The Fiscal Impact of Liberalization of the Telecommunications Sector.* Prepared for The World Bank. May 12, 2000. Also presented in panel discussion at the International Telecommunications Society 12<sup>th</sup> European Regional Conference, *Regulating and Restructuring Telecoms and Broadcasting for Global Digitalization.* Dublin, Ireland. September 3, 2001.

With Carlo Maria Rossotto and Michel Kerf. "Competition in Mobile Telecoms." *Viewpoint* (The World Bank Group). April 1999.

With John Haring. *An Economically Efficient Regime for Paging Interconnection.* Prepared for submission before the FCC. April 14, 1999.

With others. *Economic Analysis of Interconnection Charge Policy in Peru.* February 12, 1999. Also presented at the *International Telecommunications Society*, Buenos Aires, Argentina. July 4, 2000.

With Gale R. Mosteller and Lisa H. Milofsky. "The Demand for and Taxation of Cigarettes: A Pooled Time-Series Cross-Section Analysis." October 1998.

With John Haring. *Public Policy to Deter Exclusionary Practices in the Airline Industry.* Prepared for presentation before the U.S. Department of Transportation, regarding DOT's *Enforcement Policy Regarding Unfair Exclusionary Conduct in the Air Transportation Industry*, Docket OST-98-3713 (issued April 6, 1998). September 25, 1998.

With Arturo Briceño. "Rate Rebalancing and Competition in Peruvian Telecommunications." *ITS Twelfth Biennial Conference, Beyond Convergence: Communication into the Next Millennium.* Stockholm, Sweden. June 21-24, 1998.

With John Haring, Calvin S. Monson and Harry M. Shooshan III. *Replacing Competitive Bans with Competitive Safeguards: The Role of Imputation.* October 15, 1997.

With John Haring. "Telecommunications Pricing and Competition." *Interconnection and the Internet, Selected Papers from the 1996 Telecommunications Policy Research Conference.* G. L. Rosston and D. Waterman, eds. Lawrence Erlbaum Associates, Inc. 1997. Chapter 3.

With John Haring. "Efficient Competition in Local Telecommunications without Excessive Regulation." *Information Economics and Policy.* I. Vogelsang, guest ed. Elsevier Science B.V. Vol. 9, No. 2. June 1997. 119-131.

With John Haring, Calvin S. Monson and others. *A New Set of "Top-Down" Incremental Cost Measures (Revised).* Submitted before the FCC, CPD Docket No. 97-2. February 18, 1997.

With John Haring. *Economic Perspectives on Access Charge Reform*. Prepared for submission before the FCC on behalf of BellSouth Telecommunications, *In the Matter of Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing, and Usage of the Public Switched Network by Information Service and Internet Access Providers*, CC Docket Nos. 96-262, 94-1, 91-213 and 96-263. January 29, 1997.

With Charles L. Jackson and Ross M. Richardson. *The Depreciation Shortfall*. Prepared for submission before the FCC, CC Docket No. 96-262. January 29, 1997. *Reply Comments*, February 13, 1997.

With John Haring, Charles L. Jackson and Harry M. Shooshan III. *The Benefits of Choosing: FCC Specification of an ATV Standard*. Prepared for submission before the FCC, *In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*. MM Docket No. 87-268. *Reply Comments of Strategic Policy Research on the Commission's Fifth Further Notice of Proposed Rulemaking*. August 13, 1996.

With John Haring, Calvin S. Monson and Harry M. Shooshan III. *Interconnection and Economic Efficiency*. Prepared for submission before the FCC, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98. *Comments of BellSouth*. May 16, 1996.

With Charles L. Jackson, John Haring, Harry M. Shooshan III and Kirsten M. Pehrsson. *Public Harms Unique to Satellite Spectrum Auctions*. A study prepared for the Satellite Industry Association. March 18, 1996. Included as Chapter 17 (Part Three, Communications Policy) in *A Communications Cornucopia, Markle Foundation Essays on Information Policy*, Roger G. Noll and Monroe E. Price, ed. Washington, D.C.: Brookings Institution Press, 1998. 448-472.

"Regulating Telecommunications: Lessons from U.S. Price Cap Experience." *Viewpoint*. Note No. 65. The World Bank. January 1996.

With John Haring and Charles L. Jackson. *Comments Regarding Regulation of Access to Vertically Integrated Natural Monopolies*. A submission to The New Zealand Ministry of Commerce and The Treasury. September 15, 1995.

With John Haring, Charles L. Jackson, Calvin S. Monson and Morrison & Foerster. *A Proposal for Introducing Competition into the Mexican Telecommunications Market*. Prepared for the Government of Mexico, Secretaria de Comunicaciones y Transportes. June 10, 1994.

With Harry M. Shooshan III. "New investment and the regulatory climate." *Telephony*. May 2, 1994.

With John Haring and Harry M. Shooshan III. *Regulatory Reform for the Information Age: Providing the Vision*. Prepared for submission before the FCC. January 11, 1994.

With John Haring and Harry M. Shooshan III. *The U.S. Stake in Competitive Global Telecommunications Services: The Economic Case for Tough Bargaining*. Prepared for submission before the FCC. December 16, 1993.

With Calvin S. Monson. *The \$20 Billion Impact of Local Competition in Telecommunications*. July 16, 1993. Presented at the International Telecommunications Society. Sydney, Australia. July 1994.

With Richard Schmalensee. *Productivity Gains Resulting from Interstate Price Caps for AT&T*. September 3, 1992. Also presented at the *Telecommunications Policy Research Conference*. Solomons Island, Maryland. October 4, 1993.

With Harry M. Shooshan III, Kirsten Pehrsson, *et al.* *Electronic Highways: Providing the Telecommunications Infrastructure for Pennsylvania's Economic Future*. Prepared for the Pennsylvania Chamber of Business and Industry. December 19, 1991.

With Charles L. Jackson and Tracey Kelly. *Estimate of the Loss to the United States Caused by the FCC's Delay in Licensing Cellular Telecommunications*. November 8, 1991 (revised). Presented at the *Telecommunications Policy Research Conference*. Solomons Island, Maryland. October 1992.

With Charles L. Jackson. "What Can You Do With a Cordless Telephone?" Presented at the *19th Annual Telecommunications Policy Research Conference*. Solomons Island, Maryland. September 30, 1991.

*Differences in Productivity Gains Among Telephone Companies*. Prepared for submission before the FCC. September 3, 1991.

With others. *The Technology and Economics of Providing Video Services by Fiber Optic Networks: A Response to Johnson and Reed*. July 20, 1990.

*Preserving the Incentive in Incentive Regulation*. Prepared for submission before the FCC, *In the Matter of Policy and Rules Concerning Rates for Dominant Carriers*, CC Docket No. 87-313. July 3, 1990.

With Harry M. Shooshan III. *Telecommunications Infrastructure, Productivity, and Economic Development*. April 9, 1990.

*Economic Issues Relating to Privatization of Telecommunications*. Presented at the *8th Annual ITS International Conference*. Venice, Italy. March 18-21, 1990.

With Richard J. Gilbert. "Forecasting Technology Adoption with an Application to Telecommunications Bypass." *Telecommunications Demand Modelling*. A. de Fontenay, M.H. Shugard, D.S. Sibley, eds. Elsevier Science Publishers B.V. (North-Holland), 1990.

With William E. Taylor. *Incentive Regulation and Estimates of Productivity*. Prepared for submission before the FCC. June 9, 1989.

With Charles L. Jackson, Harry M. Shooshan III and Susan W. Leisner. 'Miles to Go': *The Need For Additional Reforms In Capital Recovery Methods*. Presented at the *National Economic Research Associates, Inc. Telecommunications in a Competitive Environment Seminar*. Scottsdale, Arizona. April 12-15, 1989.

With others. "Bypass and Growth of Demand for Switched Access." February 17, 1989.

With Harry M. Shooshan III. *Will Price Caps Correct Major Economic Flaws in the Current Regulatory Process?* Presented at the *20<sup>th</sup> Annual Williamsburg Conference*. Williamsburg, Virginia. December 5-7, 1988.

With Harry M. Shooshan III, Charles L. Jackson and Susan W. Leisner. *ONA: Keeping The Promise*. Prepared for submission before the FCC. May 1988.

With Harry M. Shooshan III, Charles L. Jackson and Susan W. Leisner. "The Negative Effects of Tax Reform on the Telephone Industry: Making Up the \$15 Billion Difference." Presented at the *15<sup>th</sup> Annual Telecommunications Policy Research Conference*. Airlie, Virginia. September 27-30, 1987. Also presented at the meeting of the Communications Committee, National Association of Regulatory Utility Commissioners, February 1987; and the Maryland Public Service Commission, May 1987.

With Harry M. Shooshan III, Charles L. Jackson and Louise A. Arnheim. *Opening the Broadband Gateway: The Need for Telephone Company Entry into the Video Services Marketplace*. Prepared for submission before the FCC in connection with the *Notice of Inquiry, In the matter of telephone company/cable television cross-ownership rules*, Sections 63.54-63.58, CC Docket No. 87-266. August 1987.

With Susan W. Leisner. "Alternatives to Rate of Return Regulation for Local Telephone Companies." Prepared for The Annenberg Schools of Communications, *The Washington Program's Research Forum*. Washington, D.C. March 20, 1987.

"Efficient Recovery of NTS Costs." Presented at the *13<sup>th</sup> Annual Rate Symposium on Pricing Electric, Gas and Telecommunication Services, Today and For the Future*. St. Louis, Missouri. February 1987.

With Charles L. Jackson. "Improving the Economic Efficiency of NTS Cost Recovery." Presented at the *Fifth Biennial Regulatory Information Conference*. Columbus, Ohio. September 3-5, 1986.

With Charles L. Jackson. "Improving the Economic Efficiency of Interstate Access Charges." Presented at the *14<sup>th</sup> Annual Telecommunications Policy Research Conference*. Airlie, Virginia. April 27-30, 1986.

With Charles L. Jackson. *Access Charging and Bypass Adoption*. Shooshan & Jackson Inc. Washington, D.C. 1985. Filed before the National Telecommunications Information Administration, 1985. Also submitted to the FCC, New Jersey Board of Public Utilities and Pennsylvania Public Utility Commission.

With Richard J. Gilbert. *Forecasting Technology Adoption*. Shooshan & Jackson Inc. Washington, D.C. 1985.

"Bypass and Access Charging." Presented at 12<sup>th</sup> *Annual Telecommunications Policy Research Conference*. Airlie, Virginia. 1984.

With G.R. Faulhaber. "Regulation and Market Structure in Telecommunications." Presented at the *Conference on Economics of Telecommunications: Current Research on Demand, Pricing and Regulation*. Northwestern University, Illinois. January 1980.

With others. "Whose Ox Will Be Gored By Alternative Telecommunications Policies." Presented at the 8<sup>th</sup> *Annual Telecommunications Policy Research Conference*. Annapolis, Maryland. 1980.

"Economically Efficient Bell System Pricing." AT&T submission to Congress. 1978. Bell Labs Economic Discussion Paper #138. Presented at the 7<sup>th</sup> *Annual Telecommunications Policy Research Conference*. Skytop, Pennsylvania. 1979.

"Comments on New Issues in Telecommunications Regulation." *Issues in Public Utility Regulation*. H. Trebing, ed. Institute of Public Utilities. Graduate School of Business Administration, Michigan State University. East Lansing, Michigan. 1979.

"Interdependent Demand and Optimal Telecommunications Pricing." Provided to AT&T for submission at the Federal Communications Commission. Docket 20003. 1977. Also presented at the 5<sup>th</sup> *Annual Telecommunications Policy Research Conference*. Airlie, Virginia. 1977.

"Evaluation of Changes in a Suboptimal Economy." *Review of Economic Studies*. Vol. XLIII(2). June 1976.

"A Theory of Interdependent Demand for A Communications Service." *Bell Journal of Economics and Management Science*. Spring 1974.

"Econometric Analysis of Supply in Concentrated Markets." *International Economic Review*. February 1974.

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## SPEECHES

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"Bandwagon Effects and the Internet." Presented at Oberlin College. Oberlin, Ohio. April 14, 2000.

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“Network Externalities and Technical Standards for New Products and Services.” Presented at the *Conference on Regulation in the Digital Age*, sponsored jointly by the Brookings Institution and the CATO Institute. April 17, 1997.

“Design of Spectrum Auctions.” Presented at the Annual Meeting of the IMF and World Bank Group. Washington, D.C. 1996.

“Competition the Easy Way (or the Hard Way).” Presentation at the *Primer Encuentro Regional de Organismos Reguladores de Telecomunicaciones de América Latina y el Caribe*. Lima, Perú. May 22, 1996.

“A Future Growth of Competition in Local Telecommunications.” Presented at a symposium for discussing Japanese telecommunications policy with special reference to the market dominance of NTT. Sponsored by Gakushuin University, Faculty of Economics. Tokyo, Japan. June 7, 1995.

“Trends and Information Technology.” Presented to the *North Carolina Association of County Budget Officers*. Atlantic Beach, North Carolina. August 5, 1994.

“Comments on Issues of Costing and Pricing.” Presented at the *International Conference on the Economics of Radio-Based Telecommunications, CREST*. Paris, France. June 23-24, 1994.

“Transition to Competition Outside the United States: Current Trends and Issues.” Speech presented at The Brookings Institution. Washington, D.C. October 15, 1992.

“Economic Issues Relating to Privatization of Telecommunications.” Presented to the *Conference on Network Economics*. Sapporo, Japan. July 23-27, 1990.

“The Present Status of Research on Network Economics.” Presented to the Institute for Posts and Telecommunications Policy. Tokyo, Japan. July 20, 1990.

“Comment on Incremental Capital Costs of Telephone Access and Local Usage.” Presented at the *20<sup>th</sup> Annual Williamsburg Conference*. Williamsburg, Virginia. December 1988.

“Aggregate Consumers’ Surplus: No Apology But Some Caution.” Presented at Stanford University and University of California. Berkeley, California. January 1982.

“Return for Risk and the Term Structure of Interest Rates.” Presented to the Econometrics Society. Dallas, Texas. 1975.

“Analysis of Demand for Video Communication.” Presented at *2<sup>nd</sup> Annual Telecommunications Policy Research Conference*. Airlie, Virginia. 1974.

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**OTHER CONSULTING ASSIGNMENTS FOR  
GOVERNMENTAL ORGANIZATIONS**

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Advisor to Ofcom (U.K. telecommunications regulator) on a wide range of regulatory issues, 1989-2000.

Advisor to CONATEL (regulatory authority in Venezuela), 2000-2001.

Advisor to OSIPTEL (Peruvian telecommunications regulator), 1996-2000.

Advisor to Office of Utilities Regulation ("OUR"), Jamaica, W.I., on establishing a regulatory framework for the telecommunications sector, 1996-2001.

Advisor to Comisión Nacional de Telecomunicaciones—CONATEL (regulatory authority in Paraguay), 1999-2000.

Advisor to CONAM (regulatory authority in Ecuador), 1999-2000.

Advisor to Comisión Nacional de Telecomunicaciones—CONATEL (regulatory authority in Honduras), on drafting service-specific regulations for telecommunications services, 1998.

Advisor to City of San Diego, California, with regard to negotiations involving spectrum licenses, 1996.

Advisor to *Secretaría de Comunicaciones y Transportes* (Mexican telecommunications regulator) under the auspices of the World Bank and Inter-American Development Bank, 1989-1990.

Advisor to the New Zealand Treasury and Ministry of Commerce with regard to the privatization of Telecom New Zealand, 1989.

## HARRY M. (CHIP) SHOOSHAN III

Received a B.A. *magna cum laude* from Harvard University in Government and a J.D. from Georgetown University Law Center.

Before co-founding Strategic Policy Research, Inc. ("SPR"), Mr. Shooshan served for eleven years on Capitol Hill. He was chief counsel and staff director of what is now the Subcommittee on Telecommunications and the Internet of the U.S. House of Representatives and was active in congressional efforts to reform the nation's communications laws.

Mr. Shooshan specializes in communications public policy analysis, regulatory reform and the impact of new technology and competition. He also advises on business strategies and market opportunities.

Mr. Shooshan is the author of numerous studies and articles dealing with various aspects of the video marketplace, including the transition to digital television and the impact of the Internet. He is one of the nation's leading authorities on telecommunications infrastructure and its relationship to economic development and to the global competitiveness of U.S. businesses.

Mr. Shooshan coordinates SPR's telecommunications and electronic mass media practice in Europe and has advised clients in the United Kingdom, Canada and the Caribbean.

Mr. Shooshan has testified before several congressional committees, before the Federal Communications Commission ("FCC") and several state commissions. He has also testified as an expert witness in litigation concerning broadcasting, cable and wireless cable, and in proceedings before the Copyright Arbitration Royalty Panel concerning satellite broadcasting.

From 1976 to 1991, he was an adjunct professor of law at Georgetown University Law Center, teaching regulation and communications law.

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**EDUCATION**

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GEORGETOWN UNIVERSITY LAW CENTER  
J.D., Communications Law, 1975

HARVARD COLLEGE  
B.A., Government, *magna cum laude*, 1968

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**EMPLOYMENT**

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1992-Present STRATEGIC POLICY RESEARCH, INC.—Bethesda, Maryland  
*Principal.* Telecommunications and public policy consulting services for a variety of clients in the telecommunications industry.

1989-1992 NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.—Washington, D.C.  
*Vice President.* Telecommunications and public policy consulting services for a variety of clients in the telecommunications industry.

1980-1989 SHOOSHAN & JACKSON INC—Washington, D.C.  
*Principal.* Telecommunications and public policy consulting services for a variety of clients in the telecommunications industry.

1975-1980 SUBCOMMITTEE ON COMMUNICATIONS, INTERSTATE AND FOREIGN COMMERCE COMMITTEE, U.S. HOUSE OF REPRESENTATIVES—Washington, D.C.  
*Chief Counsel/Staff Director.* Legislative, oversight and investigating activities relating to telecommunications.

1974-1975 SUBCOMMITTEE ON COMMUNICATIONS AND POWER, INTERSTATE AND FOREIGN COMMERCE COMMITTEE, U.S. HOUSE OF REPRESENTATIVES—Washington, D.C.  
*Staff Director.* Legislative, oversight and investigating activities relating to telecommunications and energy.

1969-1974 U.S. HOUSE OF REPRESENTATIVES—Washington, D.C.  
*Administrative Assistant to the Honorable Torbert H. Macdonald.* Legislative and political coordination and support.

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## PROFESSIONAL ACTIVITIES

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Member, Federal Communications Bar Association.

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## TESTIMONIES

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Responsive Testimony on behalf of Ameritech Indiana. Before the Indiana Utility Regulatory Commission in Cause No. 41998. *In the Matter of: Petition of Comptel, Ascent, AT&T Communications of Indiana, GP, TCG Indianapolis, and McLeodUSA Telecommunications Services, Incorporated for an Investigation into the Structural Separation of Indiana Bell Telephone Company, d/b/a Ameritech Indiana.* January 24, 2002.

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With John Haring. *Universal Competition in the Supply of Telecommunications Services: Eight Customer Perspectives*. Prepared for Bell Atlantic. February 8, 1995.

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“Assessing Mergers and Takeovers in Telecommunications.” Presented at *Conference of Antitrust, Merger Guidelines and Regulation of Utility Consolidation* sponsored by the Institute of Public Utilities, Michigan State University. Washington, D.C. November 7, 1996.

“The Telecommunications Act of 1996—Promise and Performance.” Presented at the *KMB Video Journal*. St. Petersburg, Florida. October 29, 1996.

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“Update on Current Research: Resale and Cost Models.” Presented at the NARUC Summer Committee Meetings. Los Angeles, California. July 23, 1996.

“The 1996 Telecom Act: A Blueprint for the Future?” Remarks at the *United States Telephone Association’s Frontier in Telecommunications Conferences*. Atlanta, Georgia, March 29, 1996. San Francisco, California, April 4, 1996. Chicago, Illinois, April 15, 1996.

“The New Millennium: Settling the Information Frontier.” Remarks delivered to the United States Telephone Association’s Board of Directors Meeting. Chicago, Illinois. September 6, 1995.

“State Regulation and the Information Superhighway.” Session speaker at *Infrastructure: The Framework for Development*, sponsored by the Federal Reserve Bank of Atlanta and the Policy Research Center of Georgia State University. Atlanta, Georgia. June 15, 1995.

“Providing for Universal Service in a Competitive Environment.” Presented at the *KMB Video Journal Conference on Regulatory Devolution and Its Impact on Telecommunications*. St. Petersburg, Florida. April 28, 1995.

“Local Competition in Telecommunications: Public Policy Issues and Options.” Presented at *Market and Technological Convergence: Implications for Regulation, Public Utility Research Center Annual Conference*, University of Florida, Gainesville, Florida April 27, 1995.

“Local Competition: Thoughts on Cutting the Pie.” Presented to the Tennessee Telephone Association. Callaway Gardens, Pine Mountain, Georgia. April 18, 1995.

“Reshaping the Firm and Regulation in Competitive Markets.” Speech to the *15<sup>th</sup> Annual Telecommunications Conference, Organizational & Regulatory Change*, sponsored by The James C. Bonbright Utilities Center—Terry College of Business of the University of Georgia and the Georgia Public Service Commission. Westin Peachtree Plaza, Atlanta, Georgia. March 27, 1995.

“Universal Service and the \$20 Billion Problem: Making the Transition to Local Competition.” Presented before the *Telecommunications Reports Second Annual Conference, Universal Service ‘95*. Sheraton Carlton Hotel, Washington, D.C. January 19, 1995.

“Who Wants and Who Gains from Telecommunications Restructuring.” Roundtable discussant at “*Toward a New Regulatory Paradigm, Innovative Regulation as a Prerequisite for Competition in Utility Industries, 26<sup>th</sup> Annual Conference, Institute of Public Utilities*, The Eli Broad Graduate School of Management, Michigan State University. Williamsburg, Virginia. December 14, 1994.

“Asset Management, Planning and Investment in Competitive Markets: Regulation Matters.” Presented to USTA Capital Recovery Seminar. Phoenix, Arizona. September 12, 1994.

“Telecommunications Infrastructure: A Link to Economic Development.” Presented at the Business and Community Leaders Meeting hosted by GTE to announce World Class Network. Tampa, Florida. June 8, 1994.

“Competition versus Regulation—A Vision for the Future.” Keynote address at the 87<sup>th</sup> Annual Convention of the Florida Telephone Association, *Fast Forward to the Future*. Ocean Grand, Palm Beach, Florida. June 6, 1994.

“Assessing LEC Price Caps: Where We Should Be Headed.” Presented before the *Telecommunications Reports LEC Price Caps Conference*. Ritz Carlton Hotel, Washington, D.C. May 17, 1994.

“Local Competition: The U.S. Experience.” Presented at *Communications, Law and Policy: Current Issues*, a national symposium sponsored by the Law Society of Upper Canada and the Canadian Bar Association. Ottawa, Ontario, Canada. May 6, 1994.

“Regulation and the Market Place in the Convergence Era—Responding to the Needs of the Users and Consumers.” *Reinventing State Regulatory Structures in the Convergence Era. What Model Can Work Best? And Why?, An Exchange of Views Conference*. Vol. 10, No. 5 of the KMB Video Journal. The Don CeSar, St. Petersburg, Florida. May 2, 1994.

With John Haring. “Cost-of-Capital Adjustments in a Price-Cap Model.” Paper prepared for presentation at New Mexico State University, College of Business Administration and Economics, Center for Public Utilities, *Current Issues Conference*. Santa Fe, New Mexico. March 13-16, 1994.

“Overview—Redefining Universal Service.” *Telecommunications Reports Universal Service Conference*. Washington, D.C. February 1, 1994.

“Industry and Washington Updates.” *The Future of Interactive Communications, San Diego Communications Council Conference*. San Diego, California. December 16, 1993.

“Reconciling Divergent User Needs and Regulatory Policy.” Presented at the 25<sup>th</sup> Annual Conference, *Institute of Public Utilities*. Williamsburg, Virginia. December 13, 1993.

Panelist, “State Regulatory Responsibilities and New Opportunities in the Age of Restructuring and Uncertainty.” *The KMB Video Journal, The Eleventh Invitational Conference*. St. Petersburg, Florida. November 30, 1993.

“Competition and the Obligation to Serve; the Cost of Universal Service.” National Association of Regulatory Utility Commissioners, *105th Annual Convention and Regulatory Symposium*, “Meeting Consumer Demands as Competition Grows.” New York, New York. November 15-18, 1993.

Responder, “Public TV and Public Access: Bringing Home the Electronic Highway.” Symposium jointly sponsored by the Lyndon Baines Johnson Library,

the LBJ School of Public Affairs, the Public Broadcasting System and the Alliance for Public Technology. Austin, Texas. November 5, 1993.

“Evolving Technology Equals Emerging Competition Squared.” Remarks presented before the Ohio Telephone Association, *98th Annual Conference*. Cincinnati, Ohio. September 21, 1993.

With John Haring. “The \$20 Billion Impact of Local Competition in Telecommunications.” Presented at the *National Association of Regulatory Utility Commissioners Symposium*. San Francisco, California. July 28, 1993.

“Has Traditional Regulation Outlived its Role in Telecommunications?” Presented at *New England Conference of Public Utilities Commissioners, 46th Annual Symposium*. The Balsams, Dixville Notch, New Hampshire. June 29, 1993.

“A New Public Policy for Changing Markets and Technology.” Remarks at the *Florida Telephone Association 86th Annual Convention*. Belleview Mido Resort Hotel, Clearwater, Florida. June 8, 1993.

“Telecommunications Public Policy: How We Got Here.” Panelist at United States Telephone Association Congressional Staff Seminar, *The Public Policy Challenge: Adapting Regulation to Changing Markets and Technology*. Williamsburg, Virginia. June 3-4, 1993.

“The Wireless World and Its Relationship to the Wireline Infrastructure.” Panelist at *The KBM Video Journal*. St. Petersburg, Florida. April 19-21, 1993.

“Challenging Times . . . Achieving Our Regulatory Goals.” Speech presented at the GTE Telephone Operations—South Area Key Management Meeting, *Challenging Times . . . Challenging Issues*. Tampa, Florida. March 17, 1993.

“A Competitor’s View of Market Opportunities.” Panel moderator at the *United States Telephone Association’s National Issues Conference, Responding to Competition*. Washington, D.C. February 17, 1993.

“Telecommunications Infrastructure: Responding to Customers’ Needs.” Panelist, *KMB Video Journal—9th Invitational Conference*. Innisbrook Conference Center, Tarpon Springs, Florida. October 29, 1992.

“The Future of Telecommunications in the Information Age.” Speech presented at the *GTE South Area Public Affairs Conference, Business As Usual: NOT!*. Haines City, Florida. October 6, 1992.

“Strategy for the 21st Century: Diversifying in a Competitive Marketplace.” Presented before the *National Association of Broadcasters Television Group Executive Forum*. Washington, D.C. October 2, 1992.

“Incentive Regulation: Where, Why and How.” Presented before the *15th Annual Conference of Regulatory Attorneys*. Columbus, Ohio. May 6, 1992.

“Telecommunications Infrastructure in the 1990s: The Role of the Public Switched Network.” Presented before the National Council of State Telephone Association Executives. Colorado Springs, Colorado. May 4, 1992.

“Electronic Highways: Providing the Telecommunications Infrastructure for Pennsylvania’s Economic Future (A Study Prepared for the Pennsylvania Chamber of Business and Industry by NERA and Price Waterhouse), Distinctive Features and Key Findings.” Presented before the *Institute of Public Utilities, 23<sup>rd</sup> Annual Conference*. Williamsburg, Virginia. December 10, 1991.

“The Changing Scene of State Regulation: Trends and Implications.” Presented at a public forum conducted by the Wisconsin Public Utility Institute, University of Wisconsin-Madison campus. Madison, Wisconsin. December 6, 1991.

“Understanding the Role of Communications in an Information Economy and Information Society.” Presented before the *Annual Seminar on Foreign Policy, Junior Council on World Affairs*. Cincinnati, Ohio. November 23, 1991.

“The Revolution in Communications and the Challenges for Peace, Democracy and Economic Progress.” Presented before the *Issues for Business Luncheon* sponsored by the Cincinnati Council on World Affairs and hosted by Star Bank. Cincinnati, Ohio. November 22, 1991.

With John Haring. “Economic Policy Analysis of Cable Compulsory License.” Presented before the Board of Directors of the Motion Picture Association of America. Los Angeles, California. October 22, 1991.

“Telecommunications Infrastructure: Building the Electronic Highway for the 21<sup>st</sup> Century.” Presented before the *GTE Common Ground Workshop*. Madison, Wisconsin. October 8, 1991.

“Electronic Highways: Bringing America Together.” Presented before the *Mid-America Telecom Showcase & Seminar*. Kansas City, Missouri. October 7, 1991.

“Cable Television Companies and Telcos: Customers or Competitors?” Presented to Northern Telecom’s *Business and Consumer Marketing Forum*. Tucson, Arizona. October 2, 1991.

“Competition & Change in Europe’s Telecommunications Markets.” Panel discussion at the *Third Economist Conference*. London, England. September 16, 1991.

“Modernizing Regulation: The Incentives for Investment in Telecommunications Infrastructure.” Presented before the *69th Annual Convention of the Georgia Telephone Association*. Savannah, Georgia. June 18, 1991.

“Telcos and the Information Economy: Meeting the Challenges of the 1990s.” Presented before the *Wisconsin State Telephone Association, 81<sup>st</sup> Annual Convention*. The Abbey, Fontana, Wisconsin. May 21, 1991.

“Beyond Incentive Regulation: The Challenge Facing Telephone Companies in Competitive Markets.” Presented before the Tennessee Telephone Association. Hilton Head, South Carolina. April 11, 1991.

“Benefits of Lifting the MFJ Restriction on Information Services.” Remarks before the *MFJ Symposium* sponsored by the Public Utility Commission of Ohio. Columbus, Ohio. January 25, 1991.

“Worldwide and Domestic Economic Development Through Communications.” Presented at the *Lt. Governor's Conference on Telecommunications*, sponsored by the Indiana Department of Commerce and the Indiana Telephone Association, Inc. Indianapolis, Indiana. November 29, 1990.

“Telecommunications Infrastructure: A Framework For Public Policy Analysis.” Remarks prepared for *Bellcore's Seventh Issues Management Fall Conference*. Florham Park, New Jersey. October 1, 1990.

“Changing Technology and Converging Markets: U.S. Telecommunications in Transition.” Presented at the *Integration of Telecommunications and Broadcasting Conference* sponsored by *The Economist Conference Unit*. London, England. September 17-18, 1990.

Remarks on telecommunications infrastructure. Prepared for the Northeast-Midwest Institute Leadership Council. Washington, D.C. September 13, 1990.

Discussion on the nature of the relationship between telecommunications and state economic development. Panelist at the *Council of State Governments' Eastern Regional Conference*. Manchester, New Hampshire. July 31, 1990.

With John Haring. “The Demand for Information Services and the Case for Regulatory Reform in Telecommunications.” Presented to the Bellcore/Bell Canada Industry Forum. Hilton Head, South Carolina. April 1990.

With Jeffrey H. Rohlfs. “Will Price Caps Correct Major Economic Flaws in the Current Regulatory Process?.” Presented at the *20<sup>th</sup> Annual Williamsburg Conference*. Williamsburg, Virginia. December 5-7, 1988.

“Exercise of Congressional Influence *Vis-à-vis* the FCC and Judge Greene: Some Changing Relationships.” Presented at the *Northern Telecom Law Department Seminar*. Pebble Beach, California. May 13-15, 1988.

With Jeffrey H. Rohlfs and Susan W. Leisner. “The Negative Effects of Tax Reform on the Telephone Industry: Making Up the \$15 Billion Difference.” Presented at the *15<sup>th</sup> Annual Telecommunications Policy Research Conference*. Airlie, Virginia. September 27-30, 1987.

“Mass Media and the First Amendment: Separate but Unequal.” Presented to the *Association for Education in Journalism and Mass Communication 1984 Convention*. Gainesville, Florida. August 1984.

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Washington, D.C. February 28, 1984.

"Local Distribution in the New Telecommunications Era: Nature and Extent of Regulation." Presented to the *Workshop on Local Access: Strategies for Public Policy. Ad Hoc Committee on Access.* Chase Park Plaza Hotel. St. Louis, Missouri. September 14-17, 1982.

"Cable and Enhanced Services: Legal and Regulatory Barriers." Presented at *EASCON '81.* Washington, D.C. November 18, 1981.

"From the Crystal Ball to the Real World." Presented at the *1981 Convention of the Associated Press Managing Editors.* Toronto, Ontario, Canada. October 20, 1981.

"A New Federalism: Federal/State Regulation in the Competitive Era." Presented to the *Seventh Annual Rate Symposium of the Institute for the Study of Regulation.* Kansas City, Missouri. February 9, 1981.

Remarks prepared for the Technical Committee on Media of the White House Conference on Aging. New York. January 14, 1981.