

Appendix A
IRM Policy Subsystem: Issue Coding Framework

Hearing and Witness Identification:

Title: _____
Hearing Date: _____ CIS No: _____
Witness Identification: _____
Witness Affiliation: _____

What is the nature of the problem addressed by this hearing? These questions focus on conceptualizing the problem. Responses span the fact-value dichotomy and characterize key attributes of the problem.

1. **The nature of the problem addressed is:** 1: _____
 1. technical and narrow in scope.
 2. managerial and administrative in scope.
 3. regulatory and legal problems.
 4. policy and oversight problems.
 5. political and legislative problems

2. **The problem addressed is primarily one of:** 2: _____
 1. efficiency.
 2. effectiveness.
 3. responsiveness.
 4. accountability.
 5. equality.

3. **The problem is manifested in the following ways (max 3 in priority order):**
 1. information sharing.
 2. paperwork burden or inadequate forms clearance. 3a: _____
 3. government productivity. 3b: _____
 4. costs of regulatory compliance. 3c: _____
 5. accountability and control.
 6. cost and lack of control over computing resources.
 7. records management.
 8. systems of records and archival capabilities.
 9. privacy of personal and individual information.
 10. access to public information.
 11. computer security and data access protection.
 12. computerized data access and/or information reliability.

Appendix A
IRM Policy Subsystem: Issue Coding Framework

What issue or issues are important to this witness? These questions focus on the issue(s) of interest to the witness and the importance of those interests.

- 4. As an issue, “privacy is:**
- 1. unimportant. 4: _____
 - 2. somewhat important.
 - 3. quite important.
 - 4. very important.

- 5. As an issue, “paperwork” is:**
- 1. unimportant. 5: _____
 - 2. somewhat important.
 - 3. quite important.
 - 4. very important.

- 6. As an issue, “management reform” is:**
- 1. unimportant. 6: _____
 - 2. somewhat important.
 - 3. quite important.
 - 4. very important.

- 7. As an issue, “information technology acquisition” is:**
- 1. unimportant. 7: _____
 - 2. somewhat important.
 - 3. quite important.
 - 4. very important.

- 8. As an issue, “computer security” is:**
- 1. unimportant. 8: _____
 - 2. somewhat important.
 - 3. quite important.
 - 4. very important.

- 9. As an issue, “records and information” is:**
- 1. unimportant. 9: _____
 - 2. somewhat important.
 - 3. quite important.
 - 4. very important.

Appendix B
Hearings on Issues of Interest to the IRM Policy Subsystem

YEAR- CONG.	CIS NUMBER	HEARING TITLE AND DATE House Government Reform – Senate Government Affairs	
1975 94 th	76-H401-39	Implementation of the Privacy Act of 1974: Data Banks. June 3, 1975.	
	76-H401-35	Records Management Legislation. July 11, 1975.	
	75-S401-45	Information Management by Federal Regulatory Agencies, Part I, July 22, 1975	
	76-S401-12	Efforts to Reduce Federal Paperwork. October 10, 1975.	
1976 94 th	77-H401-5,	Review of Administration of P.L. 89-306. Procurement of ADP Resources by the Federal Government. June 28, 1976.	
1977 95 th	77-S401-41	Final Report of the Privacy Protection Study Commission. July 12, 1977.	
	78-H401-27	Privacy and Confidentiality Report and Final Recommendations of the Commission on Federal Paperwork. October 17, 1977.	
1978 95 th	79-S401-19	Efforts To Reduce Federal Paperwork Burdens. June 28, 1978.	
1979 96 th	79-S401-61	Federal Paperwork Burdens, Part I. April 17, 1979.	
	79-S401-62	Federal Paperwork Burdens, Part II. May 31, 1979.	
	81-H401-7	Public Reaction to Privacy Issues. June 6, 1979.	
	80-S401-64	Paperwork and Redtape Reduction Act of 1979. November 1, 1979.	
1980 96 th	80-H401-43	Paperwork Reduction Act of 1980. February 7, 1980.	
	81-S401-22	Oversight of the Administration of the Federal Freedom of Information Act. August 19, 1980.	
1981 97 th	81-S401-55	Federal Paperwork Burden: Identifying the Major Problem. March 18, 1981.	
	81-H401-70	Freedom of Information Act Oversight. July 14, 1981.	
	82-H401-74	Implementation of the Paperwork Reduction Act of 1980 (Public Law 96-511). October 21, 1981.	
1982 97 th	82-S401-56	Implementation of the Paperwork Reduction Act of 1980. April 14, 1982.	
1983 98 th	84-H401-12	Paperwork Reduction Act Amendments of 1983 (H.R. 2718). April 27, 1983	
	83-S401-62	Oversight of the Paperwork Reduction Act of 1980. May 6, 1983	
	83-H401-59	Oversight of the Privacy Act of 1974. June 7, 1983.	

Appendix B
Hearings on Issues of Interest to the IRM Policy Subsystem

YEAR- CONG.	CIS NUMBER	HEARING TITLE AND DATE House Government Reform – Senate Government Affairs	
	84-S401-1	Computer Security in the Federal Government and the Private Sector. October 25, 1983.	
1984 98 th	85-H401-55	Competition in Contracting Act of 1984. March 27, 1984.	
	85-H401-7	Privacy and 1984: Public Opinions on Privacy Issues. April 4, 1984.	
	84-S401-45	Paperwork Reduction Act Amendments of 1984. April 4, 1984.	
	85-H401-36	Freedom of Information Reform Act. May 24, 1984.	
	85-S401-2	Computer Matching: Taxpayer Records. June 6, 1984	
1985 99 th	86-H401-15	Electronic Collection and Dissemination of Information by Federal Agencies. April 29, 1985.	
	86-H401-2	OMB's Proposed Restrictions on Information Gathering and Dissemination by Agencies. July 17, 1985.	
1986 99 th	87-H401-10	Freedom of Information Act Amendments of 1986. June 5, 1986.	
1987 100 th	88-H401-1	Computer Security Act of 1987. February 25, 1987.	
	88-H401-4	Computer Matching and Privacy Protection Act of 1987. June 23, 1987.	
1988 100 th		None	
1989 101 st	90-H401-16	Federal Information Dissemination Policies and Practices. April 18, 1989.	
	90-H401-1	Military and Civilian Control of Computer Security Issues. May 4, 1989.	
	89-S401-46	Reauthorization of the Paperwork Reduction Act. June 12, 1989.	
1990 101 st	90-S401-31	Reauthorization of OMB's Office of Information and Regulatory Affairs. Feb. 21, 1990	
	91-H401-28	Data Protection, Computers, and Changing Information Practices. May 16, 1990.	
	91-H401-45	Computer Matching and Privacy Protection Amendments of 1990. September 11, 1990.	
1991 102 nd	92-H401-58	Creative Ways of Using and Disseminating Federal Information. June 19, 1991.	
1993 103 rd	94-S401-18	Nomination of Sally Katzen. May 19, 1993.	

Appendix B
Hearings on Issues of Interest to the IRM Policy Subsystem

YEAR- CONG.	CIS NUMBER	HEARING TITLE AND DATE House Government Reform – Senate Government Affairs	
	94-S401-14	Nomination of Steven J. Kelman. November 18, 1993	
	94-S401-20	Reinventing Government: Using New Technology to Improve Service and Cut Costs. Dec. 2, 1993	
1994 103 rd	95-S401-4	S. 1587, Federal Acquisition Streamlining Act of 1993. February 24, 1994.	
	95-S401-42	OMB's Office of Information and Regulatory Affairs Information Management, Paperwork, and Regulatory Review. May 19, 1994.	
1995 104 th	96-H401-6	H.R. 830, Paperwork Reduction Act and Risk Assessment and Cost/Benefit Analysis for New Regulations. February 7, 1995.	
	95-H401-76	Oversight of Implementation of Federal Acquisition Streamlining Act of 1994. February 21, 1995.	
	96-H401-45	H.R. 1670, the Federal Acquisition Reform Act of 1995. May 25, 1995.	
	96-S401-6	S. 946, The Information Technology Management Reform Act of 1995. July 25, 1995.	
	97-H401-13	Electronic Reporting Streamlining Act of 1995. October 10, 1995.	
1996 104 th	97-H401-84	Using the Best Practices of Information Technology in Government. February 26, 1996.	
	96-H401-19	Performance-Based Government: Examining the Government Performance and Results Act of 1993. March 6, 1996.	
	97-H401-99	Is January 1, 2000, the Date for Computer Disaster. April 16, 1996.	
	96-S401-9	Security in Cyberspace. May 22, 1996.	
	98-H401-28,	S. 1090, Electronic Freedom of Information Improvement Act of 1995. June 14, 1996.	
	96-S401-41	Implementation of the Information Technology Management Reform Act of 1996. July 17, 1996.	
	97-H401-16	Solving the Year 2000 Computer Problem. September 10, 1996.	
1997 105 th	97-H401-117	Will Federal Computers Be Ready for the Year 2000? February 24, 1997.	
	97-H401-90 97-H701-24	Year 2000 Risks: What Are the Consequences of Information Technology Failure? March 20, 1997. (Hearing text is in CIS #97-H701-24).	
	98-H401-80	Will Federal Government Computers Be Ready for the Year 2000? July 10, 1997.	
	98-H401-118	Oversight of the Implementation of the Clinger-Cohen Act. October 27, 1997.	

Appendix B
Hearings on Issues of Interest to the IRM Policy Subsystem

YEAR- CONG.	CIS NUMBER	HEARING TITLE AND DATE House Government Reform – Senate Government Affairs	
1998 105 th	98-H401-151	H.R. 3310, Small Business Paperwork Reduction Act Amendments of 1998. March 5, 1998.	
	98-S401-49	Crashing into the Millennium: Federal Agency Year 2000 Conversion Efforts. April 1, 1998.	
	99-S401-3	Weak Computer Security in Government: Is the Public at Risk. May 19, 1998.	
	99-H401-46	Implementation of the Electronic Freedom of Information Amendments of 1996: Is Access to Government Information Improving? June 9, 1998.	
	99-H401-41	Status Update on the Year 2000 Problem. June 10, 1998.	
	99-S401-1	Cyber Attack: Is the Nation at Risk? June 24, 1998.	
	99-H401-48	Year 2000: Biggest Problems and Proposed Solutions. June 22, 1998.	
	99-H401-94	Y2K: Will We Get There on Time? September 29, 1998.	
1999 106 th	2000-S401-13	H.R. 391 and S. 1378: The Small Business Paperwork Reduction Act Amendments of 1999. October 19, 1999.	
	2000-H401-11	Y2K and Contingency and Day 1 Plans: If Computers Fail, What Will You Do? October 29, 1999.	
2000 106 th	2001-H401-17	Year 2000 Computer Problem: Did the World Overreact, and What Did We Learn? January 27, 2000.	
	2000-S401-20	Cyber Attack: Is the Government Safe? March 2, 2000.	
	2001-H401-6	Computer Security: Are We Prepared for Cyberwar? March 9, 2000.	
	2001-H401-31	Performance of Federal CIOs: How Do They Compare to CIOs in the Private Sector? March 24, 2000.	
	2001-H401-35	Enhancing Computer Security: What Tools Work Best? March 29, 2000.	
	2001-H401-93	Reinventing Paperwork? The Clinton-Gore Administration's Record on Paperwork Reduction. April 12, 2000.	
	2001-H401-53	Privacy Commission: A Complete Examination of Privacy Protection. April 12, 2000.	
	2001-H401-90	Agency Response to the Electronic Freedom of Information Act. June 14, 2000.	
	2001-H401-115	Computer Security: Cyber Attacks -- War Without Borders. July 26, 2000.	
	2001-H401-131	Computer Security Report Card. September 11, 2000.	

Appendix B
Hearings on Issues of Interest to the IRM Policy Subsystem

YEAR- CONG.	CIS NUMBER	HEARING TITLE AND DATE House Government Reform – Senate Government Affairs	
2001 107 th	2002-H401-64	Paperwork Inflation: Past Failures and Future Plans. April 24, 2001.	
	2002-H401-28	Federal Information Technology Modernization: Assessing Compliance with the Government Paperwork Elimination Act. June 21, 2001.	
	2002-S401-16	S. 803: E-Government Act of 2001. July 11, 2001.	
	2002-S401-26	How Secure Is Our Critical Infrastructure. September 12, 2001.	
	2002-H401-74	Information Technology -- Essential Yet Vulnerable: How Prepared Are We for Attacks? Sept. 26, 2001.	
	2003-H401-4	Transforming the IT and Acquisition Workforces. October 4, 2001	
	2002-H401-108	Computer Security in the Federal Government: How Do the Agencies Rate? November 9, 2001.	
2002 107 th	2003-H401-41	Turning the Tortoise into the Hare: How the Federal Government Can Transition from Old Economy Speed To Become a Model for Electronic Government. March 21, 2002.	
	2003-H401-46	Paperwork Inflation -- The Growing Burden on America. April 11, 2002.	
	2003-H401-66	H.R. 3844, the Federal Information Security Management Act of 2002. May 2, 2002.	
	2003-H401-60	H.R. 2458 and S. 803, the E-Government Act of 2002. September 18, 2002.	

Appendix C
Reference Bibliography

Books and Articles Cited:

- Behn, Robert D. "Management and the Neutrino: The Search for Meaningful Metaphors." *Public Administration Review*, 52:5, 1992.
- Bernard, Scott A. *Evaluating Clinger-Cohen Act Compliance in Federal Agency Chief Information Officer Positions*. Virginia Polytechnic Institute and State University, 2000.
- Bertol, Daniela. *Designing Digital Space: An Architect's Guide to Virtual Reality*. New York: John Wiley & Sons, Inc., 1997.
- Birkland, Thomas A. *After Disaster: Agenda Setting, Public Policy, and Focusing Events*. Washington, DC: Georgetown University Press, 1997.
- Block, Victor. "Computer Wasteland U.S.A." in *Infosystems*, Vol. 24, No. 11, November 1977.
- Bobrow, Davis B., and John S. Dryzek. *Policy Analysis by Design*. Pittsburgh: University of Pittsburgh Press, 1987.
- Borsook, Paulina. *Cyberselfish: A Critical Romp Through the Terribly Libertarian Culture of High Tech*. New York, NY: Public Affairs, 2000.
- Brown, Mary Maureen, and Jeffrey L. Brudney. "Public Sector Information Technology Initiatives: Implications for Programs of Public Administration." *Administration and Society*, 30:4, September 1998.
- Brunner, Borgna, ed. *Time Almanac 2001 with Information Please*. Boston, MA: Family Education Company, 2000
- Business Week. "Builders of the New Economy." *Business Week*, June 21, 1999.
- Business Week. "The Spoils of the New Economy Belong to High Tech." *Business Week*, August 16, 1999.
- Caudle, Sharon L. *Federal Information Resources Management: Bridging Vision and Action*. Washington, D.C.: The National Academy of Public Administration, 1987.
- CERT Coordination Center. *CERT Advisory CA-1999-04 Melissa Macro Virus*. Computer Emergency Response Team, Software Engineering Institute, Carnegie Mellon University, 1999.

- CERT Coordination Center. *CERT Advisory CA-2000-04 Love Letter Worm*. Computer Emergency Response Team, Software Engineering Institute, Carnegie Mellon University, 2000.
- Champy, James. *X-Engineering the Corporation: The Next Frontier of Business Performance*. New York, NY: Warner Books, 2002.
- Chandler, Ralph Clark, ed. *A Centennial History of the Administrative State*. New York: Free Press, 1987.
- Chandler, Ralph C. and Jack C. Plano. *The Public Administration Dictionary*, 2 ed. Santa Barbara, CA: ABC-CLIO, 1988.
- Clarke, Richard. Speech before the "Policy Conference at Lansdowne Conference Center," Washington Institute for Near East Policy, October, 16, 1998. Electronic file available at <http://washingtoninstitute.org/pubs/lansdowne/clark.htm>, downloaded March 17, 2004.
- Clinton, Bill. *Technology: The Engine of Economic Growth, A National Technology Policy for America*. Presidential Campaign Document, 1992. Electronic file available at <http://www.ibiblio.org/nii/tech-posit.html>, downloaded February 10, 2004.
- Commission on Federal Paperwork. *Information Resources Management: A Report of the Commission on Federal Paperwork*. Washington, D.C.: Government Printing Office, 1977.
- Commission on Federal Paperwork, *Staff Report on Federal Paperwork Impact on Small and Large Businesses*. Washington, D.C., 1977.
- Commission on Organization of the Executive Branch of Government. *Paperwork Management: A Report to Congress, Part I*. Washington, DC: U.S. Government Printing Office, 1955.
- Comptroller General of the United States. *Report to Congress: Ways to Improve Records Management Practices in the Federal Government*. Washington, DC: General Accounting Office, 1975.

- Congress, House. *A Citizen's Guide On Using the Freedom of Information Act and the Privacy Act of 1974 to Request Government Records*. Report No. 108-72. Committee on Government Reform, 2003. Electronic file available at <http://www.estrategy.gov/documents/CitGuideFOIA10817292303.doc>, downloaded March 23, 2004.
- Congress, House. "Political Divisions of the House of Representatives (1789 to Present)." Electronic file available at <http://clerk.house.gov>, downloaded December 9, 2003.
- Congress, Senate. "Party Divisions in the Senate, 1789 – Present." Electronic file available at <http://www.senate.gov>, downloaded December 9, 2003.
- Congressional Quarterly. "The Brooks Act of 1965, HR 4845," in *CQ Almanac Volume XXI, 89th Congress 1st Session, 1965*. Washington, D.C.: Congressional Quarterly Service, 1966.
- Congressional Quarterly. *Politics in America, 1960-1978*. Washington, DC: Congressional Quarterly Press, Inc., 1979.
- Congressional Quarterly. *CQ Almanac, Volume XXXV, 96th Congress, 1st Session, 1979*. Washington, DC: Congressional Quarterly, Inc., 1980.
- Coplin, William D., and Michael K. O'Leary. *Public Policy Skills*. Croton-on-Hudson, NY: Policy Studies Associates, 1988.
- Council for Excellence in Government. *Electronic Government: The Next American Revolution*. Washington, DC, 2001. Electronic file available at <http://www.excelgov.org/usermedia/images/uploads/PDFs/bpnt4c.pdf>, downloaded May 31, 2004.
- Daniel, Clifton, ed. *20th Century Day By Day*. New York, NY: Dorling Kindersley, 2000.
- Danziger, Marie. "Policy Analysis Postmodernized: Some Political and Pedagogical Ramifications." *Policy Studies Journal*, 23:3, 1994.
- Darken, Rudolph P., and John L. Siebert. "Wayfinding Strategies and Behaviors in Large Virtual Worlds." In *CHI 96 Electronic Proceedings*, ACM, Inc., 1996.
- Davenport, Thomas H., Robert G. Eccles, and Laurence Prusak. "Information Politics," *Sloan Management Review*, 1992.
- Davidson, Roger H. and Walter J. Oleszek. *Congress and Its Members*, 4th ed. Washington, DC: Congressional Quarterly, 1994.

- deLeon, Peter, and E. Sam Overman, "A History of the Policy Sciences," in Rabin, Jack W., Bartley Hildreth, and Gerald J. Miller, eds. *The Handbook of Public Administration*. New York: Marcel Dekker, 1989.
- deLeon, Peter. "Democracy and the Policy Sciences: Aspirations and Operations." *Policy Studies Journal*, 22:2, 1994.
- deLeon, Peter. "Models of Policy Discourse: Insights versus Prediction." *Policy Studies Journal*, 26:1, 1998.
- Denzin, Norman K., and Yvonna S. Lincoln. "Introduction: Entering the Field of Qualitative Research," in Denzin, Norman K., and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications, Inc., 1994.
- Dorobek, Christopher J. "Clinton's Proposal Identifies 2000 Problem as No. 1 Issue." *Government Computer News*, February 8, 1999.
- Dorobek, Christopher J. "Gore and Bush Make E-Gov a Campaign Issue." *Government Computer News*, Vol. 19 No. 16, 2000.
- Downs, George W., and Patrick D. Larkey. *The Search for Government Efficiency: From Hubris to Helplessness*. New York: Random House, 1986.
- Dunn, W. N. *Public Policy Analysis: An Introduction*. 2nd. Englewood Cliffs: Prentice Hall, 1994.
- Dye, Thomas R. *Understanding Public Policy*, 7th ed. Englewood Cliffs, NJ: Prentice-Hall, 1992.
- Eddings, Jerelyn. "The Human Face of Bureaucrats." *U.S. News and World Report*, January 15, 1996.
- Edelman, Murray, *The Symbolic Uses of Politics*. Chicago: University of Illinois Press, 1964.
- Ehrenhalt, Alan, ed. *Politics in America: Members of Congress in Washington and At Home*. Washington, DC: Congressional Quarterly, Inc., 1983.
- Ehrenhalt, Alan, ed. *Politics in America: The 100th Congress*. Washington, DC: CQ Press, 1987.
- Electronic Privacy Information Center. *Computer Security Act of 1987*. Electronic file available at <http://www.epic.org/crypto/csa/>, downloaded October 20, 2003.

Emergency & Disaster Management, Inc. *Power/Utility Failure*. Electronic file available at http://www.emergency-management.net/power_acc.htm, downloaded February 10, 2004.

Executive Office of the President. Executive Order. "*Critical Infrastructure Protection, Executive Order 13010 of July 15, 1996.*" *Federal Register*, 61:138, July 17, 1996.

Executive Office of the President. "*Executive Order 13011 of July 16, 1996: Federal Information Technology.*" *Federal Register*, 61:140, July 17, 1996.

Executive Office of the President. Office of Management and Budget. *Circular A-130, Management of Federal Information Resources*, December 12, 1985.

Executive Office of the President. Office of Management and Budget. *Circular No. A-130, "Management of Federal Information Resources, Transmittal 1."* *Federal Register*, 58, July 2, 1993.

Executive Office of the President. Office of Management and Budget. *Circular No. A-130, "Management of Federal Information Resources, Transmittal 2."* *Federal Register*, 1994.

Executive Office of the President. Office of Management and Budget. *Circular No. A-130, "Management of Federal Information Resources, Transmittal 3."* *Federal Register*, 1995.

Executive Office of the President, Office of Management and Budget. *Getting Federal Computers Ready for 2000*, February 6, 1997.

Executive Office of the President. *The Clinton Administration's Policy on Critical Infrastructure Protection: Presidential Decision Directive 63*. May 22, 1998. Electronic file available at <http://www.fas.org/irp/offdocs/paper598.htm>, downloaded March 27, 2004.

Executive Office of the President. "*Executive Order 13073 of February 4, 1998: Year 2000 Conversion.*" *Federal Register*, 63:25. February 6, 1998.

Executive Office of the President. Office of Management and Budget. *Circular No. A-130, "Management of Federal Information Resources, Transmittal 4."* *Federal Register*, 2000.

Executive Office of the President, Office of Management and Budget. *Memorandum 01-08, Subj: Guidance on Implementing the Government Information Security Reform Act*, 2001.

- Executive Office of the President, Office of Management and Budget. "*Robert J. O'Neill, Jr. to Serve as Counselor to OMB Director on Management Issues.*" News Release 2001-08, May 4, 2001.
- Executive Office of the President, Office of Management and Budget. "*Mark Forman Named Associate Director for Information Technology and e-Government.*" News Release 2001-13, 2001.
- Executive Office of the President, Office of Management and Budget. *Memorandum 01-28, Subj: Citizen-Centered E-Government: Developing the Action Plan*, 2001.
- Executive Office of the President, Office of Management and Budget. *OMB Outlines New Federal E-Government Strategy*. News Release 2001-54, 2001.
- Executive Office of the President, Office of Management and Budget. *E-Government Strategy*. 2002.
- Executive Office of the President, Office of Management and Budget. *The President's Management Agenda, Fiscal Year 2002*.
- Executive Office of the President, Office of Management and Budget. *Improving Customer Service By Establishing a One-Stop Recreation Reservation System*. Memorandum M-03-30, 2002.
- Executive Office of the President, Office of Management and Budget. *E-government Strategy: Implementing the President's Management Agenda*. April 2003
- Executive Office of the President, Office of Management and Budget. *Circular A-11, Part 7, Planning, Budgeting, Acquisition, and Management of Capital Assets*. 2003.
- Federal Reserve Bank of Chicago. "*Consumer Information: Frequently Asked Questions.*" Electronic file available online at http://www.chicagofed.org/consumerinformation/faqs/economic_data.cfm, downloaded December 9, 2003.
- Fisher, Frank. "Beyond Empiricism: Policy Inquiry in Postpositivist Perspective," *Policy Sciences Journal*, 26:1, 1998
- Frank, Diane. "IT Budget Takes on e-Gov." *Federal Computer Week*, February 13, 2002.
- Garson, G. David. *Computer Technology and Social Issues*. Harrisburg, PA: Idea Group Publishing, 1995.
- Gillespie, Ed., and Bob Schellhas. *Contract With America*. New York, NY: Time Books, 1994.

- Goodin, Dan. "More Support for Pentium III Complaint." *C/Net News.com*, April 8, 1999. Electronic file available at <http://news.com.com/2100-1001-224108.htm>, downloaded February 10, 2003.
- Goodsell, Charles T. *The Social Meaning of Civic Space: Studying Political Authority Through Architecture*. Lawrence, KS: University Press of Kansas, 1988.
- Gore, Albert. *Creating A Government that Works Better and Costs Less: The Report of the National Performance Review*. New York: Penguin Books, 1993.
- Guba, Egon G., and Yvonna S. Lincoln. "Competing Paradigms in Qualitative Research," in Denzin, Norman K., and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications, Inc., 1994.
- Harris, Robert L. *Information Graphics: A Comprehensive Illustrated Reference*. Atlanta: Management Graphics, 1996.
- Heeks, Richard, ed. *Reinventing Government in the Information Age: International Practice in IT-enabled Public Sector Reform*. London: Routledge, 1999.
- Hernon, Peter, and Charles R. McClure. *Federal Information Policies in the 1980's: Conflicts and Issues*. Norwood, NJ: Ablex Publishing Corp., 1987.
- Hernon, Peter. "Government Information: A Field in Need of Research and Analytical Studies," in McClure, Charles R., Peter Hernon, and Harold C. Relyea, eds., *United States Government Information Policies: Views and Perspectives*. Norwood, NJ: Ablex Publishing Corporation, 1989.
- Hernon, Peter, and John. A. Shuler, "The Depository Library Program: Another Component of the Access Puzzle Shifting to Electronic Formats," in Hernon, Peter, Charles R. McClure, and Harold C. Relyea, eds., *Federal Information Policies in the 1990s: Views and Perspectives*. Norwood, NJ: Ablex Publishing Corporation, 1996.
- Heyne, Paul. *The Economic Way of Thinking*, 7th ed. New York: Macmillan College Publishing Company, 1994.
- Holden, Stephen H. *Managing Information Technology in the Federal Government: New Policies for an Information Age*. Virginia Polytechnic Institute and State University, 1994.
- Holden, Stephen H., and Peter Hernon. "An Executive Branch Perspective on Managing Information Resources." In Hernon, Peter, Charles R. McClure, and Harold C. Relyea, eds., *Federal Information Policies in the 1990s: Views and Perspectives*. Norwood, NJ: Ablex Publishing Corporation, 1996.

- Horn, Robert E. *Visual Language: Global Communication for the 21st Century*. Bainbridge Island, WA: MacroVU Inc., 1998.
- Horton, Forest W., and Donald R. Marchand. *Information Management in Public Administration*. Alexandria, VA: Information Resources Press, 1982.
- Howlett, Michael. "Policy Paradigms and Policy Change: Lessons for the Old and New Canadian Policies Toward Aboriginal Peoples," *Policy Studies Journal*, Vol. 22, No. 4, 1994.
- Howlett, Michael, and M. Ramesh. "Policy Subsystem Configurations and Policy Change: Operationalizing the Postpositivist Analysis of the Politics of the Policy Process," *Policy Studies Journal*, Vol. 26, No. 3, 1998
- Information Industry Association. *Meeting Information Needs in the New Information Age*. Washington, DC: Information Industry Association, 1983.
- Karlgaard, Rich. "It's the Software, Stupid: Technology and the New Economy." *Forbes*, Vol. 162, No. 3, 1998.
- Katzan, Harry, Jr. *Computer Data Security*. New York, NY: Van Nostrand Reinhold, 1973.
- Kessler, Glenn. "Right-Leaning Policy Won a Nickname: Reaganomics." *Washington Post*, June 6, 2004
- Kettl, Donald. *The Global Public Management Revolution*. Washington, DC: Brookings Press, 2000.
- Kingdon, John. *Agendas, Alternatives, and Public Policies*. Boston: Little, Brown & Co., 1984.
- Knodel, Steve. *A Manager's Guide to Virtual Reality*. Unpublished manuscript, IRM College 1999.
- Kraemer, Kenneth L. "The Evolution of Information Systems for Urban Administration," *Public Administration Review*, 29(4), 1969.
- Kraemer, Kenneth L., ed. *Curriculum Recommendations for Public Management Education in Computing*. Washington, D.C.: National Association of Schools of Public Affairs and Administration, June 1985.
- Kronenberg, P.K. "Chaos and Re-thinking the Public Policy Process," in Albert, A. ed. *Chaos and Society*. New York, NY: IOS Press, 1995.

- Lasswell, Harold D. "The Policy Orientation." In Lerner, Daniel, and Harold D. Laswell, eds. *The Policy Sciences: Recent Developments in Scope and Methods*. Stanford: Stanford University Press, 1950.
- Lasswell, Harold D., Daniel Lerner, and Ithiel de Sola Pool. *The Comparative Study of Symbols: An Introduction*. Stanford University Press, 1952.
- Laurel, Brenda. *Computers as Theatre*. New York: Addison-Wesley Publishing Co., Inc., 1993.
- Light, Paul C. *The Tides of Reform: Making Government Work, 1945-1995*. New Haven, CT: Yale University Press, 1997.
- Machlup, Fritz. *The Production and Distribution of Knowledge in the United States*. Princeton, NJ: Princeton University Press, 1962
- Mangham, Iain L., & Michael A. Ovrington. "Dramatism and the Theatrical Metaphor." In Morgan, Gareth, ed., *Beyond Method*. Newbury Park, CA: Sage Publications, 1983.
- McClure, Charles R, Ann Bishop, and Philip Doty. "Federal Information Policy Development: The Role of the Office of Management and Budget." In McClure, et. al., *United States Government Information Policies: Views and Perspectives*. Norwood, NJ: Ablex Publishing Corporation, 1989.
- McCool, Daniel C. *Public Policy Theories, Models, and Concepts: An Anthology*. Englewood Cliffs, NJ: Prentice Hall, 1995.
- McDonough, Adrian M. *Information Economics and Management Systems*. New York: McGraw Hill Book Company, Inc., 1963.
- Menke, Susan M. "NARA to Consider Federal Records Policies." *Government Computer News*, Vol. 19 No. 30, 2000.
- Meyer, Eric K. *Designing Infographics: Theory, Creative Techniques, & Practical Solutions*. Indianapolis: Hayden Books, 1997.
- Mok, Clement. *Designing Business: Multiple Media, Multiple Disciplines*. San Jose: Adobe Press, 1996.
- Morgan, Gareth. *Imagin-i-zation: New Mindsets for Seeing, Organizing, and Managing*. Thousand Oaks, CA: Sage Publications, 1997.
- Morss, Elliott R., and Robert F. Rich. *Government Information Management: A Counter-Report of the Commission on Federal Paperwork*. Boulder, CO: Westview Press, 1980.

- National Archives and Records Service. *Public Papers of the Presidents of the United States, Gerald R. Ford, 1974*. Washington, DC: Office of the Federal Register, 1975.
- National Performance Review. *Reinvention in the Second Clinton-Gore Administration: Changing The Culture of Government Agencies – 1997 – 2001*. Archives of the National Performance Review. Electronic file available at <http://govinfo.library.unt.edu/npr/whoweare/historypart4.html>, downloaded February 5, 2004.
- National Academy of Public Administration. *The Transforming Power of Information Technology: Making the Federal Government an Employer of Choice for IT Employees*. Washington, D.C.: National Academy of Public Administration, August 2001. Electronic file available at [http://209.183.198.6/NAPA/NAPAPubs.nsf/17bc036fe939efd685256951004e37f4/2217788ab424548185256ad500585a7b/\\$FILE/napa_it.pdf](http://209.183.198.6/NAPA/NAPAPubs.nsf/17bc036fe939efd685256951004e37f4/2217788ab424548185256ad500585a7b/$FILE/napa_it.pdf), downloaded May 31, 2004.
- Newsome, Tod. "At the Top." *Public CIO*, August 2003.
- Newstadt, Richard M. "Taming the Paperwork Tiger: An Experiment in Regulatory Management." *AEI Journal on Government and Society Regulation*, 1981.
- Nunno, Richard M. *The Year 2000 Computer Challenge*. The Library of Congress, Congressional Research Service Report 96-533 SPR, 1996.
- Oleszek, Walter J. *Congressional Procedures and the Policy Process*, 6th ed. Washington, D.C.: CQ Press, 2004.
- Pike, John. *Solar Sunrise*. Electronic file available at <http://www.globalsecurity.org/military/ops/solar-sunrise.htm>, downloaded March 17, 2004.
- Pimental, Ken, and Kevin Teixeira. *Virtual Reality: Through the New Looking Glass*, 2nd. San Francisco: McGraw-Hill, 1995.
- Plantec, Peter. *Virtual Humans: Creating the Illusion of Personality*. New York, NY: American Management Association, 2004.
- Plocher, David. "The Paperwork Reduction Act of 1995: A Second Chance for Information Resources Management." *Government Information Quarterly*, 13, 1996.
- Polsson, Kenneth. *A Chronology of Personal Computers*. Electronic file available at <http://www.islandnet.com/~kpolsson/comphist/>, downloaded May 10, 2003.

- Porat, Marc Uri. *The Information Economy: Definition and Measurement*. Washington, D.C., Office of Telecommunications, U.S. Department of Commerce, May 1977.
- Post, David G. *Jefferson Ascendant*. Electronic Freedom Foundation, 1995.
- Putt, Allen D., and J. Fred Springer. *Policy Research: Concepts, Methods, and Applications*. Englewood Cliffs, N.J.: Prentice Hall, Inc., 1989.
- Ramsey, Michael L.. "Chapter 7: The Federal Freedom of Information Act." *Missouri Media Law Handbook*, 1997. Electronic file available at <http://www.mobar.org/press/medhnbk7.htm>, downloaded July 23, 2004.
- Rawlings-Milton, Mary. *Electronic Records & the Law: Causing the Federal Records Program to Implode*. Virginia Polytechnic Institute and State University, 2000.
- Ruebhausen, Oscar M., and Orville G. Grim, Jr. "Privacy and Behavioral Research." Reprinted in Congress, Senate. *Computer Privacy*. Committee on Governmental Affairs, 90th Cong., 1st sess., 1967.
- Relyea, Harold C. and Stephanie Smith. *Records Management*. Issue Brief Number IB75018. Washington, DC: Library of congress, Congressional Research Service, 1975.
- Relyea, Harold C., Jane Bortnick, Richard C. Ehlke, and Nancy R. Miller. *Management of Federal Information Resources: A General Critique of the March 1985 OMB Draft Circular – Matters for Possible Congressional Consideration*. Washington, DC: Congressional Research Service, 1985.
- Relyea, Harold C. "Historical Development of Federal Information Policy." In McClure, Charles R., Peter Herson, and Harold C. Relyea, eds., *United States Government Information Policies: Views and Perspectives*. Norwood, NJ: Ablex Publishing Corporation, 1989.
- Rheingold, Howard. *Virtual Reality*. New York: Summit Books, 1991.
- Reid, T.R. "Paper Tigers Start to Roar: With New Ally in white House, Panel Targets 3 Hated Forms." *The Washington Post*, February 27, 1977.
- Rist, Ray C. "Influencing the Policy Process with Qualitative Research." In Denzin, Norman K. and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications, 1994
- Roquefort, David A. and Roger W. Cobb. "Problem Definition, Agenda Access, and Policy Choice." *Policy Studies Journal*, (21:1), 1993.

- Rochefort, David A., and Roger W. Cobb, eds. *The Politics of Problem Definition: Shaping the Policy Agenda*. Lawrence, KS: University Press of Kansas, 1994.
- Sabatier, Paul A. and Hank C. Jenkins-Smith, eds. *Policy Change and Learning: An Advocacy Coalition Approach*. Boulder, CO: Westview Press, Inc., 1993.
- Sabatier, Paul A., ed. *Theories of the Policy Process*. Boulder, CO: Westview Press, Inc., 1999.
- Sabatier, Paul A. and Hank C. Jenkins-Smith. "The Advocacy Coalition Framework: An Assessment." In Sabatier, Paul A., ed., *Theories of the Policy Process*. Boulder, CO: Westview Press, 1999.
- Salvaggio, Jerry L. "Social Problems of Information Societies," *Telecommunications Policy*, 7, 1983.
- Schneider, Anne Larson, and Helen Ingram. *Policy Design for Democracy*. Lawrence, KS: University Press of Kansas, 1997.
- Schwandt, Thomas A. "Constructivist, Interpretivist Approaches to Human Inquiry," in Denzin, Norman K., and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage Publications, Inc., 1994.
- Serabian, John, A., Jr. "Statement for the Record before the Joint Economic Committee on Cyber Threats and the U.S. Economy." Washington, D.C., February 23, 2000. Electronic file available at http://www.cia.gov/cia/public_affairs/speeches/2000/cyberthreats_022300.html, downloaded March 17, 2004.
- Shepard, Roger N. *Mind Sights: Original Visual Illusions, Ambiguities, and Other Anomalies, with a Commentary on the Play of Mind in Perception and Art*. New York: W.H. Freeman and Co., 1990.
- Siegel, Sidney. *Nonparametric Statistics for the Social Sciences*. New York: McGraw-Hill Book Company, 1956.
- Spence, Robert. *Information Visualization*. New York: ACM Press, 2001.
- Stake, Robert E. "Case Studies." In Denzin, Norman K., and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications, 1994.
- Staley, David J. "Computers, Visualization, and the Representation of History." In *Historically Speaking*, 2003.
- Stiglitz, Joseph E. *The Roaring Nineties: A New History of the World's Most Prosperous Decade*. New York, NY: W.W. Norton & Company, 2003.

- Stockman, David A. *The Triumph of Politics*. New York, NY: Avon Books, 1986.
- Stone, Deborah. *Policy Paradox: The Art of Political Decision-Making*. New York: W.W. Norton & Company, 1997.
- Stuart, Rory. *The Design of Virtual Environments*. New York: McGraw-Hill, 1996.
- The Economist. "Assembling the New Economy." *The Economist*, Vol. 334, September 13, 1997.
- Thomma, Steven. "Looking for a New Government to Match the New Economy." Knight Ridder/Tribune News Service, 2000.
- Tillett, L. Scott. "Rep. Horn gives agencies 'F' for Y2K work." *Federal Computer Week*. June 2, 1998.
- True, James L., Bryan D. Jones, and Frank R. Baumgartner. "Punctuated Equilibrium Theory: Explaining Stability and Change in American Policymaking." In Sabatier, Paul A., ed. *Theories of the Policy Process*. Boulder, CO: Westview Press, 1999.
- Tufte, Edward R. *Data Analysis for Politics and Policy*. Englewood Cliffs, NJ: Prentice-Hall, 1974.
- Tufte, Edward R. *The Visual Display of Quantitative Information*. Cheshire, CT: Graphics Press, 1983.
- Tufte, Edward R. *Envisioning Information: Narratives of Space and Time*. Cheshire, CT: Graphics Press, 1990.
- Tufte, Edward R. *Visual Explanations: Images and Quantities, Evidence and Narrative*. Cheshire, CT: Graphics Press, 1997.
- United States v. American Telephone and Telegraph Co., et al., 552 F. Supp. 131 1982
- U.S. Census Bureau. *Current Population Survey, Historical Income Tables*, (Table F-23, Families by Total Money Income, Race, and Hispanic Origin of Householder). Electronic file available at <http://www.census.gov/hhes/income/histinc/f23.html>, downloaded December 9, 2003. (URL reference updated August 4, 2004).
- U.S. Department of Commerce, National Bureau of Standards. *Federal Information Processing Standards Publication 31: Guidelines for Automatic Data Processing Physical Security and Risk Management (June 1974)* by Robert V. Jacobson, SENTOR Security Group, Inc. Institute for Computer Sciences and Technology, 1974.

- U.S. Department of Commerce, Bureau of Economic Analysis, "United States Gross Domestic Product." Electronic file available online at <http://www.bea.doc.gov/bea/dn/gdplev.xls>, downloaded December 9, 2003.
- U.S. Department of Commerce, National Telecommunications and Information Administration. *"Management of Internet Names and Numbers."* Docket Number: 980212-36-8146-02, 1998.
- U.S. Department of Defense. *SecDef Histories – William Cohen*. Electronic file available at http://www.defenselink.mil/specials/secdef_histories/bios/cohen.htm, downloaded February 5, 2004.
- U.S. Department of Justice. *Attorney General's Memorandum on the 1986 Amendments to the Freedom of Information Act*. Washington, D.C., December, 1987.
- U.S. Department of Justice v. Reporters Committee for Freedom of the Press, 489 U.S. 773, 1989.
- U.S. Department of Labor, Bureau of Labor Statistics. *Consumer Price Index*. Electronic file available at <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiat.txt>, downloaded December 9, 2003.
- U.S. Department of Labor, Bureau of Labor Statistics. *Historical Household Data* (Table A-1: Employment Status of the Civilian Non-Industrial Population 16 Years and Over, 1969 to Date). Electronic file available at <ftp://ftp.bls.gov/pub/suppl/empsit.cpseea1.txt>, downloaded December 9, 2003.
- U.S. General Accounting Office, *Summary of Federal Agencies' Information Resource Management Problems*, GAO/IMTEC-92-13FS. Washington, DC: Superintendent of Documents, 1992.
- U.S. General Accounting Office. *Information Resources: Summary of Federal Agencies' Information Resources Management Problems*. GAO IMTEC-92-13FS, 1992.
- U.S. General Accounting Office. *Information Security: Computer Attacks at Department of Defense Pose Increasing Risks*. GAO/T-AIMD-96-92, 1996.
- U.S. General Accounting Office. *Information Management and Technology*. GAO High Risk Series, GAO/HR-97-9, 1997.
- U.S. General Accounting Office. *Major Management Challenges and Program Risks: A Government-wide Perspective*. GAO 01-241, 2001.
- U.S. General Accounting Office. *Planned e-Authentication Gateway Faces Formidable Development Challenges*. GAO Report GAO-03-952, 2003.

- U.S. General Services Administration. *Welcome to Information Resources Management in the Federal Government*. Washington, DC: Information Resources Management Service, 1989.
- U.S. General Services Administration. *The Senior Federal IRM Manager: Major Roles and Responsibilities As We Move Into The 1990's*. Washington, DC: Information Resources Management Service, 1989.
- U.S. General Services Administration. *A Model IRM Program*. Washington, DC: Information Resources Management Service, 1990.
- Ware, Colin. *Information Visualization: Perception for Design*. San Diego: Academic Press, 2000.
- Weimer, David L., and Aidan R. Vining. *Policy Analysis: Concepts and Practice*, 2nd. Englewood Cliffs: Prentice Hall, 1992.
- Weingroff, Richard F. "Federal-Aid Highway Act of 1956: Creating the Interstate System." *Public Roads*, Vol. 60, No. 1, 1996.
- Weiss, Carol. "Research for Policy's Sake: The Enlightenment Function of Social Research." *Policy Analysis*, 3, 1977.
- Weiss, C. H. "Policy Research in the Context of Diffuse Decision Making." In Rist, Ray C., ed., *Policy Studies Review Annual*. Beverly Hills, CA: Sage Publications, 1982.
- Weiss, Janet A. "The Powers of Problem Definition: The Case of Government Paperwork," *Policy Sciences*, 22, 1989.
- Westin, Alan F. *Privacy and Freedom*. New York, NY: Atheneum, 1967.
- White House, Office of the Press Secretary. *Radio Address of the President and Vice President to the Nation, February 8, 1997*. Archives of the National Performance Review.
- White House, Office of the Press Secretary. *Vice President Gore Announces New Connections to High-Speed Network, May 20, 1997*. Archives of the National Performance Review.
- White House, Office of the Vice President. *Gore Names Morley Winograd to Head National Performance Review, September 11, 1997*. Archives of the National Performance Review.

White House, Office of the Press Secretary. *Memorandum for the Heads of Executive Departments and Agencies, Subject: Electronic Government, December 17, 1999.* Archives of the National Performance Review.

White House, Office of the Press Secretary. "President Clinton and Vice President Gore – Helping to Build the New Economy." *M2 Presswire*, February 25, 2000. Electronic file available on InfoTrac OneFile, Article A59614245.

Wildbur, Peter, and Michael Burke. *Information Graphics: Innovative Solutions in Contemporary Design.* London: Thames and Hudson, Ltd., 1998.

Wright, John W., ed. *The New York Times 2001 Almanac.* New York, NY: Penguin Reference Books, 2000.

Yin, Robert K. *Applications of Case Study Research.* Newbury Park, CA: Sage Publications, 1993.

Zakon, Robert H. *Hobbes' Internet Timeline, v5.4.* Electronic file available at <http://www.zakon.org/robert/internet/timeline>, downloaded May 10, 2003.

Congressional Hearings Cited

House Hearings:

Congress, House. *Amending Title I of the Federal Property and Administrative Services Act of 1949 to Provide for the Economic and Efficient Purchase, Lease, Maintenance, Operation, and Utilization of Automatic Data Processing Equipment by Federal Departments and Agencies*. Committee on Government Operations, 89th Cong., 1st sess., 1965.

Congress, House. "Report of Findings and Recommendations Resulting From the Automatic Data Processing (ADP) Responsibilities Study, September 1958 – June 1959." Bureau of the Budget, p. 20. Reprinted in *Hearings on H.R. 4845*. Committee on Government Operations, 89th Cong., 1st sess., 1965.

Congress, House. *Hearings on H.R. 4845*. Committee on Government Operations, 89th Cong., 1st sess., 1965.

Congress, House. *The Computer and Invasion of Privacy*. Committee on government Operations, 89th Cong., 2nd sess., 1966.

Congress, House. *Privacy and the National Data Bank Concept*. Committee on Government Operations, 90th Cong., 2nd sess., 1968.

Congress, House. *Commission on Federal Paperwork: Hearing on H.R. 16424 to Establish a Commission on Federal Paperwork*. Committee on Government Operations, 93rd Cong., 2nd sess., 1974.

Congress, House. *Records Management Legislation*. Committee on Government Operations, 94th Cong., 1st sess., 1975.

Congress, House. *Implementation of the Privacy Act of 1974: Data Banks*. Committee on Government Operations, 94th Cong., 1st sess., 1975.

Congress, House. *Final Report of the Privacy Protection Study Commission*. Committee on Government Operations, 95th Cong., 1st sess., 1977.

Congress, House. *Public Reaction to Privacy Issues*. Committee on Government Operations, 96th Cong., 1st sess., 1979.

Congress, House. *Paperwork Reduction Act of 1980*. Committee on Government Operations, 96th Cong., 1st sess., 1979.

Congress, House. *Implementation of the Paperwork Reduction Act of 1980 (Public Law 96-511)*. Committee on Government Operations, 97th Cong., 1st sess., 1981.

Congress, House. *Letter from Committee Chairman Jack Brooks to the Honorable Harold Brown, Secretary of Defense*. Committee on Government Operations, 97th Cong., 1st sess., 1981.

Congress, House. *Implementation of the Paperwork Reduction Act of 1980 (Public Law 96-511)*. Committee on Government Operations, 97th Cong., 1st sess., 1981.

Congress, House. *Hearings on the Paperwork Reduction Act Amendments of 1982 (H.R. 2718)*. Committee on Government Operations, 98th Cong., 1st sess., 1983.

Congress, House. *Paperwork Reduction Act Amendments of 1983 (H.R. 2718)*. Committee on Government Operations, 98th Cong., 1st sess., 1983.

Congress, House. *Freedom of Information Reform Act*. Committee on Government Operations, 98th Cong., 2nd sess., 1984.

Congress, House. *Competition in Contracting Act of 1984 (H.R. 5148)*. Committee on Government Operations, 98th Cong., 2nd sess., 1984.

. Congress, House. *Freedom of Information Act Reform*. Committee on Government Operations, 98th Cong., 2nd sess., 1984.

Congress, House. *Electronic Collection and Dissemination of Information by Federal Agencies*. Committee on Government Operations, 99th Cong., 1st sess., 1985.

Congress, House. *OMB's Proposed Restrictions on Information Gathering and Dissemination by Agencies*. Committee on Government Operations, 99th Cong., 1st sess., 1985.

Congress, House. *Freedom of Information Act Amendments of 1986*. Committee on Government Operations, 99th Cong., 2nd sess., 1986.

Congress, House. *The Computer Security Act of 1987*. Committee on Government Operations, 100th Cong., 1st sess., 1987.

Congress, House. *Federal Information Dissemination Policies and Practices*. Committee on Government Operations, 101st Cong., 1st sess., 1989.

Congress, House. *Military and Civilian Control of Computer Security Issues*. Committee on Government Operations, 101st Cong., 1st sess., 1989.

Congress, House. *Data Protection, Computers, and Changing Information Practices*. Committee on Government Operations, 101st Cong., 2nd sess., 1990.

Congress, House. *Creative Ways of Using and Disseminating Federal Information*. Committee on Government Operations, 102nd Cong., 1st and 2nd sess., 1991-1992.

Congress, House. *H.R. 830, Paperwork Reduction Act and Risk Assessment and Cost/Benefit Analysis for New Regulations*. Committee on Government Reform and Oversight, 104th cong., 1st sess., 1995.

Congress, House. *Oversight of Implementation of Federal Acquisition Streamlining Act of 1994*. Committee on Government Reform, 104th Cong., 1st sess., 1995.

Congress, House. *H.R. 1670, The Federal Acquisition Reform Act of 1995*. Joint Hearing Before the Committee on Government Reform and Oversight and the Committee on National Security, 104th Cong., 1st sess., 1995.

Congress, House. *Is January 1, 2000, The Date For Computer Disaster?* Committee on Government Reform and Oversight, 104th Cong., 2nd sess., 1996.

Congress, House. *Solving the Year 2000 Problem*. Committee on Government Reform and Oversight, 104th Cong., 2nd sess., 1996.

Congress, House. *H.R. 1281, War Crimes Disclosure Act, Health Information Privacy Protection Act, and S. 1090, Electronic Freedom of Information Act of 1995*. Committee on Government Reform and Oversight, 104th Cong., 2nd sess., 1996.

Congress, House. *Will Federal Computers be Ready for the Year 2000?* Committee on Government Reform and Oversight, 105th Cong., 1st sess., 1997.

Congress, House. *Year 2000 Risks: What are the Consequences of Information Technology Failure?* Committee on Government Reform and Oversight, 105th Cong., 1st sess., 1997.

Congress, House. *Will Federal Government Computers Be Ready for the Year 2000?* Committee on Science, 105th Cong., 1st sess., 1997.

Congress, House. *Oversight of the Implementation of the Clinger-Cohen Act*. Committee on Government Reform and Oversight, 105th Cong., 1st sess., 1997.

Congress, House. *Status Update on the Year 2000 Problem*. Committee on Government Reform and Oversight, 105th Cong. 2nd sess., 1998.

Congress, House. *Year 2000: Biggest Problems and proposed Solutions*. Committee on Government Reform and Oversight, 105th Cong., 2nd sess., 1998.

Congress, House. *Y2K: Will we Get There on Time?* Committee on Government Reform and Oversight, 105th Cong., 2nd sess., 1998.

- Congress, House. *Implementation of the Electronic Freedom of Information Amendments of 1996: Is Access to Government Information Improving?* 105th Cong., 2nd sess., 1998.
- Congress, House. *Y2K and Contingency and Day 1 Plans: If Computers Fail, What Will You Do?* Committee on Government Reform and Oversight, 106th Cong., 1st sess., 1999.
- Congress, House. *Year 2000 Computer Problem: Did the World Overreact, and What Did We Learn?* Committee on Government Reform and Oversight, 106th Cong., 2nd sess., 2000.
- Congress, House. *Computer Security: Are We Prepared for Cyberwar?* Committee on Government Reform and Oversight, 106th Cong., 2nd sess., 2000.
- Congress, House. *Computer Security: Cyber Attacks – War Without Borders.* Committee on Government Reform and Oversight, 106th Cong., 2nd sess., 2000.
- Congress, House. *Enhancing Computer Security: What Tools Work Best?* Committee on Government Reform and Oversight, 106th Cong., 2nd sess., 2000.
- Congress, House. *Computer Security Report Card.* Committee on Government Reform and Oversight, 106th Cong., 2nd sess., 2000.
- Congress, House. *Paperwork Inflation: Past Failures and Future Plans.* Committee on Government Reform, 107th Cong., 1st sess., 2001.
- Congress, House. *Federal Information Technology Modernization: Assessing Compliance with the Government Paperwork Elimination Act.* Committee on Government Reform, 107th Cong., 1st sess., 2001.
- Congress, House. *H.R. 2458 and S. 803, the E-Government Act of 2002.* Committee on Government Reform, 107th Cong., 2nd sess., 2002.
- Congress, House. *Turning the Tortoise into the Hare: How the Federal Government Can Transition from Old Economy Speed To Become a Model for Electronic Government.* Committee on Government Reform, 107th Cong., 2nd sess., 2002.
- Congress, House. *Information Technology – Essential Yet Vulnerable: How Prepared are We for Attacks?* Committee on Government Reform, 107th Cong., 1st sess., 2001
- Congress, House. *H.R. 3844, the Federal Information Security Management Act of 2002.* Committee on Government Reform, 107th Cong., 2nd sess., 2002.

Congress, House. *Paperwork Inflation: Past Failures and Future Plans*. Committee on Government Reform, 107th Cong., 1st sess., 2001.

Congress, House. *Transforming the IT and Acquisition Workforces*. Committee on Government Reform, 107th Cong., 1st sess., 2001.

Senate Hearings:

Congress, Senate. *Computer Privacy*. Committee on Governmental Affairs. 90th Cong., 1st sess., 1967.

Congress, Senate. *Commission on Federal Paperwork*. Committee on Governmental Affairs, 93rd Cong., 2nd sess., 1974.

Congress, Senate. *Efforts to Reduce Federal Paperwork*. Committee on Governmental Affairs, 94th Cong., 1st sess., 1975.

Congress, Senate. *Problems Associated with Computer Technology in Federal Programs and Private Industry: Computer Abuses*. Committee on Government Operations, 94th Cong., 2nd sess., 1976.

Congress, Senate. *Paperwork and Redtape Reduction Act of 1979*. Committee on Governmental Affairs, 96th Cong., 1st sess., 1979.

Congress, Senate. *Computer Security in the Federal Government and in the Private Sector*. Committee on Governmental Affairs, 98th Cong., 1st sess., 1983.

Congress, Senate. *Paperwork Reduction Act Amendments of 1984*. Committee on Governmental Affairs, 98th Cong., 2nd sess., 1984.

Congress, Senate. *Computer Matching: Taxpayer Records*. Committee on Governmental Affairs, 98th Cong., 2nd sess., 1984.

Congress, Senate. *Reauthorization of the Paperwork Reduction Act: Management and Technology Issues*. Committee on Governmental Affairs, 101st Cong., 1st sess., 1989.

Congress, Senate. *Reauthorization of OMB's Office of Information and Regulatory Affairs*. Committee on Governmental Affairs, 101st Cong., 2nd sess., 1990.

Congress, Senate. *Government Performance and Results Act of 1993, Report 103-58*. Committee on Governmental Affairs, 103rd Cong., 1st sess., 1993.

Congress, Senate. *Nomination of Sally Katzen*. Committee on Governmental Affairs, 103rd Cong., 1st sess., 1993.

- Congress, Senate. *Reinventing Government: Using New Technology To Improve Service and Cut Costs*. Committee on Governmental Affairs, 103rd Cong., 1st sess., 1993.
- Congress, Senate. *Nomination of Steven J. Kelman*. Committee on Governmental Affairs, 103rd Cong., 1st sess., 1993.
- Congress, Senate. *S. 1587, Federal Acquisition Streamlining Act of 1993*. Committee on Governmental Affairs, 103rd Cong., 2nd sess., 1994.
- Congress, Senate. *OMB's Office of Information and Regulatory Affairs Information Management, Paperwork, and Regulatory Review*. Committee on Governmental Affairs, 103rd Cong., 2nd sess., 1994.
- Congress, Senate. *S. 946, The Information Technology Management Reform Act of 1995*. 104th Cong., 1st sess., 1995.
- Congress, Senate. *Security in Cyberspace*. Committee on Governmental Affairs, 104th Cong., 2nd sess., 1996.
- Congress, Senate. *Crashing into the Millennium: Federal Agency Year 2000 Conversion Efforts*. Governmental Affairs Committee, 105th Cong., 2nd sess., 1998.
- Congress, Senate. *Cyber Attack: Is the Government Safe?* Committee on Governmental Affairs, 105th Cong., 2nd sess., 1998.
- Congress, Senate. *Weak Computer Security in Government: Is the Public at Risk?* Committee on Governmental Affairs, 105th Cong. 2nd sess., 1998.
- Congress, Senate. *Cyber Attack: Is the Government Safe?* Committee on Governmental Affairs, 106th Cong., 2nd sess., 2000.
- Congress, Senate. *Nomination of Mitchell E. Daniels, Jr.* Committee on Governmental Affairs, 107th Cong., 1st sess., 2001.
- Congress, Senate. *S. 803: E-Government Act of 2001*. Committee on Governmental Affairs, 107th Cong., 1st sess., 2001.
- Congress, Senate. *How Secure Is Our Critical Infrastructure?* Committee on Governmental Affairs, 107th Cong., 1st sess., 2001.

Vita

Dwight V. Toavs, Sr.

ACADEMIC PREPARATION:

Ph.D., Public Administration & Policy, Virginia Polytechnic Institute & State University, Spring 2005.

Concentration: Information, Information Technology, and Policy in Public Administration

Dissertation: Pixelating Policy: Visualizing Issue Transformation in Real and Virtual Worlds

Advisor: Dr. Philip S. Kronenberg

MA, Public Administration, Oklahoma University, Graduate School, 1978,
Concentration: National Security Affairs

BS, General Studies, Montana State University, 1967.

Graduate, USAF Air Command and Staff College, 1982

Graduate, USAF Squadron Officer's School, July 1973.

PROFESSIONAL EXPERIENCE:

Professor of Systems Management, October 1989 – Present

Information Resources Management College, National Defense University, Washington, D.C.

Courses: E-Government; Advanced Management Program (Survey of Public Administration); Policy Frameworks Concentration; Information Visualization; Geospatial Information Visualization.

DoD Intelligence Information System Manager (Plans) 1988-1989

Military Officer (USAF) 1967-1988

Defense Intelligence Agency, Washington, D.C., 1983-1988 (Strategic Information Systems Planning)

US European Command, Stuttgart, GE, 1980-1983 (Indications & Warning Analyst)

6912th Security Squadron, Berlin, GE, 1976-1980 (Operations Officer, Flight Commander)

544th ARTW, Offutt AFB, NE, 1973-1975 (Intelligence Analyst)

PROFESSIONAL & ACADEMIC HONOR SOCIETIES:

- Pi Alpha Alpha
- Phi Kappa Phi

PROFESSIONAL MEMBERSHIPS:

- American Society for Public Administration

Dwight Toavs is Professor of Systems Management at the Information Resources Management College, National Defense University, Washington, D.C., where he teaches courses in information resources management, public policy, and electronic government. He joined the IRM College faculty in 1989, following a career in the US Air Force where he specialized in strategic intelligence and intelligence information systems. He is a graduate of Montana State University (BS, General Studies), Oklahoma University (MAPA), and is a Public Administration doctoral candidate at the Center for Public Administration and Policy, Virginia Polytechnic Institute & State University.

Dwight's teaching and research interests focus on the role, application, and policies relating to information and information technologies in public organizations. His doctoral research and study focuses on understanding the dynamics of public policy issues and extending that understanding to IT professionals through the use of information visualization and virtual reality.

In addition to his teaching at the IRMC, he is interested in visually oriented technologies and their application for communicating and for continuous learning in complex institutional environments. His present technology interests include graphic and 3-D visualization technologies, virtual reality, geographic information systems, and Internet-based approaches to graphic communications.

He is a member of Pi Alpha Alpha, the national Public Administration Honor Society, Phi Kappa Phi, a national scholastic honor society, and the American Society for Public Administration.

Contact: toavs@ndu.edu