**AARON SCHROEDER**

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## EDUCATION

Virginia Tech University
**Ph.D. in Public Policy & Administration** **2001**
Dissertation: "Building Implementation Networks" - Building Multi-organizational, Multi-sector Structures for Policy Implementation

James Madison University
**M.P.A. in Public Administration** **1993**
Areas of Concentration: Geographic Information Systems, Administrative Law

University of Delaware
**B.A. in Psychology** **1991**
Areas of Concentration: Brain & Behavior (including 9 graduate credits in Neuropsychology)
Minor: Political Science

## SPECIALIZATIONS

***Evaluation***
Methods of Data Collection & Wrangling
Research Design
Quantitative & Qualitative Data Analysis
Information Policy
Privacy Law
Policy & Implementation Network Analysis

***Information Technology***
Information Integration
Data Privacy / Anonymization
Data Management / Big Data
Data Science
Data Architecture / Engineering
Web-Enabled Public Services

## ADDITIONAL SPECIALIZED TRAINING

Master R Developer
Linux Server Administration
Apache Spark / Hadoop
Server Virtualization
PostgreSQL Database Programming (PL/pgSQL)
Oracle Database Programming (PL/SQL)
Microsoft SQL Server Programming (T-SQL)
JavaEE Multi-Tier Programming (Java, JPA, JSF, Facelets)
Microsoft Server Administration

ASP.NET Web Development (C#)
Python Development
Cisco Network Administration
SAS & SAS JMP
SPSS
Group Facilitation, Focus Groups, & Nominal Groups
Advanced Cold Fusion: Fusebox
Advanced Graphics with Photoshop and GIMP

## RESEARCH & LEADERSHIP POSITIONS

*Social & Decision Analytics Division (SDAD),*
*Biocomplexity Institute, University of Virginia*
**Research Associate Professor, Data Science & Architecture** **2018-present**
Responsible for the development and coordination of all SDAD information architecture and assets.

Responsible for the application of advanced understanding in information policy, data privacy and advanced record linkage approaches to all applicable SDAD projects.

Plans, secures, and executes major research projects focused on the techniques, methods, and theories related to the integration, storage, retrieval, sharing, and optimal use of policy- relevant data, information, and knowledge for the purposes of policy analysis and program evaluation. Of particular focus in this role has been the design and application of privacy- protecting record-linkage algorithms for the construction of cross-

agency and cross-jurisdiction longitudinal datasets. A additional focus in this role has been on the design, implementation and support of data science processes and supporting technological platforms to enable the repurposing, integration and analysis of federal, state, and local-level administrative data streams for the purpose of conducting policy analyses and program evaluations by local governments in Virginia.

### *Social & Decision Analytics Laboratory (SDAL), Biocomplexity Institute of Virginia Tech*

**Senior Research Data Scientist & Architect** **2014-2018**

Senior researcher responsible for the development and coordination of all SDAL information architecture and assets.

Senior researcher responsible for the application of advanced understanding in information policy, data privacy and advanced record linkage approaches to all applicable SDAL projects.

Additionally, responsible for planning, securing and executing major research projects focused on the techniques, methods, and theories related to the integration, storage, retrieval, sharing, and optimal use of policy-relevant data, information, and knowledge for the purposes of policy analysis and program evaluation. Of particular focus in this role has been the design and application of privacy-protecting record-linkage algorithms for the construction of cross-agency and cross-jurisdiction longitudinal datasets. A additional focus in this role has been on the design, implementation and support of data science processes and supporting technological platforms to enable the repurposing, integration and analysis of federal, state, and local-level administrative data streams for the purpose of conducting policy analyses and program evaluations by local governments in Virginia.

### *Virginia Tech Institute for Policy & Governance (VTIPG)*

**Information Architect & Data Scientist, Leader, Public Policy Data Group** **2010-2014**

Responsible for leadership of a multidisciplinary research program dedicated to conducting policy analyses and program evaluation using the techniques, methods, and theories related to the integration, storage, retrieval, sharing, and optimal use of policy relevant data, information and knowledge. Responsible for maintaining a high level of influence and reputation among Virginia state agencies dealing with issues of information integration and informatics. Initial focus of the position was on development and oversight of a portfolio of projects involving the integration and analysis of education, health, social service and non-profit administrative data streams for the purpose of conducting policy analyses and program evaluations impacting a wide range of constituents including: pre-K child social and health service recipients; child care service operators; primary, secondary, post-secondary and adult education service recipients; state workforce training service recipients; and, U.S. Veteran health and social service recipients. Clients include local, state, federal and non-profit agency leaders and policymakers.

**Research Scientist** **2008-2010**

Responsible for planning, securing and executing major research projects focused on the techniques, methods, and theories related to the integration, storage, retrieval, sharing, and optimal use of policy-relevant data, information, and knowledge for the purposes of policy analysis and program evaluation. A particular focus has been on the integration and analysis of education, health, social service and non-profit administrative data streams for the purpose of conducting policy analyses and program evaluations impacting a wide range of constituents including: pre-K child social and health service

recipients; child care service operators; primary, secondary, post-secondary and adult education service recipients; state workforce training service recipients; and, U.S. Veteran health and social service recipients. Continuing, high-profile projects in the Commonwealth of Virginia are the USHHS-funded Project Child HANDS and the USED-funded Statewide Longitudinal Data System.

### *Virginia Tech Transportation Institute (VTTI)*

**Director, Center for Technology Deployment** **2004-2006**

Director of the first research center within the Virginia Tech Transportation Institute and, by itself, the fifth largest research center at Virginia Tech. The director is responsible for managing approximately 20 research projects/year, 20 full-time and part-time staff members, 8 graduate students, and approximately $2 million/year in research expenditures. Comprised of technology and management professionals, the mission of the Center for Technology Deployment is to "invent, deploy, and evaluate" prototype Intelligent Transportation System (ITS) technologies for use by state departments of transportation. The invention aspect of the center's mission included extensive work with information technologies and their application to Advanced Traveler Information Systems and Advanced Traffic Management Systems. The deployment aspect of the center's mission included extensive work in building partnerships with both public and private agencies to produce "live" demonstration projects. The evaluation aspect of the center's mission involved the application of both managerial and technical evaluation tools to establish the likelihood of an invention's deployment into real-time environments.

**Leader, Information Applications Group** **2002-2004**

The mission of the Information Applications Program was to utilize information technology and inter-institutional (e.g., public-private) partnerships to develop and deploy new or enhanced public services. Responsibilities include the management of existing program development and deployment projects, procurement of all program funding, management of program relationships with private and public-sector personnel and political representatives and coordinating with other Institute research programs. The Information Applications Group was founded in 1998 and has quickly grown to become the second largest research group at the Institute. Statistics as of 2002 for the center were: over $3 million in committed contract funding, 20 staff members (programmers, policy analysts, marketing analysts, lawyers, project managers), 4 associated Virginia Tech faculty members, and 11 graduate research assistants (representing Systems Engineering, Public Administration, Computer Science, and Marketing).

**Senior Research Associate** **1998-2002**

Served on numerous research teams taking responsibility for necessary policy analyses, stakeholder facilitations, and development of applicable IT solutions. Served as principal investigator, co-principal investigator, or researcher on numerous projects.

### *National Academy of Public Administration* ***(NAPA)***

**Research Associate, Standing Panel on Executive Organization and Management** **1995-1996**

Served as the Assistant to the Director of a National Academy of Public Administration study focusing on the relationship of the National Guard to public, non-profit, and private agencies in natural disaster response and recovery.

SPONSORED RESEARCH

*Data Generation, Integration & Management (SDAD - Current)*

**Leveraging Large Language Models to Identify Green Innovation**
Dates: 2023-2024
Role: PI
Award: $101,000
Sponsor: National Center for Science and Engineering Statistics (NSF)
This project focuses on supplementing the Annual Business Survey with the use of Large Language Models to produce additional data on the development of green products in the United States. This project builds on previous work completed for the National Center for Science and Engineering Statistics using Natural Language Processing and Machine Learning to create supplemental indicators of innovation to existing survey statistics. The NCSES has used various surveys including the Annual Business Survey, BERD and BRDIS to measure R&D conducted in for-profit businesses. The ABS also collects data on innovation, technology, intellectual property, and financing from U.S.-based companies of all sizes. There has been an interest in finding alternative, non-survey-based indicators of innovation that can extract more granular information (what kind of innovation, what innovative products, how significant is the innovation) and more timely indicators (rather than the 3-year time frame currently in place).

**Social Impact Data Commons Implementation – National Capital Region**
Dates: 2021-2025
Role: PI
Award: $1,100,000
Sponsor: Mastercard Center for Inclusive Growth

A data commons is an open knowledge repository that co-locates data from a variety of sources, builds and curates data insights, and provides tools designed to track issues over time and geographies allowing governments and community stakeholders to continuously learn from their own data. The first two phases of the project were a pilot demonstration using a local-government stakeholder-centered approach, Community Learning Through Data Driven Discovery (CLD3), to establishing a Social Impact Data Commons for Arlington and Fairfax Counties, Virginia. In the 3rd phase, the data commons was extended to the entire National Capital Region (NCR). In the final, presentations and how-to documentation are being created to facilitate methodological and technology transfer to other parties interested in applying this developed model.

**VDH Data Commons - Building a Sustainable Data Commons to Support Department of Health Strategic Plans – Phases 1 & 2**
Dates: 2021-2024
Role: PI
Award: $1,150,000
Sponsor: Virginia Department of Health (VDH)

A data commons is an open knowledge repository that co-locates data from a variety of sources, builds and curates data insights, and provides tools designed to track issues over time and geographies allowing governments and community stakeholders to continuously learn from their own data. The first two phases of a 3-phase project to construct and provide a social impact data commons to support various department strategic plans. The first phase focused on construction and deployment of an interactive social impact data commons to support the dissemination of the Virginia Department of Health (VDH)'s Rural Health Plan. The second phase includes an expansion to support additional VDH plan rollouts, including the state's Primary Care Needs Assessment (PCNA).

**Developing Predictive Models of U.S. Army Career Pathways**
Dates: 2021-2025
Role: PI
Award: $813,848 (years 4 and 5)
Sponsor: U.S. Army Research Institute for the Behavioral and Social Sciences

The objective of this program of research is to identify and develop the data and statistical tools (in particular, scalable tools appropriate to large data sets) that can be used to (a) effectively identify different classes or dimensions of career profiles,

representing different career trajectories or career patterns, and (b) develop predictive models of individual career trajectories, integrating data on individuals, units, and larger contextual and environmental factors. These models will be developed and validated using archival Army data and compared to existing methods for modeling career dynamics.

**The American Soldier in World War II**
Dates: 2019-2021
Role: PI
Award: $60,971
Sponsor: U.S. National Endowment for The Humanities

The American Soldier in World War II is an open-access digital project to make available to scholars and to the public a remarkable collection of written reflections on war and military service by American soldiers who served during the Second World War. Work included development of advanced extraction algorithms, Natural Language Processing (NLP), and Latent Dirichlet Allocation (LDA).

**Baseline Distinct Counts of Select Data Sets to Support ECIDS Establishment**
Dates: 2018
Role: PI
Award: $75,000
Sponsor: Virginia Early Childhood Foundation (VECF)

The primary objective of this research is to integrate data to generate a distinct count of children birth to five served by one or more early childhood programs and/or services ib Virginia as a foundational metric for a range of future early childhood policy and programmatic analyses and uses.

**Towards an Integrated Data Framework for Understanding the Context of Military Environments**
Dates: 2015-2018 (one-year $286,862 extension pending)
Role: Co-PI
Award: $1,691,337 (one-year $286,862 extension pending)
Sponsor: Army Research Institute

The primary objective of this research project is the assessment of best approaches for successfully accessing and integrating DOD data and other data sources in the service of expanding the types of questions the data might inform--in particular, the study of important recurring issues to the military and documents the issues, problems, and solutions for future research. This assessment is being done within the context of a case study on military attrition, with a focus on the Army.

**Use Statistical and Survey Methodology Research to Improve or Redesign Surveys (Year 2-5)**
Dates: 2017-2021
Role: Senior Personnel (Founding Co-PI)
Award: $2.5 million
Sponsor: United States Department of Agriculture/National Science Foundation

The overall objective of this cooperative agreement is to fund exploration and application of "Big data" analytics and research for the enhancement, improvement, or redesign of current surveys. The research has several focus areas. First, on identifying and collecting data that naturally exists, including non-statistically designed data and international data sources, for other reasons and repurposing those data to measure concepts of interest, such as innovation, entrepreneurship, or competitiveness. Second, on the quality of the alternative data, including representativeness, timeliness, accuracy, consistency, completeness, reliability, and relevance of the data. Third, on ways to capture new data sources and to create new measures from these new data. Fourth, on advances in data collection methodologies beyond traditional survey collections, including exploring “opportunity” data with spatial or temporal design.

**The Social Component of the Human Dimension: Leveraging Existing DoD Data Towards Optimized Individual and Team Performance in the Army**
Dates: 2017-2022

Role: Senior Personnel
Award: $3 million
Sponsor: Army Research Institute

The primary objective of this research is to define and quantify the social component constructs of the Human Dimension and to use these as predictor constructs to describe and model Soldier and Team/Unit performance.

### *Data Integration & Management (SDAL)*

**Bringing Evidence-Based Decision Making to Local Communities through Community Learning**
Dates: 2016
Role: Co-PI
Award: $144,000
Sponsor: Laura and John Arnold Foundation

This award was a planning grant to demonstrate and refine SDAL's Community Learning framework and to develop a plan for deploying it across Virginia and then nationally. Our demonstration partners are government leaders in Arlington, Virginia, and the Virginia Tech Virginia Cooperative Extension; both serve as links to our local communities. Additionally, Virginia Tech through Cooperative Extension serves as our link to the every county, city, and township across Virginia and then the nation through our national Land Grant University infrastructure.

**Actionable Intelligence for Social Policy Innovation**
Dates: 2016-2017
Role: Co-PI
Award: $22,500
Sponsor: University of Pennsylvania / Laura and John Arnold Foundation

The aim of AISP Innovation is to promote more widespread implementation and testing of evidence based policies and programs by creatively addressing the existing limitations of IDS use.

**Building Research Infrastructure and Community to Advance Social Scientific and Educational Use of Administrative Data.**
Dates: 2013-2017
Role: Co-PI
Award: $487,000
Sponsor: National Science Foundation

Co-Principal Investigator on a National Science Foundation project seeking to address current shortcomings in prevention science "on the ground" by building research infrastructure and community in the state of Virginia. Using a recently developed federated de-identified data linkage mechanism that integrates data from multiple sources to create research products and technologies facilitating prevention science research, the project's aims are threefold: (1) conceptualize ways to use existing, administrative record data collected at state agencies to test prevention models; (2) design data interface and analytic tools to increase research capacity for future studies; and (3) facilitate a sustainable research community by developing data governance procedures, including researcher access, use and communication procedures

**Virginia Department of Emergency Management (VDEM) Data Flows -- Establishing a Baseline**
Dates: 2015-2016
Award: $50,000
Role: PI
Sponsor: VA Department of Emergency Management

Principal Investigator on a $50,000 study to gain an understanding of the data flows at the Virginia Department of Emergency Management to provide a baseline for improving the data systems and use of data in Emergency Response. Through review of VDEM documents and interviews with VDEM staff and partner organizations the activities identified: existing data /information flows that support decision-making before, during, and after emergencies; gaps in the data/information flows and other

information that would enhance VDEM decision making; and, technical and cultural obstacles that could impede efficient VDEM data / information flows.

### *Data Integration & Management (VTIPG)*

**Virginia Early Childhood Professional Registry**
Dates: 2010-2016
Role: PI
Award: $90,840
Sponsor: Virginia Department of Social Services

The creation of an early childhood education workforce personnel and training registry system for the Commonwealth of Virginia is necessary for two reasons -- to provide the most complete and best understanding of the day care environment a child has experienced in concert with the child and provider data, and to establish a professional development tracking system for childcare professionals. The relationship between practitioner level of education and types and level of training and impact on child outcomes, for example, can be accurately assessed. To build this system, practitioner, trainer and training core data elements will be adapted to existing standards and translated to a normalized relational structure to allow for accurate analysis and reporting. Additionally, the data system will incorporate linkages to existing data sources that already provide the needed core data elements. The resulting functional database system will be accessed through a web-based interface for both administrative management and participant interaction.

**Virginia Longitudinal Data System Expansion - Linking to Workforce and Postsecondary**
Dates: 2010-2013
Role: PI
Award: $1,760,000
Sponsor: U.S. Department of Education

Working with the Virginia Department of Education (VDOE), the Virginia Information Technologies Agency (VITA), the State Council of Higher Education (SCHEV), the Virginia Community College System, and Virginia's workforce agencies on a $17.5 million grant to establish a comprehensive, longitudinal P-20 data system, including: creation of an integrated K-12 student-teacher information system; creation of a longitudinal data linking and reporting system; development of a web-based portal to access education and workforce data; design of a data management and control system; and development of a secure mechanism for post-secondary institutions to receive high school transcripts in the form of electronic data.

**Child HANDS: Building Child and Family Policy Research Data Capacity for the Commonwealth of Virginia: An Integrated Model**
Dates: 2008-2011
Role: PI
Award: $650,000
Sponsor: Administration for Children & Families (US Department of Health & Human Services)

Using a federated data approach to multi-agency data integration, the central aim of Project Child HANDS (Child Care Subsidy, Health and Early Education: Helping Analyze Needed Data Securely) is to build an integrated, web-based data system for Virginia childhood initiatives aimed at low-income families, to guide program evaluation and policy decisions at the state and local levels. Data from agencies at local levels will provide the main source of information for use in local planning, as well as state evaluation of large-scale programs. Partners in the grant include the Virginia Department of Social Services and the Virginia Department of Education, with input from the Virginia Department of Health. Initial questions will focus on child care quality in relation to the child care subsidy program, family demographics, parental choice, and how these factors relate to children's outcomes in kindergarten. Later questions will expand into other areas of child welfare and health.

### *Data Integration & Management (VTTI)*

**Intelligent Transportation Systems Implementation: Virginia Traveler Information Clearinghouse**
Dates: 1999-2006
Role: PI
Award: $1,800,000
Sponsor: Research and Special Programs Administration (US Department of Transportation)

Co-directed a $12 million / 6-year program to facilitate ITS deployment in the Commonwealth of Virginia. The Center for Technology Deployment was responsible for directly administering $1.8 million over the 6-year period and focused on the design , development and production of the “Virginia Traveler Information Clearinghouse”

**511 Virginia**
Dates: 2000-2003
Role: PI
Award: $1,207,000
Sponsor: Virginia Department of Transportion (VDOT)

Contracted by the Virginia Department of Transportation in 2000 to investigate the feasibility of converting an existing ATIS, Travel Shenandoah (see below), into 511Virginia, an ATIS accessible to the public by dialing 511. Responsibilities included the design both conceptually, and technically of an enhanced coverage area and improved voice recognition technology. VTTI was responsible for the development and deployment of the new voice recognition technology.

**Travel Shenandoah -- An Advanced Traveler Information System for Virginia’s Shenandoah Valley**
Dates: 1998-2000
Role: PI
Award: $1,400,000
Sponsor: Virginia Department of Transportation (VDOT) and Shenandoah Telecommunications (SHENTEL)

Directed the conceptual and technical design, development, and deployment of a Traveler Information System in Virginia's Shenandoah Valley: Travel Shenandoah (www.travelshenandoah.com). The system integrated current traffic & travel conditions, food and lodging information, traveler services information, tourism information, emergency services information, and trip routing capabilities.

**Truck Fleet Alert**
Dates: 1999-2000
Role: PI
Award: $75,000
Sponsor: Virginia Department of Transportation (VDOT)

Truck Fleet Alert was built as a particular application of Travel Shenandoah. The system provided timely, relevant information on traffic and road conditions, weather, parking availability, route guidance, and other information for commercial traffic traveling through the Commonwealth of Virginia.

### *Policy Implementation Networks (VTTI)*

**Travel Virginia -- A Statewide System of Private-Public Partnerships**
Dates: 1999-2000
Role: Co-PI
Award: $200,000
Sponsor: Virginia Department of Transportation (VDOT)
Co-directed a planning and design effort to replicate the success of Travel Shenandoah across the Commonwealth of Virginia.

**Enhanced Night Visibility**
Dates: 1997-2002
Role: Co-PI
Award: $125,000
Sponsor: Federal Highway Administartion (FHWA), US Department of Transportation (USDOT)

Worked with the Federal Highway Administration on a project to establish a policy implementation network for the nationwide deployment of UV-A Fluorescent headlamps and traffic control devices.

### *Web-Enabled Public Services (VTTI)*

**Bedford Ride**
Dates: 2000-2001
Role: PI
Award: $86,000

Sponsor: Bedford County, VA

"Following on the success of the Access to Rides system in Montgomery County, VA, Bedford County, VA contracted with our research group to develop a strategic plan for medical ride-sharing and a software support system. The program was developed and is currently considered a Bedford County "success story."

**ACCESS to Rides -- A Dynamic System for Volunteer and Transportation Resource Management**
Dates: 1998-2002 Role: PI Award: $56,000

Sponsor: Federal Highway Administration (FHWA), US Department of Transportation (USDOT)

"Designed, developed and operated, in partnership with local non-profit and governmental organizations, a dynamic on-line scheduling system for managing a volunteer-based ride-sharing program in Virginia's New River Valley.

### *Wireless Technologies (VTTI)*

**Wireless Linear LAN for Interstate 81 (Salem District)**
Dates: 2003-2005
Role: PI
Award: $593,603
Sponsor: Virginia Department of Transportation (VDOT)

Based on successful preliminary analysis of the US460 installation (see below), VDOT provided funding for a 10 mile section of Interstate 81 around Roanoke to covered with an 802.11 wireless spine, 9 digital cameras, and a series of digital traffic counters and weather stations. This project is being used as both a "further proof of concept" and as a test-case for adjusting how DOTs procure operational IT systems (which are traditionally used for 15-30 year planning cycles).

**US460 Wireless Corridor**
Dates: 2001-2004
Role: PI
Award: $250,000
Sponsor: Virginia Department of Transportation (VDOT)

Directed installation and operation of experimental 802.11 wireless corridor on US460 in Virginia. This project is being used by the Salem District of the Virginia Department of Transportation to demonstrate the benefits and costs of wireless backbone technology for managing VDOT assets (cameras, sensors, counters, etc.).

**I-81 Video System Design & Implementation**
Dates: 2003
Role: PI
Award: $80,000
Sponsor: USDOT Center for ITS Implementation Research

The goal of this project was to install several Internet-based traffic monitoring cameras along the Interstate corridor in the Northern Shenandoah Valley to provide video images to the Virginia Department of Transportation (VDOT) and to the traveling public via the 511 web page. One objective was to develop partnerships with public institutions along the I-81 Corridor in order to utilize existing Network Virginia Internet Connections. Cameras would be located as closely to the Interstate as possible and wireless Internet communications would be used to transmit the camera image from the roadside to the Network Virginia Internet backdrop.

### *Program Evaluation/Policy Analysis (VTIPG)*

**Virginia's Wounded Warriors: Assessment of the Experiences, Supportive Service Needs and Service Gaps of Veterans within the Commonwealth of Virginia**
Dates: 2009-2010
Role: Co-PI
Award: $148,780
Sponsor: Virginia Department of Veteran Services

Assessed the current service experiences (consumer satisfaction), emerging and unserved needs and service gaps within the range of veteran's services available in the Commonwealth of Virginia. There are over 800,000 veterans residing within the

Commonwealth of Virginia. While all veterans' experiences and needs were assessed, particular consideration was given to the mental and behavioral health and traumatic brain injury service needs of the veterans of Operation Iraq Freedom (OIF) and Operation Enduring Freedom (OEF).

**Saving Dollars While Making Sense: Comparing Operational Costs of Intergenerational Shared Site Facilities**
Dates: 2006-2007
Role: Co-PI
Award: $14,000
Sponsor: Generations United (GU) and the MET Life Foundation

Working with Generations United (GU) and Dr. Shannon Jarrott of the Virginia Tech Department of Human Development, tested the hypothesis that operational costs of day care facilities with intergenerational components are the same or less than the operational costs of day care facilities without intergenerational components.

### *Program Evaluation/Policy Analysis (VTTI)*

**I-81 Evaluation Framework**
Dates: 2002-2004
Role: PI
Award: $140,200
Sponsor: Virginia Department of Transportation (VDOT)

The I-81 ITS Program is a framework for on-going coordination, planning, design, and implementation of ITS investments along the I-81 Corridor in Virginia. Numerous stakeholders are involved in the Program including the Virginia Department of Transportation (VDOT), who sponsors the Program, the Virginia State Police (VSP), the Department of Motor Vehicles (DMV), the Virginia Tech Transportation Institute (VTTI), and ITS Consultants working in the Corridor. The Program began in June of 2000, and VTTI managed the Program from June 2000 through June 2001. VTTI also evaluated the Program from September 2001 through March 2002, and through 2004 developed an Evaluation Framework for the on-going evaluation of ITS projects funded through the Program.

**Staunton District ITS Concept of Operations**
Dates: 2000
Role: PI
Award: $125,000
Sponsor: Virginia Department of Transportation (VDOT)

Conducted analysis and created report outlining the functions of the integrated regional ITS, the agencies involved in operating and managing the ITS, and each agency's roles and responsibilities.

**I-81 Intelligent Transportation Systems Task Force**
Dates: 2000-2001
Role: PI
Award: $275,000
Sponsor: Virginia Department of Transportation (VDOT)

Directed an effort to plan for Intelligent Transportation Systems deployment in the I-81 corridor in Virginia. This includes overseeing and participating in 6 technical working groups, including: Corridor Concept of Operation; Public Information & Marketing; Incident Response and Clearance; ITS Design Guidelines; Data Requirements; and, Traveler Information Services. This task force has the standing responsibility of recommending to VDOT the ITS projects that should be funded for each coming fiscal year.

TEACHING EXPERIENCE

*Social & Decision Analytics Laboratory (SDAL),*
*Biocomplexity Institute of Virginia Tech*

**Co-Program Lead & Instructor** **2015-2018**

Courses:

- *Data Science for the Public Good*

The Data Science for Public Good (DSPG) program is a joint effort of the Biocomplexity Institute of Virginia Tech and the Honors College. The DSPG program is comprised of graduate fellows, selected from a competitive, nationwide search, and Virginia Tech Honors students, and gives students expert data science training, while helping policymakers in the local, state, and federal government improve quality of life in their communities.

*Virginia Tech Center for Public Administration & Policy (CPAP)*

**Visiting Assistant Professor** **2007-2010**

Courses:

- *Public Administration & Policy Inquiry*

PA and Policy Inquiry serves as the research design and statistical "methods" course for the MPA curriculum. However, unlike traditional methods course, this course was aimed at those who are or soon will be administrators, as opposed to those who wish to be Social Science Researchers. The course covered the same concepts, same designs, and same tools, but had a focus on potential action and decision making informed by analytical analysis.

- *Public Policy and Program Evaluation*

The worlds of Policy Analysis and Program Evaluation, while overlapping and sharing similarities in terms of general logical approach, are quite different in their level of focus, level of detail, and overall purpose. While the person put in charge of evaluating the success of a particular government program will be necessarily focused on whether or not predicted outcomes have been achieved or processes of delivery have been adequately established, the policy analyst will generally be more concerned with understanding the political and economic issues involved with the passage of a policy (which could affect many different programs) and how those issues will or will not make it possible to adjust the existing or create a new policy. Accordingly, this course had two tracks, one focusing on the approaches and methods of Program Evaluation, the other on the approaches and methods of Policy Analysis.

- Government Administration: Applied Technologies

The Applied Technologies course introduces the Master's-level Public Administration & Policy students to some of the systems and technologies they are likely to encounter in today's governmental agencies. In addition to understanding what they are, the purpose of this course is to provide hands-on exposure to these systems and technologies. So that the systems and technologies considered in this course were not considered isolated and unrelated to each other, an over-riding project that involves the use of every technology introduced was employed. The project entailed the building of the first e-government web-presence for a rural Virginia county, Craig County. This project not only entailed having to deal with actual public administrators, but also resulted in the production of an actual product to be used by the citizenry of that county.

**Assistant Research Professor (joint appointment with VTTI)** **2002-2004**

Courses:

- *Public Administration & Policy Inquiry*
- *Internet, Database and Administrative Technologies*

**Adjunct Instructor** **1994-2001**

Courses:

- *Statistical Methods*
- *Computer Business Applications*
- *Internet and Database Technologies*
- *Public Budgeting*
- *Policy Network Analysis*

*Elon University Department of Political Science & Public Administration*

**Adjunct Instructor** **1995-1996**

Courses:

- *Public Administration*
- *Policy Analysis*

## DISSERTATION COMMITTEES

| | |
|---|---|
| **Gouk Tae Kim** | **The Scientific Science Policy Framework: Implications for STI (Science, Technology, and Innovation) Policy and Evaluation (2012)** |
| **Stephanie Kay Goodwin** | **Development of the University Health Index to Examine the Interface between Campus Environment and Nutrition, Physical Activity, and Weight in College Students (September 2011)** |
| **George R. Davis, Jr.** | **Freshmen Student-Athletes: An Examination of the Decision-Making Process and Satisfaction (April 2006)** |
| **Matthew Lloyd Collins** | **An Elaboration and Analysis of Two Policy Implementation Frameworks to Better Understand Project Exile (December 2002)** |

## THESIS/PROFESSIONAL PAPER COMMITTEES

| | |
|---|---|
| **Chad A. Reed** | **Understanding Gordian's Knot: The Department of Defense and the Language & Cultural Awareness Network (2009)** |
| **Tyrell McElroy** | **Policy Design and Sustainability of the New River Valley Boy's and Girl's Club (2009)** |
| **Elizabeth Hooper** | **Running with the PAC: Influence and Accountability in Political Action Committees (2008)** |
| **Chris DaVault** | **Block Scheduling and its Impact on Ramstien Middle School's Performance on Standardized Tests (2008)** |
| **Amanda Paez** | **Local Government Performance Management: Creating a Link between Budget and Service Provision in Montgomery County, Virginia (2008)** |
| **Whitney Bonham** | **From the Inside Forward: Formative Program Evaluation and Municipal Infrastructure Planning (2008)** |

## PUBLICATIONS AND PAPERS

**Journal Publications & Proceedings (refereed)**

Thurston J; Schroeder A.D.; Keller S; Shipp S. (2022) Best Practices in Coordinating Large-Scale Data Science Initiatives. Joint Statistical Meetings, American Statistical Association. 2022;

Goldstein J; Halder A; Charankevich H; Pender J; Schroeder A.D.; Shipp S; Keller S. (2022). Evaluating the Impact of USDA Broadband Subsidy Programs Using Differentiable Gaussian Random Fields. Joint Statistical Meetings 2022. American Statistical Association.

Ratcliff N, Thurston J, Linehan K, Mikytuck A, Oh E, Halder A, Goldstein J, Lancaster V, Schroeder A, Shipp S, Keller S. (2021) (in preparation). A 20-year review of accession characteristics in the U.S. Army. Personnel Psychology. 2021.

Keller, S. A., Shipp, S. S., Schroeder, A. D., & Korkmaz, G. (2020). Doing Data Science: A Framework and Case Study. Harvard Data Science Review. 2(1). DOI=https://doi.org/10.1162/99608f92.2d83f7f5.

Cong, C., Isch, C., Tobin, E., Korkmaz, G., Calderón, J.B.S., Schroeder, A., and Kramer, B.L. (2020). "Open Source: The Future of Software Innovation." MethodSpace. SAGE Publishing. Available online at: https://researchmethodscommunity.sagepub.com/blog/open-source-the-future-of-software-innovation.

Robbins, C., Korkmaz, G., Calderon, J. B. S., Chen, D., Schroeder, A., Kelling, C., and Keller, S. (2019). The Scope and Impact of Open-Source Software as Intangible Capital: A Framework for Measurement with an Application Based on the Use of R Packages. In Big Data for 21st Century Economic Statistics. University of Chicago Press.

Pires, B., Crandell, I., Arnsbarger, M., Lancaster, V., Schroeder, A., Shipp, S., and Keller, S. (2018). Predicting postsecondary trajectories in Virginia high schools using publicly available data. Statistical Journal of the IAOS, (Preprint), 1-13.

Crandell, I., Schroeder, A., Higdon, D., & Irwin, M. D. (2018). Record Linkage Reconciliation of Arlington Department of Human Services Administrative Data Using Potts Models. International Journal of Population Data Science, 3(5).

Pires, B., Korkmaz, G., Ensor, K., Higdon, D., Keller, S., Lewis, B., Schroeder, A. (2018). Estimating individualized exposure impacts from ambient ozone levels: A synthetic information approach. Environmental Modelling & Software. Volume 103, May 2018, Pages 146–157.

Keller, S., Shipp, S., Korkmaz, G., Molfino, E., Goldstein, J., Lancaster, V., ... & Schroeder, A. (2018). Harnessing the power of data to support community-based research. *Wiley Interdisciplinary Reviews: Computational Statistics*, *10*(3), e1426. DOI=https://doi.org/10.1002/wics.1426.

Molfino E., Korkmaz, G., Keller, S., Schroeder, A., Shipp, S., Weinberg, D. (2017). Can Administrative Housing Data Replace Survey Data? Cityscape, 18(4).

Keller, S.A., Korkmaz, G., Orr, M., Schroeder, A., Shipp, S. (2017). The Evolution of Data Quality: Understanding the Transdisciplinary Origins of Data Quality Concepts and Approaches. Annual Review of Statistics and Its Application, 4(1).

Keller, S. A., Shipp, S., & Schroeder, A. (2016). Does Big Data Change the Privacy Landscape? A Review of the Issues. Annual Review of Statistics and Its Application, 3(1).

Pires, B., G. Korkmaz, K. Ensor et al. (2015). "Towards an in silico Experimental Platform for Air Quality: Houston, TX as a Case Study." Santa Fe. New Mexico. Computational Social Science Society of America Conference.

Schroeder, A.D. (2012). Pad and Chaff: Secure Approximate String Matching in Private Record Linkage. Proceedings of the 14th International Conference on Information Integration and Web-based Applications and Services (iiWAS '12). pp. 121-125. DOI=10.1145/2428736.2428757. ACM, New York, NY, USA.

Spears, John V., Bradburn, Isabel., Schroeder, Aaron D., Tester, Diana., Forry, Nicole. (2012). New Data on Child Care Subsidy Programs. Policy & Practice. August. American Public Health Association.

Stephanie Goodwin, Hosig K.W., Serrano E., Redican K., Schroeder A.D., You W., and Anderson E.S. (2011). Association between perceived university environment and physical activity in college students. 1-Nov. American Public Health Association 139th Annual Meeting and Exposition. Washington, DC.

Amanna, A. and Schroeder, A.D. (2004). Serial Wireless IP Networks for DOT Applications. Proceedings IEEE Conference on Intelligent Transportation Systems, pages 274-279. October. IEEE.

Amanna, A. and Schroeder, A.D. (2004). Serial Wireless LANs along DOT Right of Way. Proceedings ITS America. June.

Amanna, A. and Schroeder, A.D. (2004). IP Wireless Networks for Digital Video and Data along Highway Right of Way. Proceedings International Symposium on Advanced Radio Technologies, pages 21-29.

Ward, R., Wamsley, G.L., Schroeder, A.D., Robins, D.B. (2000). Network Organizational Development in the Public Sector. Journal of the American Society for Information Science. vol. 51, no. 11.

Wamsley, G.L. and Schroeder, A.D. (1996). Escalating in a Quagmire: The Changing Dynamics of the Emergency Management Policy Subsystem. Public Administration Review. May/June, pp. 235-244.

Wamsley, G.L., Schroeder, A.D. and Lane, L.M. (1996). To Politicize is Not to Control. The American Review of Public Administration. September, pp. 45-60.

**Book Chapters**

Schroeder, A.D., Wamsley, G.L., and Ward, R. (2000). The Evolution of Emergency Management in America: From a Painful Past to a Promising but Uncertain Future. Handbook of Emergency Management. Ed. Ali Farazmand. Marcel-Dekker: New York.

**Research/Technical Reports**

Shipp S, Goldstein J, Lancaster V, Linehan K, Schroeder A, Schroeder J, Thurston J. (2023) Annual Report: Leveraging Existing DoD (Department of Defense) Data Towards Optimized Individual and Team Performance in the Army (For Sponsor Only). 2023 May.

Lancaster V, Mortveit H, Schroeder A, Swarup S, Xie D, Keler S, Shipp S. (2023). Census Curated Data Enterprise Use Case Demonstration: Skilled Nursing Facilities. Proceedings of the Biocomplexity Institute, Technical Report. TR# 2023-53. University of Virginia; 2023 April. Available from: https://doi.org/10.18130/ce97-sp05.

Kattampallil T, Schroeder A, Goldstein J, Zhu Z. (2023). CoreLogic: Housing Data, Challenges and Applications to Program Evaluation. USDA ERS. 2023 May.

Goldstein, Joshua; Halder, Aritra; Schroeder, Aaron; Shipp, Stephanie; Kattampallil, Neil (2022). USDA ERS Broadband: Comparison of boundary analysis methods for spatial models. Economic Research Service, USDA. https://doi.org/10.18130/v3-xg5v-tz81.

Thurston J, Schroeder A, Linehan K, Iserman M. Social Impact Data Commons Technical Review (2022). Biocomplexity Institute, University of Virginia; 2022 August.

Halder A, Goldstein J, Shipp S, Schroeder A, Kattampallil N. (2021). USDA ERS Broadband: Comparison of boundary analysis methods for spatial models. 2021 March. DOI: 10.18130/v3-45d5-c130.

Goldstein J, Halder A, Pender J, Schroeder A, Mahoney-Nair D, Kattampallil N, Shipp S, Keller S. (2021). Evaluation of Broadband Subsidy Programs: Combining Spatial Regression Discontinuity Designs and Bayesian Wombling. 2021 Joint Statistical Meetings. 2021 August. https://biocomplexity.virginia.edu/evaluation-broadband-subsidy-programs-combining-spatial-regression-discontinuity-designs-and.

Goldstein J, Halder A, Charankevich H, Kattampallil N, Schroeder A, Pender J, Shipp S, Keller S. (2021). Measuring the Impact of the Broadband Initiatives Program on Property Values. The 68th North America Meetings of the Regional Science Association International. 2021 November; Denver, CO.

Patterson, David, Ken Steif, Niall Brennan, Andreas Haeberlen, Aaron Schroeder, and Adam Smith (2017). Towards State-of-the-Art IDS Technology and Data Security Solutions. Actionable Intelligence for Social Policy, University of Pennsylvania.

Schroeder A.D., Molfino, E. (2016). Virginia Department of Emergency Management's Changing Information Requirements and Recommendations. Virginia Department of Emergency Management. Richmond, VA.

Keller S., Shipp S., Orr M., Higdon D., Korkmaz G., Schroeder A.D., Molfino, E., Pires, B., Ziemer, K. and Weinberg D. (2016). Leveraging External Data Sources to Enhance Official Statistics and Products. U.S. Census Bureau. Arlington, VA.

Schroeder, D.D. & Molfino, E. (2016). Virginia Department of Emergency Management's Changing Information Requirements and Recommendations. Virginia Department of Emergency Management. Richmond, VA.

Schroeder, A.D. (2013). VT-VLDS Shaker Specifications. Virginia Information Technologies Agency. Richmond, VA.

Schroeder, A.D. (2013). VT-VLDS Identity Resolution and Query Execution Process Overview. Virginia Information Technologies Agency. Richmond, VA.

Schroeder, A.D. (2012). VT-VLDS Lexicon Specifications. Virginia Information Technologies Agency. Richmond, VA.

Schroeder, A.D. (2012). VT-VLDS Lexicon Metadata Tool Design. Virginia Information Technologies Agency. Richmond, VA.

Schroeder, A.D. (2012). VT-VLDS Data Adapter User Guide. Virginia Information Technologies Agency. Richmond, VA.

Schroeder, A.D. (2010). Multi-Agency Integration of Child-Relevant Data Sets in the Commonwealth of Virginia: Application of a Privacy Protecting Federated Model. Data Quality Campaign: Washington, DC.

Schroeder, A.D. & Bradburn, I. (2009). Local School Division Student Assessments at Kindergarten Enrollment and During Kindergarten: Current Practices Across Virginia. Project Child HANDS, VA.

Schroeder, A.D. & Bradburn, I. (2009). Virginia's Local Social Service Agencies: Child Care Quality, Improvement, Subsidy Data, and What Would be Most Useful in an Early Childhood Data System. Project Child HANDS, VA.

Schroeder, A.D. & Bradburn, I. (2009). Development of a Classification System for Quality Initiative (QI) Activities Reported by Local Social Service Agencies in Virginia. Project Child HANDS, VA.

Jarrott, S.E. and Schroeder, A.D. (2008). Saving Dollars While Making Sense: An Analysis Comparing Operational Costs of Intergenerational Shared Site Facilities. Generations United: Washington, DC.

Schroeder, A.D. (2006). 511 Virginia Email Alert System. USDOT Center for ITS Implementation Research. U.S. Department of Transportation. Washington, DC.

Schroeder, A.D. (2006). Wireless Testing Protocols. USDOT Center for ITS Implementation Research. U.S. Department of Transportation. Washington, DC.

Schroeder, A.D. (2006). Route 460 Wireless Network. USDOT Center for ITS Implementation Research. U.S. Department of Transportation. Washington, DC.

Schroeder, A.D. (2006). Regional pedestrian activity measurement. USDOT Center for ITS Implementation Research. U.S. Department of Transportation. Washington, DC.

Dingus, T.A. Allen, G.R. Stephen C. Brich, S.C. Neale, V.L. Schroeder, A.D. Blanco, M. Schnell, T. Gillespie, J.S. Schroeder, T.T. Simmons, C. and Hankey, J.M. (2005). Enhanced Night Visibility Series, Volume II: Overview of Phase I and Development of Phase II - Experimental Plan. Office of Safety Research and Development, Federal Highway Administration.

Amanna A, Schroeder AD. Serial wireless IP networks for DOT applications. Proceedings. The 7th International IEEE Conference on Intelligent Transportation Systems (IEEE Cat. . 2004:274–279.

Baker, S. Schroeder, A.D., Rakha, H. Hintz, R. (2003). I-81 ITS Program Evaluation Framework. Virginia Department of Transportation.

Bergoffen, G., Schroeder, A.D. and Swan, N. (2003). Evaluation of the Truck Fleet Support Program. Virginia Department of Transportation.

Schroeder, A.D. (2003). Travel Virginia. USDOT Center for ITS Implementation Research. U.S. Department of Transportation. Washington, DC.

Schroeder, A.D. Amanna, A. (2003). I-81 Video System Design and Implementation. USDOT Center for ITS Implementation Research. U.S. Department of Transportation. Washington, DC.

Schroeder, A.D. Laskowski, K. (2003). Transportation Data Clearinghouse. USDOT Center for ITS Implementation Research. U.S. Department of Transportation. Washington, DC.

Baker, S. and Schroeder, A.D. (2002). Case Study Evaluation of the Virginia Department of Transportation's I-81 ITS Program. Virginia Department of Transportation.

Schroeder, A.D. and Hales, R. (2002). Extension of "Travel Shenandoah" North to Harrisburg, Pennsylvania: Historical Development and Lessons Learned. I-95 Corridor Coalition. College Park, MD.

Schroeder, A.D. and Stebner, M. (2002). Bedford Ride Strategic Plan and Operations Guide. Strategic Plan. County of Bedford, VA.

Hintz, R. and Schroeder, A.D. (2001). TravelShenandoah.Com Market Definitions: A Plan to Increase Users. Virginia Department of Transportation.

Worrall, R.D. and Schroeder, A.D. (2000). Travel Virginia: A Statewide System of Public-Private Partnerships for ATIS Deployment. Virginia Department of Transportation.

Neale. V.L., Dingus, T.A., Schroeder, A.D. (1998). Advanced Traveler Information Systems and Commercial Vehicle Operations Components of the Intelligent Transportation Systems: Investigation of User Stereotype and Preferences. Federal Highway Administration Contract No. DTFH61-92-C-00102, Item No. 0021.

Neale, V. L., Dingus, T. A., Schroeder, A. D., Zellers, S., & Reinach, S. (1997). Development of Human Factors Guidelines for Advanced Traveler Information Systems and Commercial Vehicle Operations: Advanced Traveler Information System Feature Standardization. Washington, DC: Federal Highway Administration (FHWA-RD-96-149).

**Conference Presentations/Expert Forums/Webinars**

Schroeder AD. (2023). The Social Impact Data Commons: Regional Data-Driven Decision-Making. BigSurv23 Conference. Quito, Ecuador. October 27, 2023. https://aenu.ec/abstracts/#36.

Schroeder AD. (2023). Supporting Local Decision-Making through the Aggregation of ACS Demographic Estimates within Locally Relevant Geographies. ACS Data Users Conference. 2023 May; Washington, DC

Schroeder J, Montalvo C, Charankevich H, Linehan K, Iserman M, Lancaster V, Kattampallil N, Siwe L, Shipp S, Thurston J, Schroeder A. (2023) Virginia's New Rural Health Data Commons: Informing Health Policy through Featuring Health Related Metrics for Visualizing Health Services Access. International Conference on Health Policy Statistics. 2023 January; Scottsdale, AZ.

Thurston J, Keller S, Schroeder A, Shipp S. (2022) Best Practices in Coordinating Large-Scale Data Science Initiatives. Joint Statistical Meetings 2022; 2022 August; Washington, DC, United States. https://ww2.amstat.org/meetings/ism/2022/onlineprogram/AbstractDetails.cfm?abstractid=323426.

Schroeder J, Linehan K, Montalvo C, Charankevich H, Iserman M, Lancaster V, Kattampallil N, Siwe L, Shipp S, Thurston J, Schroeder A, Keller S. (2022) Building the Social Impact Data Commons Data Discovery and Acquisition Lessons Learned; Federal Committee on Statistical Methodology Research and Policy Conference. 2022 August; Washington, DC.

Schroeder A, Linehan K, Charankevich H, Iserman M, Kattampallil N, Lancaster V, Montalvo C, Oh E, Schroeder J, Siwe G, Shipp S, Thurston J, Keller S. (2022). Social Impact Data Commons: an innovative approach to inform equitable growth. APDU Data Symposium and CIC Symposium: Methods, Metrics and Measurement. 2022 May. virtual.

Schroeder, A.D. (2022) Presentation: “Data Re-Use in Action: Social Impact Data Commons” (2022), Mid-Atlantic Statistics Network (MASN).

Schroeder A.D. (2022). Data Science for the Public Good (DSPG) Young Scholars Program: Overview 2014-2021. Data Science Approaches to Health Disparities Research Symposium 2022. Biocomplexity Institute, UVA.

Schroeder A; Montalvo C. (2022) Virginia's New Rural Health Data Commons - Supporting the 2022-2026 Virginia Rural Health Plan with New Health-Related Datasets, Metrics, and Visualizations. National Association of County and City Health Officials. NACCHO 2022. 2022 July 17. https://doi.org/10.18130/5zdw-kh69.

Charankevich H; Iserman M; Lancaster V; Linehan K; Montalvo C; Siwe L; Schroeder J; Schroeder A.D. (2022). Example Metrics of The Social Impact Data Commons. Biocomplexity Institute Spring 2022 Research Symposium. UVA Biocomplexity Institute and Initiative.

Charankevich H, Iserman M, Lancaster V, Linehan K, Montalvo C, Siwe L, Schroeder J, Schroeder A. (2022) Building a Data Commons. Biocomplexity Institute Spring 2022 Research Symposium. 2022 April; Arlington, VA.

Thurston J; Ratcliff N; Halder A; Goldstein J; Oh, E; Schroeder J; Shipp S; Keller S. (2022) Challenges in conceptualizing and modeling performance in the U. S. Army. Military Operations Research Society (MORS) 90th Symposium.

Schroeder, A.D. (2021) Presentation: “Introduction of the 2022-2026 Virginia Rural Health Plan and Data Commons” (2021), 2021 Governor’s Summit on Rural Prosperity, Farmville, VA.

Pender J, Keller S, Goldstein J, Halder A, Mahoney-Nair D, Kattampallil N, Schroeder A, Shipp S. (2021) Measuring the Eligibility, Incidence, and Impact of Rural Utilities Service (RUS) Broadband Programs, USDA Rural Utilities Service, Service Seminar. 2021 May.

Goldstein J, Halder A, Pender J, Schroeder A, Mahoney-Nair D, Kattampallil N, Shipp S, Keller S. (2021) Evaluation of Broadband Subsidy Programs: Combining Spatial Regression Discontinuity Designs and Bayesian Wombling. 2021 Joint Statistical Meetings.

2021 August. https://biocomplexity.virginia.edu/evaluation-broadband-subsidy-programs-combining-spatial-regression-discontinuity-designs-and

Goldstein J, Halder A, Charankevich H, Kattampallil N, Schroeder A, Pender J, Shipp S, Keller S. (2021) Measuring the Impact of the Broadband Initiatives Program on Property Values. The 68th North America Meetings of the Regional Science Association International. 2021 November; Denver, CO.

Calderón, J.B.S., Kramer, B.L., Korkmaz, G., Robbins, C., Schroeder, A.D., and Keller, S. (2020). Measuring the Cost and Impact of Open-Source Software Innovation on GitHub. Federal Committee on Statistical Methodology (FCSM) Computational Statistics and the Production of Official Statistics (CSPOS) Webinar on Blended Data. Washington, DC, May 1.

Pender, J., Goldstein, J., Pristavec, T., Mahoney-Nair, D., Shipp, S., Kattampallil, N., Schroeder, A., Keller, S., & Keeler, Z. (2020). Impacts of the Broadband Initiatives Program on rural prosperity. Paper presented at the Agricultural and Applied Economics Association Community and Regional Economics Network annual meeting, online, August 18.

Pender J, Goldstein J, Pristavec T, Mahoney-Nair D, Shipp S, Kattampallil N, Schroeder A, Keller S. (2020). Impacts of Broadband Access and the Broadband Initiatives Program on Telework. 2020 November.

Schroeder, A.D. and Korkmaz, G. (2020) Presentation: “Building Science for the Public Good (DSPG)”. Implementation Working Group, Open Data Charter.

Shipp, S., Keller, S., Schroeder, A. (2020). Ethical Principles and Data Science – Repurposing Administrative and Opportunity Data, Federal Committee on Statistical Methodology, 21 September 2020, Virtual meeting.

Robbins C., Korkmaz G., Calderón B.S., Kramer B., Schroeder A.D. Presentation: “Measuring the Scope and Impact of Open-Source Software” (2019), Government Advancement of Statistical Programming (GASP) Workshop.

Calderón, J.B.S., Kateryna Savchyn, Victoria Halewicz, Jessica Keast, Schroeder, A.D., and Gizem Korkmaz. (2019). Economic and Social Impact of Arlington Restaurant Initiative. Data Science for the Public Good Program Symposium. Arlington, VA, August 9. Available online at: https://bit.ly/3bDVjWh.

Calderón, J.B.S., Cong, C., Isch, C., Tobin, E., Kramer, B.L., Schroeder, A.D., and Korkmaz, G. (2019). Measuring the Universe of Open-Source Software. Data Science for the Public Good Program Symposium. Arlington, VA, August 9. https://bit.ly/2y7ryyD.

Calderón, J.B.S., Kateryna Savchyn, Victoria Halewicz, Jessica Keast, Schroeder, A.D., and Gizem Korkmaz. (2019). Economic and Social Impact of Arlington Restaurant Initiative. Data Science for the Public Good Program Symposium. Arlington, VA, August 9. https://bit.ly/3bDVjWh.

Schroeder, A.D. (2019) Presentation: “How to ‘do’ Data Science for the Public Good” (2019), Keynote Speaker, Public Good Track, 2019 Midwest Big Data Summer School, Iowa State University, 05/23/2019.

Schroeder, A.D. (2019) Presentation: “Data Platforms & Processes for Policy Analysis” (2019). Data Science for the Public Good: Helping Communities Use Data to Make Better Decisions, Iowa State University, 03/26/2019.

Schroeder, A.D. (2019) Presentation: “Data Profiling, Cleaning, Linking & Exploration” (2019). Data Science for the Public Good: Community Learning Through Data Discovery, Iowa State University, 03/25/2019.

Schroeder, A.D. (2018) Presentation: “Multi-Family Address List Creation Using Open Data & Delivery-Point Validation” (2018). 2018 ADRF Network Research Conference Presentations. 10.

Schroeder, A.D. (2017). Innovation Expert Panelist, Actionable Intelligence for Social Policy panel on best practices in the IDS field related to governance, legal issues, technology and security, and data standards.

Keller, S., Schroeder, A.D. (2015). Data - The New Asset Class. April 6. HPC Day, Virginia Tech.

Schroeder, A.D. (2014). Building Data Sharing Infrastructures: Taking Context and Stakeholders Seriously. November 17. Global Forum on Urban and Regional Resilience (GFURR) Resilience Workshop, Virginia Tech.

Schroeder, A.D. (2013). Invited Panelist: 26th Annual Management Information Systems (MIS) Conference, The National Center for Education Statistics (NCES), U.S. Department of Education’s Institute of Education Sciences (IES).

Schroeder, A.D. (2013). Invited Panelist: 26th Annual Management Information Systems (MIS) Conference, The National Center for Education Statistics (NCES), U.S. Department of Education’s Institute of Education Sciences (IES).

Schroeder, A.D. (2011). Expert Webinar: US Department of Education Race-To-The-Top Early Learning Challenge Grant Program. August. "Invited expert for "Part Two: Data System Development - Talk Directly to the Experts" online seminar. Invited expert on government data systems integration to advise multiple state delegations on their efforts at drafting plans to build integrated early childhood systems as part of the US Department of Education Race-To-The-Top Early Learning Challenge Grant Program".

Schroeder, A.D. (2011). Expert Forum: BUILD Initiative. August. Invited by the Early Learning Challenge Collaborative to advise a select number of state delegations on their efforts at drafting plans to build integrated early childhood systems as part of the US Department of Education Race-To-The-Top Early Learning Challenge Grant Program. The Early Learning Challenge Collaborative (ELCC) is a partnership between the BUILD Initiative and the First Five Years Fund supported by private foundation dollars and was established to support states as they plan, apply for, and implement the Early Learning Challenge.

Schroeder, A.D. (2011). Invited Panelist: 2011 ACF (Administration for Children and Families) Early Childhood State Advisory Council Grantees Meeting. Arlington, VA. 28-Apr-11. "Invited panelist and presenter for panel ""Developing Unified Early Childhood Data Systems""".

Schroeder, A.D. (2011). Expert Webinar: Early Learning Challenge Collaborative. August. Invited expert on government data systems integration to advise multiple state delegations on their efforts at drafting plans to build integrated early childhood systems as part of the US Department of Education Race-To-The-Top Early Learning Challenge Grant Program.

Schroeder, A.D. (2010). Presentation: National Institute of Statistical Sciences/Education Statistics Services Institute Working Group on Research Use of State Longitudinal Data Systems. February 16-17.

Schroeder, A.D. (2010). Presentation: Virginia Governor's Early Childhood Advisory Council (ECAC). December. Invited to present to the Virginia Governor's Early Childhood Advisory Council (ECAC) on the status of and approach being employed in Project Child HANDS. The ECAC is chaired by the Secretary of Education, co-chaired by the President of the Virginia Early Childhood Foundation, and is comprised of the Secretary of Commerce, the Secretary of Health and Human Services, the Secretary of Finance, the Governor's Director of Policy, and many other high-ranking state officials.

Schroeder, A.D. (2010). Workshop: National Institute of Statistical Sciences (NISS) , the National Center for Education Statistics (NCES), and the Institute of Education Sciences (IES). February 16-17. Invited to present on methods of public-sector data integration and issues created by federal and state privacy laws to a workshop on Research Use of State Longitudinal Data Systems sponsored by the National Institute of Statistical Sciences (NISS) , the National Center for Education Statistics (NCES), and the Institute of Education Sciences (IES).

Schroeder, A.D. (2010). Multi-Agency Integration of Child Relevant Data Sets in the Commonwealth of Virginia: Application of a Privacy Protecting Federated Model. February 16-17. National Institute of Statistical Sciences/Education Statistics Services Institute Working Group on.

Schroeder, A.D., & Bradburn, I. (2010). Presentation: 2010 USHHS Child Care Policy Research Consortium (CCPRC). November. Presented for the Child Care Data Collaboration, Integration and Linkages session of the 2010 USHHS Child Care Policy Research Consortium (CCPRC).

Schroeder, A.D. and Bradburn, I. (2009). Presentation: Child Care Policy Research Consortium Annual Meeting (CCPRC 2009). Oct 28-30.

Schroeder, A.D. and Bradburn, I (2009). Building Child Care Data Capacity for the Commonwealth of Virginia: Initial Phase of Project Child HANDS. Oct 28-30. Child Care Policy Research Consortium Annual Meeting (CCPRC 2009).

Schroeder, A.D. (2003). Presentation: Rural Advanced Traveler Information Systems Conference, Tampa Bay, FL.

Schroeder, A.D. (2003). Workshop: Intelligent Transportation Systems of Virginia Annual Conference.

Schroeder, A.D. (2000). Presentation: Technology in Public Administration Conference, University of LaVerne, California.

Tennert, J. R., & Schroeder, A. D. (1999). Stakeholder Analysis. 60th Annual Meeting of the American Society for Public Administration, Orlando, FL.

Schroeder, A.D., Evans, K.E., and Wamsley, G.L. (1997). Learning to Live with Chaos: A Case for the Dissipative Structure Metaphor in Policy Subsystem Analysis. Conference Proceedings, Intergovernmental Analysis Conference, Copenhagen, Denmark.

Evans, K., Schroeder, A.D. & Wamsley, G.L. (1994). Policy Subsystems and the New Physics: Policy Development and Implementation at the Edge of Chaos. Network Analysis and Innovations in Public Programs Conference, University of Wisconsin - Madison.

**Data & Software**

Schroeder A.D.; Schroeder J; Iserman M; Linehan K. (2022). Social Data Commons: Master Metadata. UVA Dataverse. University of Virginia.

Schroeder, A. D. (2022). Social Impact Data Commons Website. Social Impact Data Commons - National Capital Region. https://uva-bi-sdad.github.io/capital_region.

Schroeder, A. D. (2022). VDH Data Commons Website. Virginia Department of Health Data Commons. https://uva-bi-sdad.github.io/vdh_rural_health_site.

Schroeder, A.D. (1999). Travel Information Data Clearinghouse and Management System. Copyright: Virginia Polytechnic Institute and State University.

Schroeder, A.D. and Daily, B. (1999). Web-Based Dynamic Ride Request, Assignment, and Tracking System. Copyright: Virginia Polytechnic Institute and State University.

**Editorials**

Schroeder, A.D. (1995). The Political Roots of Hating Government. Roanoke Times and World News, April 30.

## HONORS, AWARDS, RECOGNITION

**COVITS 2013 Winner, Cross-Boundary Collaboration on IT Initiatives**

(2013) Announced as the winner in the category of Cross-Boundary Collaboration on IT Initiatives, along with agency partners from the Virginia Department of Transportation, the Virginia State Council of Higher Education, and the Virginia Employment Commission, in the Governor's Technology Awards for the multi-agency data integration project, the Virginia Longitudinal Data System (VLDS). The Technology Awards are presented in conjunction with Government Technology's annual Commonwealth of Virginia's Innovative Technology Symposium (COVITS 2012). The VLDS provides qualified researchers, agencies, and policymakers with the ability to formulate and submit cross-agency requests for de-identified data sets.

**COVITS 2012 Finalist**

(2012) Announced as a Finalist, along with agency partners from the Virginia Department of Transportation, the Virginia State Council of Higher Education, and the Virginia Employment Commission, in the Governor's Technology Awards for the multi-agency data integration project, the Virginia Longitudinal Data System (VLDS). The Technology Awards are presented in conjunction with Government Technology's annual Commonwealth of Virginia's Innovative Technology Symposium (COVITS 2012). The VLDS provides qualified researchers, agencies, and policymakers with the ability to formulate and submit cross-agency requests for de-identified data sets.

**Virginia Early Childhood Advisory Council**

(2010) Invited to present to the Virginia Governor's Early Childhood Advisory Council (ECAC) on the status of and approach being employed in Project Child HANDS. The ECAC is chaired by the Secretary of Education, co-chaired by the President of the Virginia Early Childhood Foundation, and is comprised of the Secretary of Commerce, the Secretary of Health and Human Services, the Secretary of Finance, the Governor's Director of Policy, and many other high-ranking state officials.

**National Institute of Statistical Sciences Workshop**

(2009) Invited to present on methods of public-sector data integration and issues created by federal and state privacy laws to a workshop on Research Use of State Longitudinal Data Systems sponsored by the National Institute of Statistical Sciences (NISS), the National Center for Education Statistics (NCES), and the Institute of Education Sciences (IES).

**National Press Club**

(2008) Invited to present the findings from a recent study analyzing the relative costs associated with intergeneration day care facilities vs. traditional operations.

**Intelligent Transportation Systems Conference**

(2003) Invited speaker to the Florida Department of Transportation Intelligent Transportation Systems Conference. Lectured on potential benefits of an 802.11 wireless communications backbone to operate the nation's freeway assets

**Technology and Public Administration Conference**
(2000) Invited by University of LaVerne to lead two-day workshop on the concepts of stakeholder analysis and management, public-private partnerships, and political-economic analysis for the purpose of Information Technology development and implementation in the public sector.

**Virginia Transportation Conference**
(1999 & 2000) Invited to speak on topics of public-private partnerships and information technology deployment in rural areas.

**Advanced Traveler Information Systems**
(2000) Invited speaker on Advanced Traveler Information Systems in Rural Areas, sponsored by the Intelligent Transportation Society of Virginia.

**Association of State Governments**
(1999) Nominated by the Association of State Governments for Award in Innovation in State Government for the design, development and deployment of Travel Shenandoah, a public-private partnership for Advanced Traveler Information Systems in Virginia's Shenandoah Valley.

**Member, Congressional Commission**
(1999) Appointed as a Member, Congressional Commission on I-81 Truck Safety.

**Eno Transportation Fellow**
(1997) Eno Transportation Fellow and graduate of Eno Transportation Foundation Leadership Development Program.

**Guest Editor**
(1997) Invited Guest Editor, Administration & Society.

## COMPUTER APPLICATIONS & PROGRAMMING SKILLS

### *Languages*

C#, R, Python, Bash, ASP.NET, Java, JavaEE, SQL, Cold Fusion, JavaScript, Visual Basic, XHTML/CSS

### *Applications*

SAS, SPSS, SAS-JMP, Visual Studio, Net Beans, RStudio, Docker, ACCESS, EXCEL, SQL Server, Oracle, PostgreSQL, Atlas GIS, PostGIS, Photoshop, Premiere, Director, and many more...

## PROFESSIONAL SOCIETY MEMBERSHIPS

**Association for Computing Machinery**
**Phi Kappa Phi National Honor Society**
**Pi Alpha Alpha National Public Administration Honor Society**
**American Society for Public Administration**
**Intelligent Transportation Society of America**
**Intelligent Transportation Society of Virginia**

## COMMUNITY SERVICE

**Proposal Reviewer for the Methodology, Measurement, and Statistics (MMS) Program**
U.S. National Science Foundation (NSF), 2022.
**President, Board Member, House Commissioner, Director of Business Operations, and Coach**
New River United Soccer Association, 2004-2015
**Head Coach and Assistant Coach**
Blacksburg AAU Basketball, 2006-2015
**Head Coach and Assistant Coach**
Blacksburg Baseball Association, 2005-2007
**Vice President and Photographer**
Village at Tom's Creek Homeowners Association, 2000-2015