

## ADAM BICKFORD

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I am an experienced data analyst and website designer. I am currently a demographer and web developer but have completed projects as a policy analyst in the K-12 Education and Energy Efficiency fields. Throughout my career I have designed and implemented a variety ETL systems. I am looking for an opportunity to use my analytic and data processing skills to support strategic decision making.

### Key Qualifications

#### Extensive experience

- Design of Colorado State Demography Website
- Website design (HTML, CSS, JavaScript, Shiny, Dash Plotly).
- 15 years' experience with R tools including Tidyverse, Shiny and R Markdown
- Producing standardized data reports using R, R Markdown, PostgreSQL, MS Access, Excel and Word.
- Developing data dashboards and visualization tools.
- Design and management of Postgres and MS Access databases.
- Managing institutional research projects for school districts, states, and the federal government.
- Planning and executing complex sample surveys (stratified designs, cluster designs, replicate designs, etc.).
- Designing evaluations using random control trials and quasi-experimental designs.
- Writing technical reports for policymakers, the public, and academic and trade journals.
- Reviewing electric utility demand-side potential studies, demand side management cost effectiveness studies, rate design proposals.
- Submitting expert testimony before multiple state utility commissions on utility integrated resource planning and electric demand side management programs.

### Education and Training

Ph.D., Sociology, University of Chicago, Chicago, 1995

M.A., Sociology, University of Chicago, Chicago, 1986

B.A., Sociology, University of California, Berkeley, 1983

Python for Data Science, AI, and Development, IBM, Coursera, January 2024

Getting Started with Python, University of Michigan, Coursera, February 2024

Data Visualization with Python, Duke University, Coursera, February 2024

Python Data Structures, University of Michigan, Coursera, March 2024

NARUC Utility Rate School, October 2012

Latent Trajectory Growth Curve Analysis, *Inter-university Consortium for Political and Social Research*, June 2005

Introduction to Multilevel Models using SAS, *Inter-university Consortium for Political and Social Research*, May 2003

## Computer Experience

SQL, R, Shiny, Tidyverse, SAS, SPSS, D3, JavaScript, PostgreSQL MS Office Suite (Access, Excel, Word, VBA, VB.NET, Microsoft Office interoperability tools), and Python

## Certifications:

- SAS base programmer for SAS 9 (June 2008)
- Python for Data Science, AI, and Development (January 2024)
- Getting Started with Python (February 2024)
- Data Visualization with Python (February 2024)
- Python Data Structures (March 2024)

## Work Experience

### September 2017 to Present      Colorado State Demography Office

Data Analyst and Outreach Coordinator, Statistical Analyst II

Provided analytic services for the Colorado State Demography Office (SDO). Designed current [SDO Website](#). Developed a suite of 32 data lookup applications that disseminate SDO estimate and forecast data. Designed and implemented the [Colorado Community Profiles Dashboard](#), the [County Single Year of Age by Race Visualization](#), and the [Colorado Jobs by Sector Application](#). These applications use a variety of web-based scripting languages, including R, Tidyverse, Plotly, dash, Python and JavaScript.

### June 2014 to June 2017      Southwest Energy Efficiency Project

Senior Associate, Utility Program

Conducted analysis of energy efficiency programs in the Southwest states. Submitted expert testimony before state utility commissions in Colorado, Nevada and New Mexico. Updated annual State Energy Fact Sheets documenting energy use and energy efficiency program performance in the Southwest states.

### June 2013 to June 2014      Navigant Consulting

Managing Consultant, Energy Efficiency/DSM

Provided analytic support for a variety of EE/DSM evaluation projects.

### August 2009 to June 2013      Missouri Department of Natural Resources, Division of Energy

2011 to 2013 Energy Planner III

2009 to 2011 Research Analyst III

Conducted analysis of energy efficiency and demand-side energy resources in Missouri. Represented the Missouri Department of Natural Resources on utility DSM collaborative and advisory groups. Authored position papers establishing policy for demand side program incentive measures, rate design and ratemaking. Conducted technical review of electric utility Integrated Resource Plans (IRP). Commented on methodology, sampling and findings of electric utility demand side management potential studies, cost-effectiveness studies and Technical Resource Manual filings. Managed external contract for utility analysis services. Provided program data analysis for Missouri Weatherization program. Designed data tracking database for *Energize Missouri* Appliance Rebate Program. Automated production of the *Missouri Energy Bulletin*, using the MS Office Suite.

**August 2008 to December 2009**  
**Research, Inc.**

**What Works Clearing House, Mathematica Policy**

Certified Reviewer, Adolescent Literacy

Conducted study reviews of programs targeting reading achievement in grades 4 through 12. Completed reviews and participated in study reconciliation process. Main author of *Reciprocal Teaching* intervention report.

**June 2005 to April 2009**

**Optimal Solutions Group**

Senior Scientist in Education Research Center

**Study of Teacher Preparation in Early Reading Instruction**

Developed the on-line survey administration database using VB.NET and ASP.NET, managed the survey production process, wrote SAS programs to clean data and to produce standard institution-level reports for participating colleges and universities. This project is a study of teacher knowledge of effective reading techniques. The study was sponsored by the Institute of Education Sciences, U.S. Department of Education.

**June 1997 to June 2005**  
**Missouri**

**Office of Social and Economic Data Analysis, University of**

1999 - 2005      Project Coordinator, eMINTS Evaluation Project

Managed analysis of learning outcomes in classrooms with eMINTS provided internet connectivity.

1997 – 1999      Research Associate

Conducted analysis in multiple areas of K-12 education. Analyzed student information system data maintained by the Columbia, Missouri school district to understand patterns of student dropout. Designed and analyzed the *Missouri Department of Elementary and Secondary Education Instructional Technology Survey*, documenting the distribution of Internet-connected computers in a representative sample of Missouri schools.

**May 1996 to December 1996**      **Minnesota Historical Society**

Consultant

Designed and implemented the Minnesota Historical Society Conceptual Planning Study, a mixed-method analysis of museum visitation, visitor topic interest and visitor preferences.

**June 1992 to June 1997**

**Smithsonian Institution, Institutional Studies Office**

Social Science Analyst

Designed and implemented sample surveys of Smithsonian Institution museum visitors and employees. Developed programs and procedures to standardize the production of semi-annual Equal Employment Opportunity reports using SAS and MS Excel.

**April 1990 to June 1992**

**Philadelphia Geriatric Center**

Database Analyst

Maintained databases for Philadelphia Geriatric Center Resident Clinical (PGC) database. Designed a data entry program in FoxPro to facilitate collection of PGC Resident data. Assisted principal researchers in estimating clinical outcomes.

## Papers and Publications

Papers published on the State Demography Office Website

<https://demography.dola.colorado.gov/crosstabs/>

- *Colorado Results from the American Community Survey (2023)*
- *Persons with Disabilities in Colorado in the 2017-2021 ACS (2023)*
- *Changes in Colorado's Educational Attainment 2010 to 2019 (2021)*
- *Characteristics of Colorado Migrants (2018)*

Bickford, A. and Pletcher, S., 2016. *Utility Streetlighting Retrofits: Getting to "yes" with cities and neighborhoods.* *Public Utilities Fortnightly*. March, 2016.

Bickford, A. and Geller, H., 2016. *Review of Leading Rural Electric Cooperatives Energy Efficiency Programs.* Southwest Energy Efficiency Project.

Salinger, T., Mueller, L., Song, M., Jin, Y., Zmach, C., Toplitz, M., Partridge, M., & Bickford, A., 2010. *Study of Teacher Preparation in Early Reading Instruction* (NCEE 2010-4036). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Bickford, A., 2010. "Identity and the Museum Visitor Experience" *Curator: The Museum Journal* 53: 247–255.

Tharp, S., Bickford, A. and Hager, D. 2005. *The Effects of eMINTS Enrollment on Title I Students.* Columbia, Missouri: Office of Social and Economic Data Analysis, University of Missouri, 2005.

Bickford, A. 2004a. *Analysis of 2003 MAP Results for eMINTS Students.* Columbia, Missouri: Office of Social and Economic Data Analysis, University of Missouri, 2004.

Bickford, A. 2004b. *An Investigation into Selection Bias in FY02 eMINTS Schools.* Columbia, Missouri: Office of Social and Economic Data Analysis, University of Missouri, 2004.

Bickford, A. 2001. "Museum Visits, Education and Topic Interest." *Curator: The Museum Journal* 44/3: 274-295.

Jamtgaard, K. and Bickford, A. 2000. *Missouri Education in the 1990s: Student Achievement, Population Change and School Finance.* Kansas City: Ewing Marion Kauffman Foundation, 2000.

Doering, Z. D., Bickford, A., D.A. Karns and A. E Kindlon. 1999. Communication and Persuasion in a Didactic Exhibition: The Power of Maps Study. *Curator: The Museum Journal*. 42: 88-107.

Bickford, A. 1996. *This Isn't History, This Is My Life: The Minnesota Historical Society Focus Groups.* Volume 2 of the Minnesota Historical Society Conceptual Planning Study. Saint Paul, Minnesota: Minnesota Historical Society.

Bickford, A. 1997. *Topic Interest, Activity, and Patterns of History Museum Visitation:* Volume 1 of the Minnesota Historical Society Conceptual Planning Study. Saint Paul, Minnesota: Minnesota Historical Society.

Bickford, A. and Massey, D.S. 1991. Segregation in the Second Ghetto: Racial and Ethnic Segregation in American Public Housing, 1977. *Social Forces*, 69: 1011-1036.

## **Presentations**

### *State Demography Office Spring 2024 Webinar Series*

Introduction to SDO Data Tools (March 2024)

Using Census Data and the American Community Survey (May, 2024)

SDO Population Estimates and Forecasts (June, 2024)

*SDO Data Primer* Presentation Series for DOLA, January 2023.

*Libraries and Census 2020: A Complete Count for Colorado.* Presented to the Colorado Association of Libraries, Longmont, Colorado. August 2019.

*Update on Utility Energy Efficiency Policies and Programs in the Southwest.* Presented to the American Council for an Energy Efficient Economy Market Transformation Symposium. Baltimore, Maryland. March 2016.

*Evaluation Results from the eMINTS Project.* Paper presented to the Missouri Department of Elementary and Secondary Education Fall Technology Conference. Osage Beach, Missouri. October 2002. (with M. Beglau, P. McFarling and S. Tharp).

*Using Administrative Data in the eMINTS Evaluation.* Paper presented to the National Center for Educational Statistics Summer Data Conference. Washington D.C. August 2002.

*Missouri Department of Elementary and Secondary Education Instructional Technology Survey.* Paper presented to the Missouri Department of Elementary and Secondary Education Fall Technology Conference. Osage Beach, Missouri. September 1999.

*Beyond Education: Topic Interest and Museum Visitation.* Paper presented to the Visitor Studies Association Annual Conference. Birmingham, Alabama. April 1997.

## **References Available on Request**