

# Accessing, Analyzing, and Visualizing IPUMS Data

## OVERVIEW

Learn to harness the power of Integrated Public Use Microdata Series (IPUMS) data for social science and demographic research and bring your analyses to life through visualization in this one-day workshop. Brought to you by leading experts in data science and visualization, this workshop will teach you to extract, analyze, and visualize your data.

A data revolution is transforming social policy research. We are awash in large data measuring all parts of our lives and society. Researchers and analysts are increasingly tasked with acquiring, analyzing, and effectively communicating results distilled from these massive data sources. In this full-day workshop, you will learn how to acquire and analyze data from IPUMS, one of the largest population databases in the world, and effectively communicate your results through data visualization.

Taught by experts in the demographic data and visualization fields—José Pacas, Dave Van Riper, and Jonathan Schwabish—this workshop will provide you with the insights required to unlock your use of IPUMS products and the skills needed to plan and develop IPUMS data visualization. Through lectures and hands-on exercises, instructors will guide you through key aspects of acquiring, preparing, and analyzing IPUMS data; introduce you to data visualization best practices and strategies; and help you create your own IPUMS data visualizations.

Dr. Pacas and Mr. Van Riper will introduce you to the IPUMS data collection, help you identify the best product for your needs, and get you started analyzing the data. You will learn how censuses and surveys change over time and how IPUMS handles those changes. Dr. Schwabish will introduce you to data visualization principles and best practices and teach you to create your own IPUMS data visualization. The workshop will conclude with small-group or one-on-one consultation with the instructors.

## WHO THIS COURSE IS FOR

This workshop is for anyone involved in data analysis who wants to learn about the resources available at [IPUMS](#) and how to prepare, analyze, *and* visualize IPUMS data, including

- people working with and analyzing data, including government analysts, scholars, and researchers who want to learn about IPUMS data resources, and
- researchers and analysts interested in improving how they communicate their work.

Attendees should have basic experience with statistical software (e.g., Stata, SAS, or R) and should bring a laptop loaded with one of those statistical packages and Microsoft Excel.

## CONTENT

- How to identify the best IPUMS data for your research question
- How to approach preparing IPUMS individual-level data for analysis and visualization
- How censuses or surveys change over time and their strategies for handling those changes
- Defining data visualization, as well as its importance and function
- Data visualization best practices and strategies

## AGENDA

9:00a - 9:30a	Workshop introduction
9:30a - 10:00a	Choose Your Own Adventure: Which IPUMS Product Is Right for Your Research?
10:00a - 10:30a	How to Prepare IPUMS USA Data for Analysis
10:30a - 11:00a	<i>Exercise: Preparing IPUMS USA Data for Analysis and Visualization</i>
<b>11:00a - 11:15a</b>	<b>Break</b>
11:15a - 11:45a	Data Visualization Principles
11:45a - 12:00p	<i>Exercise: Identify Visualization Types</i>
12:00p - 12:30p	Introduction to Data Visualization Best Practices
<b>12:30p - 1:30p</b>	<b>Lunch on your own</b>
1:30p - 2:00p	Reconciling Changes in Geographic Boundaries
2:00p - 2:30p	<i>Exercise: Preparing IPUMS NHGIS Data for Analysis and Visualization</i>
<b>2:30p - 2:45p</b>	<b>Break</b>
2:45p - 3:00p	<i>Exercise: Creating a State Tile Grid Map</i>
3:00p - 3:45p	One-on-One or Small-Group Consultation
3:45p - 4:00p	Wrap-up and Q&A

## BY THE END OF THE WORKSHOP, ATTENDEES WILL

- have a roadmap for identifying the most appropriate IPUMS data for particular research areas,
- have learned how to prepare IPUMS data for analysis and visualization,
- understand how censuses and surveys change and how IPUMS handles those changes,
- be familiar with different kinds of data visualization,
- have learned and exchanged ideas about visualization best practices,
- have a starting point for applying data visualization in their own work, and
- have consulted with IPUMS and/or Urban Institute staff about their specific data or visualization needs.

## WHAT YOU WILL GET

All attendees will receive copies of Dr. Schwabish's book, [Better Presentations: A Guide for Scholars, Researchers, and Wonks](#). Attendees will also receive copies of the [Desktop Graphic Continuum](#) data visualization library, as well as assorted handouts and reference materials.

## LOCATION

This workshop will be held at the [Urban Institute at 500 L'Enfant Plaza SW, Washington, DC 20024](#). Urban is connected to the L'Enfant Plaza Metro station and food court.

## ABOUT THE INSTRUCTORS



Jonathan Schwabish is a PhD economist who is passionate about helping people working with data improve the way they communicate their work to a wider audience. Founder of the data visualization and presentation skills firm PolicyViz and a senior fellow at the Urban Institute, a nonprofit research institution in Washington, DC, Schwabish helps nonprofits, research institutions, and governments at all levels improve how they communicate their work and findings to their partners, constituents, and citizens.

Dr. Schwabish is considered a leader in the data visualization field and is a leading voice for clarity and accessibility in research. He has written on various aspects of how to best visualize data including technical aspects of creation, design best practices, and how to communicate data analysis and research more accessibly.

[@jschwabish](#)

[policyviz.com](#)

[www.urban.org/author/jonathan-schwabish](#)



Dave Van Riper is a geographer with a deep interest in facilitating access to large volumes of data published by statistical agencies in the United States and throughout the world. As co-principal investigator of IPUMS National Historic Geographic Information System (NHGIS) and director of spatial analysis at IPUMS, the preeminent source of harmonized census and survey data, Van Riper designs data access systems that help students, researchers, and policy analysts easily obtain data they need.

[@dcvanriper](#)

[nhgis.org](http://nhgis.org)

<https://www.pop.umn.edu/staff/dave-van-riper>



José Pacas is a PhD applied economist committed to making census microdata easily accessible and well understood. As a research scientist for IPUMS USA, Pacas dedicates his efforts to making US Census data available from 1790 through the modern American Community Surveys. Pacas also works on IPUMS Current Population Survey, helping make the longitudinal component of the Current Population Survey easily available to researchers. Before joining IPUMS, Pacas worked as an economist for the Poverty Statistics Branch at the US Census Bureau. His academic research has generally focused on using census

data to study labor markets, poverty, immigration, and racial/ethnic disparities.

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