

Helping Families, Business, and Communities Respond to COVID-19

Introduction

In the midst of the COVID-19 pandemic, this problem statement was written as part of [The American Statistical Association \(ASA\) Annual Data Challenge Expo](#). Through the challenge, contestants are challenged to analyze the U.S. Census Bureau 2019 American Community Survey (ACS) 1-year Estimates using statistical and visualization tools and methods and present their findings at the Joint Statistical Meeting (JSM). Contestants are also encouraged to develop digital products as part of their participation in the challenge. For a guidebook to transforming federal open data into digital tools for the American people, visit [The Opportunity Project Product Development Toolkit](#).

Challenge

Help individuals, businesses, communities, or governments respond to the COVID-19 pandemic

Background

The COVID-19 global pandemic is a health emergency that has had unprecedented effects, impacting nearly every facet of our lives. Some of the challenges include:

- **Physical Health** - Communities seek to provide quality care, but health and social inequities result in increased risk of infection, severity of illness, and death from COVID-19 among communities of color.
- **Education** - School districts seek to fairly and equitably implement virtual learning, despite significant disparities in access to technology and connectivity. In the fall, schools make decisions around schools reopening.
- **Access to Broadband** - Particularly in rural areas, many do not have home broadband service, limiting access to academic, medical, communication, and other services
- **Financial Insecurity** - Many families are hurt economically by job loss, causing housing and food insecurity.
- **Education and Employment Choices** - Employees see increasingly apparent disparities in job characteristics, as evidenced by those without remote work experiencing more financial strain and health distress. Job seekers look to differentiate the quality of employment opportunities based on salary, benefits, flexibility, commuting costs, etc., while students evaluate the costs and benefits of seeking higher education as it relates to future job prospects.

- **Employer Planning and Decision Making** - Employers adjust their hiring practices, seeking to understand how the availability and frequency of teleworking affect productivity, earnings, and work-related migration. Local communities plan for the future as localities experience a boom or a decline due to remote work.
- **Business** - Many businesses, particularly those of smaller size, see job loss and revenues decline.
- **Information Dissemination** - Governments, news outlets, public health professionals, and others work to communicate public health messages clearly and effectively.
- **Local Government Financial Decision-Making** - State and local leaders respond to the health crisis in a time of financial uncertainty. They need to understand their financial health as they make employment decisions and changes in revenue collection and expenditure.

Why this problem is important

As evident through the above examples, communities are facing enormous challenges as a result of the COVID-19 pandemic, which has affected each individual, family, business, and community differently. In light of these challenges now is the time to harness the power of data and technology to provide efficient solutions for communities nationwide.

Target audience

Students, families, employees, employers, school districts, health organizations, state and local governments.

Data

Core Dataset (required for use in the ASA Data Challenge Expo): 2019 American Community Survey 1-Year Estimates, Census Bureau

Supplemental Suggested Datasets:

1. 2018 American Community Survey 1-Year Estimates, Census Bureau
2. 2017 American Community Survey 1-Year Estimates, Census Bureau
3. COVID-19 Demographic and Economic Resources, Census Bureau
4. 2014-2018 American Community Survey 5-Year Estimates, Census Bureau
5. COVID-19 Demographic and Economic Resources
6. Measuring Household Experiences During the Coronavirus Pandemic, Census Bureau
7. Small Business Pulse Survey: Tracking Changes During The Coronavirus Pandemic, Census Bureau

8. Survey of Income and Program Participation (SIPP), Census Bureau
9. 2017 State & Local Government Finance Historical Datasets and Tables, Census Bureau
10. 2017 State Government Tax Dataset, Census Bureau
11. Annual Survey of Manufactures (ASM), Census Bureau
12. COVID-19 Data, Centers for Disease Control and Prevention
13. College Affordability and Transparency Center, Department of Education
14. Current Population Survey (CPS), Bureau of Labor Statistics

Note: The above datasets are listed on [The Opportunity Project Data Curation Hub](#), along with descriptions, as well as names and contact information of the data experts for each dataset.