

# Agility in Action: Research to Enhance the American Community Survey

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U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
[census.gov](https://www.census.gov)

# ACS Program Priorities



# Overview

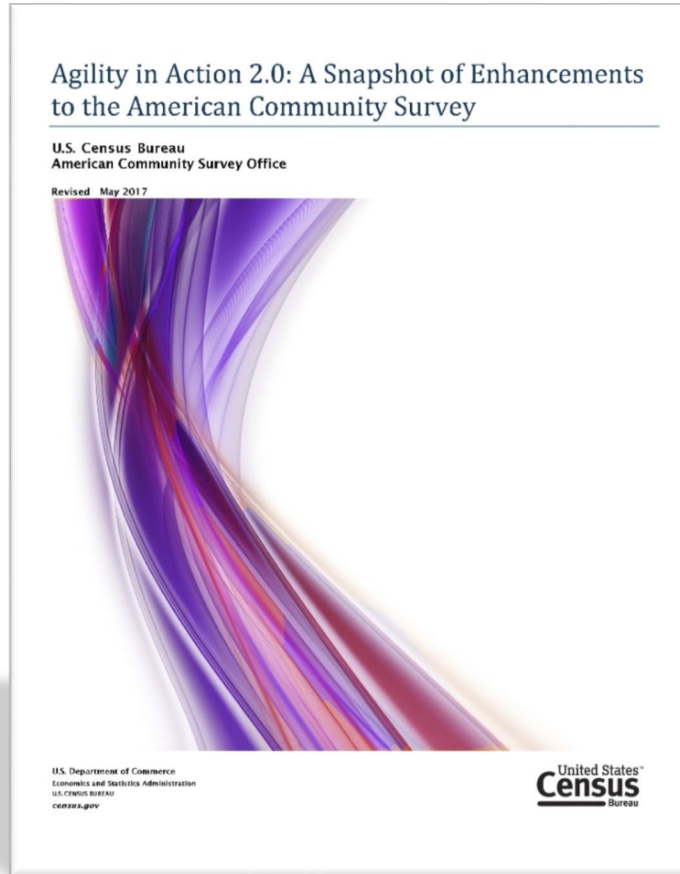
- Agility in Action Research Program
  - 1.0 (2015-2016)
  - 2.0 (2017-2018)
  - 3.0 (2019-2020)
- 2019 and 2020 Content Changes
- 2020 ACS Respondent Materials
- Using Administrative Data in the American Community Survey
- Upcoming Opportunities for Stakeholder Engagement

# Agility in Action 1.0 (2015-2016)



- Research agenda based on 2014 ACS Content Review:
  - Reduced follow-up contacts
  - Improved survey materials and the way we ask questions
  - Began evaluating data from other sources
  - Removed questions

# Agility in Action 2.0 (2017-2018)



- Key Action Areas:
  - Enhancing respondent mail materials
  - Deepening our exploration of alternative data sources
  - Modifying the modes and design of the ACS
  - Ensuring agile design
  - Understanding the survey experience from the perspective of our respondents

# Agility in Action 2.0 (2017-2018)

## *Enhancing Respondent Mail Materials*

- Objective: Improve ACS mail materials to increase understanding, reduce concerns about mandatory participation, and increase self-response
- Accomplishments:
  - Utilized an interdisciplinary approach to identify best practices for mail message sequencing
  - Validated efficacy of mandatory messaging
  - Optimized content and identified cost savings via use of pressure-seal envelopes

# Agility in Action 2.0 (2017-2018)

## *Deepening Our Exploration of Alternative Data Sources*

- Objective: Test the feasibility of using administrative records to provide data on housing
- Accomplishments:
  - Defined guiding principles and ground rules for the use of administrative records in the ACS
  - Determined the eventual viability of using administrative records for housing questions

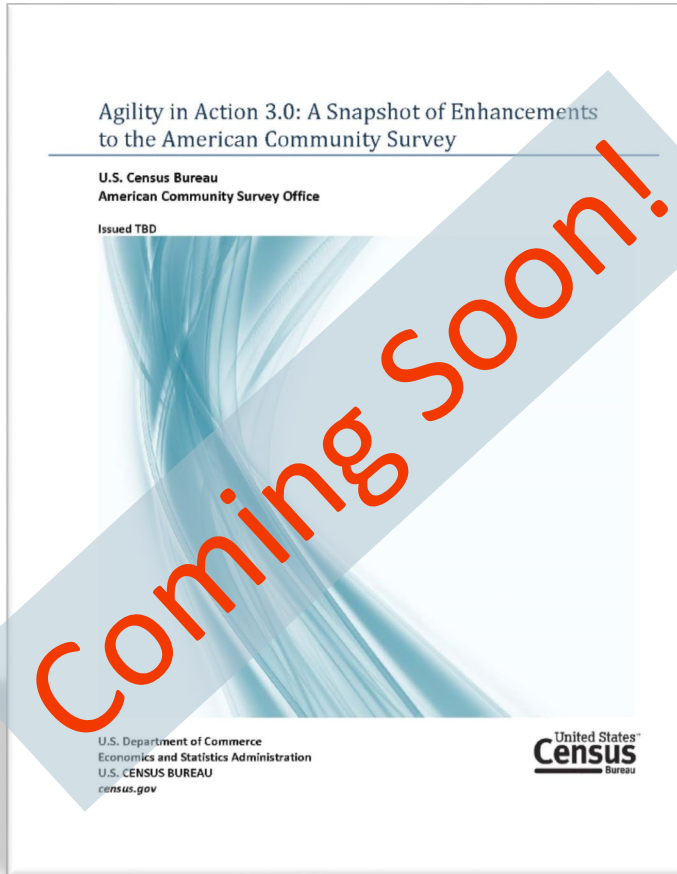
# Agility in Action 2.0 (2017-2018)

## *Understanding the Respondent Experience*

- Objective: Listen and learn from our respondents to identify opportunities to improve the respondent's experience
- Accomplishments:
  - Analyzed correspondence from respondents to understand the key issues they experience.
  - Learned from feedback questions used on other surveys.
  - Take a deeper dive with current respondents to learn how to ask them about their survey experience



# Agility in Action 3.0 (2019-2020)



- Key Action Areas:
  - Listening & Learning
  - Responding & Adapting
  - Innovating & Evolving

# ACS Content Changes

## 2019 ACS

- Telephone Service
- Commuting (Journey to Work)
- Weeks Worked
- Class of Worker
- Industry and Occupation
- Retirement Income
- Relationship
- Health insurance premiums and subsidies\*

*\*This content is new to the ACS.*

## 2020 ACS

- Implementing the version of the race and ethnicity questions planned for the 2020 Census

# Revisions to the 2020 ACS Mail Materials

## January – February & October – December 2020

- Implementing new materials to better emphasize benefits of participation
  - Use of **updated logos** on the envelopes and letters to identify the mail more clearly as coming from the Census Bureau
  - **“Open Immediately”** on some of the envelopes
  - **Bold lettering and boxes** (callout boxes) are used to highlight elements of the materials to capture the attention of busy respondents who may not read the entire letter
  - **Mandatory nature of the survey is highlighted** by using bold text and isolating sentences about being mandatory in the materials.
  - Frequently Asked Questions (FAQ) brochure are excluded from the mailings to simplify the materials and focus the attention of the respondent to what they need to do

## March – September 2020

- Some materials will be modified to better communicate to respondents that:
  - The ACS is a separate data collection from the 2020 Census
  - Respondents selected for the ACS should complete both the ACS and the 2020 Census.
- Changes will be made to:
  - ACS mail package contents
  - Field representative flyers
  - Scripts for the Interactive Voice Recognition system
  - Frequently asked questions

# Using Administrative Records in the ACS

# Why Use Administrative Data?

- Reduce the amount of information we request from respondents
- Increase data reliability
- Provide cost savings by reducing the need for follow up visits
- Mandated by Title 13 of the U.S. Code:

*To the maximum extent possible and consistent with the kind, timeliness, quality and scope of the statistics required, the Secretary shall acquire and use information available from any source referred to in subsection (a) or (b) of this section instead of conducting direct inquiries.*

# How Might We Use Administrative Data?

- Replace census and survey questions
- Fill-in-the-blanks during editing and imputation
- Provide additional information to enrich census and survey sources
- Identify vacant housing units to reduce non-response followup costs
- Benchmark for evaluating census and survey data
- Support survey operations in remote areas

# Guiding Principles

## Authorization

- Do we have a formal agreement (e.g., contract or interagency agreement) to obtain and use an administrative data?

## Availability

- Are the data available for every year?

## Conceptual Alignment

- Do the administrative data correspond to the concept the ACS currently intends to measure?

## Coverage

- How comprehensive is the coverage of the administrative data with respect to geographies and population subgroups?

## Data Source

- Do the administrative data come from a trusted and respected source, above reproach and conflict free?

## Disclosure Avoidance

- Does use of the administrative data preclude the Census Bureau from ensuring disclosure avoidance of personally identifiable information?

# Guiding Principles

## Impacts on Estimates

- To what extent does the administrative data source diverge from survey response? Do the differences carry over to other variables (e.g., through editing and imputation)?

## Intended Use

- How will the administrative data be used (e.g., editing and imputation, substitution, blended data product)?

## Population Universe

- Are the administrative data intended for use to measure something for the total U.S. population or a population subgroup (e.g., condo owners)?

## Quality

- What is sufficient data quality for the published estimates? Do the administrative data meet these quality requirements?

## Reliability

- Are the administrative data available and consistent over time?

## Temporal Alignment

- Do the administrative data correspond to the time period referenced in the ACS?



# Administrative Sources

## Federal data

- U.S. Census Bureau
- Internal Revenue Service
- Housing and Urban Development
- Childcare Development Fund
- Medicaid and Medicare
- Social Security Administration
- Veteran's Affairs
- U.S. Postal Service
- Selective Service

## State and Local data

- Women, Infants, and Children
- Temporary Assistance for Needy Families
- Supplemental Nutrition Assistance Program
- Child Care Subsidy
- Public school districts

## Third Party data

- Corelogic property and tax foreclosure
- VSGI consumer households

# Evaluating Administrative Sources

- Focus on coverage, quality, conceptual alignment, temporal alignment, and impacts on estimates
- Demographic Measures:
  - High level of conceptual and temporal alignment
  - Coverage, quality, and impact to estimates varies by source and item
- Social and Economic Measures:
  - Issues in conceptual and temporal alignment
  - Great coverage of some items, such as income
- Housing Measures:
  - Concerns with availability and reliability of third party vendors
  - Promise in using for editing and imputation methods

# ACS Housing Topics

## Most Promising

- Acreage
- Property Value
- Real Estate Tax
- Year Built

## More Promising

- Have mortgage
- Agricultural sales

## Least Promising

- Phone service
- Part of condominium
- Tenure
- Secondary mortgage/amount
- Number of rooms/bedrooms
- Facilities
- Fuel type

# Case Study: Housing Admin Record Simulation

- Used 2015 ACS Responses
- Direct substitution for four housing items: Year built, Acreage, Real estate taxes, Property value
- Substituted ACS responses to simulate an adaptive design approach to data collection
- Ran test dataset through data processing procedures
- Produced “Simulated” version to compare to “Published” 2015 ACS estimates

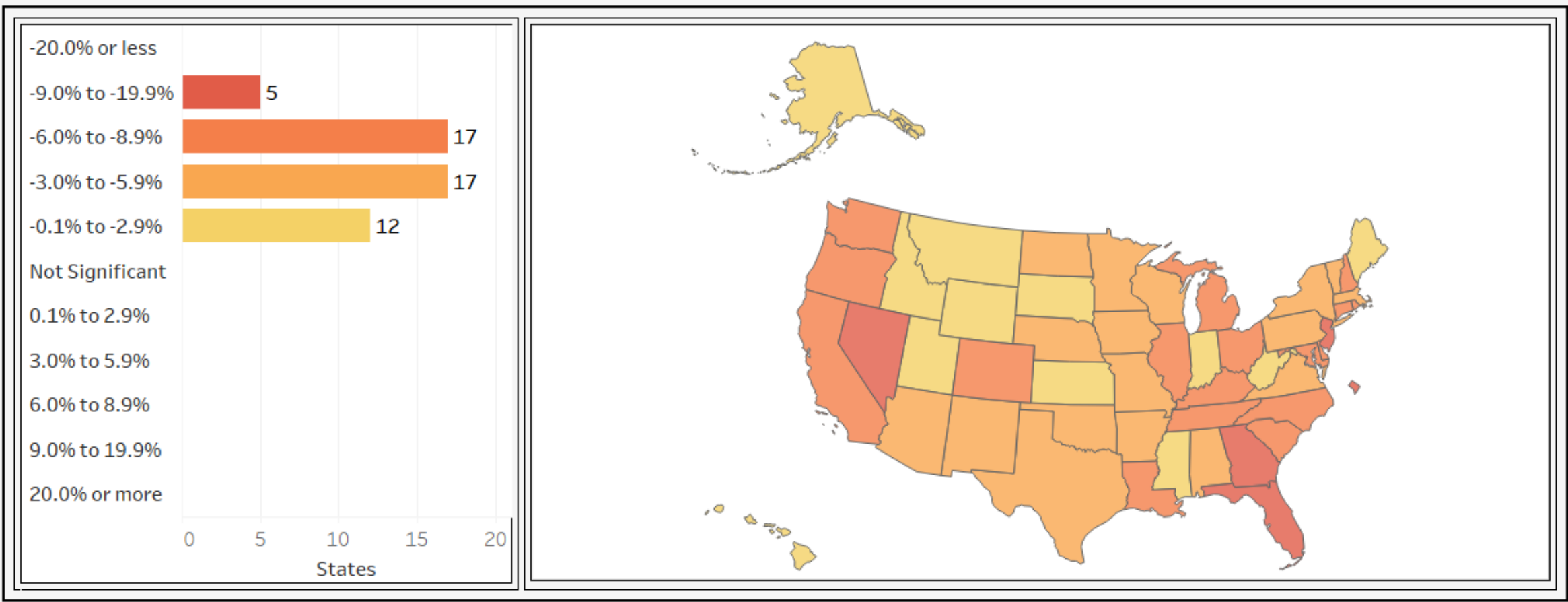
# Simulated vs Published Estimates

- Majority of the summary metrics and key measures studied were statistically different
- Direction of differences varied, but for many items **Simulated** was lower than **Published**
- **Simulated** item allocation rates significantly lower than **Published**

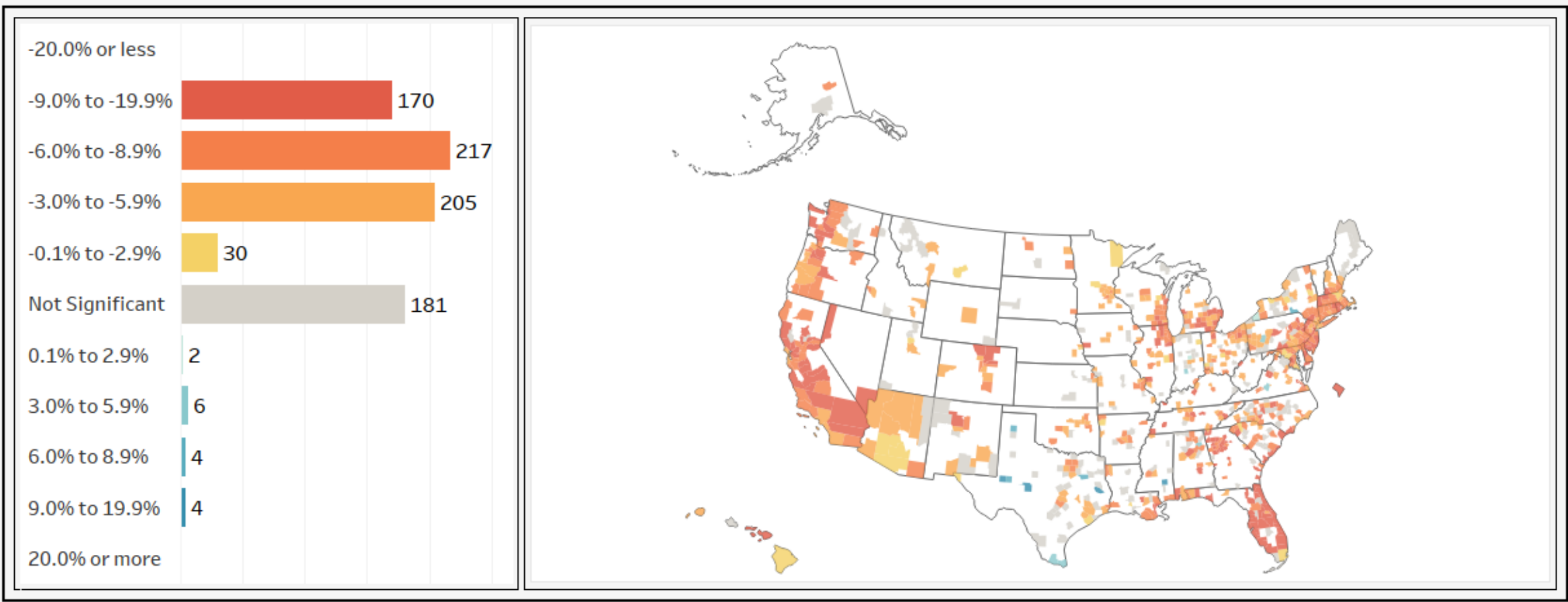
Item	Simulated	Published	Difference	MOE
Acreage	1.4	3.7	-2.3	0.1
Year Built	12.7	17.8	-5.2	0.2
Property Value	5.0	12.0	-7.0	0.1
Property Tax	4.5	16.9	-12.4	0.1

- Impacts other survey items besides 4 test items

# Percent Difference in Median Property Value: Simulated minus Published - State

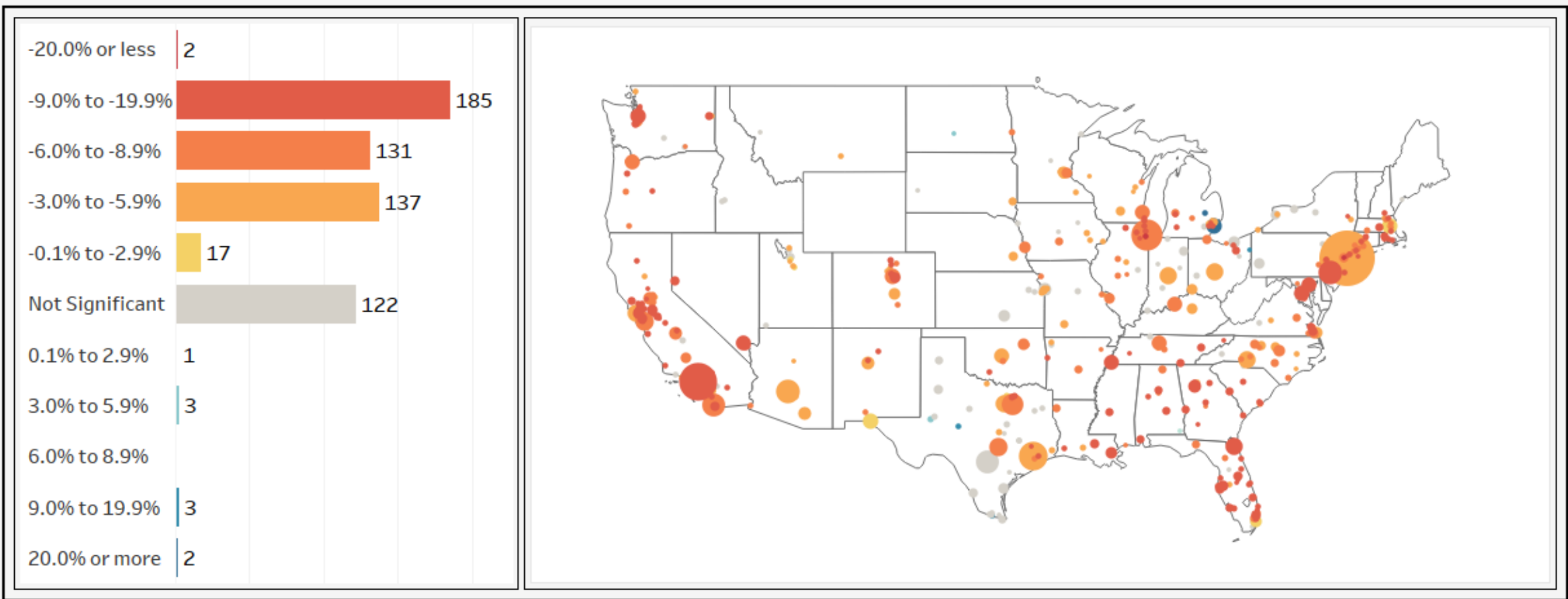


# Percent Difference in Median Property Value: Simulated minus Published - County



Note: Estimates were not calculated for counties not shown because they do not meet the 1-year ACS population threshold of 65K or more.

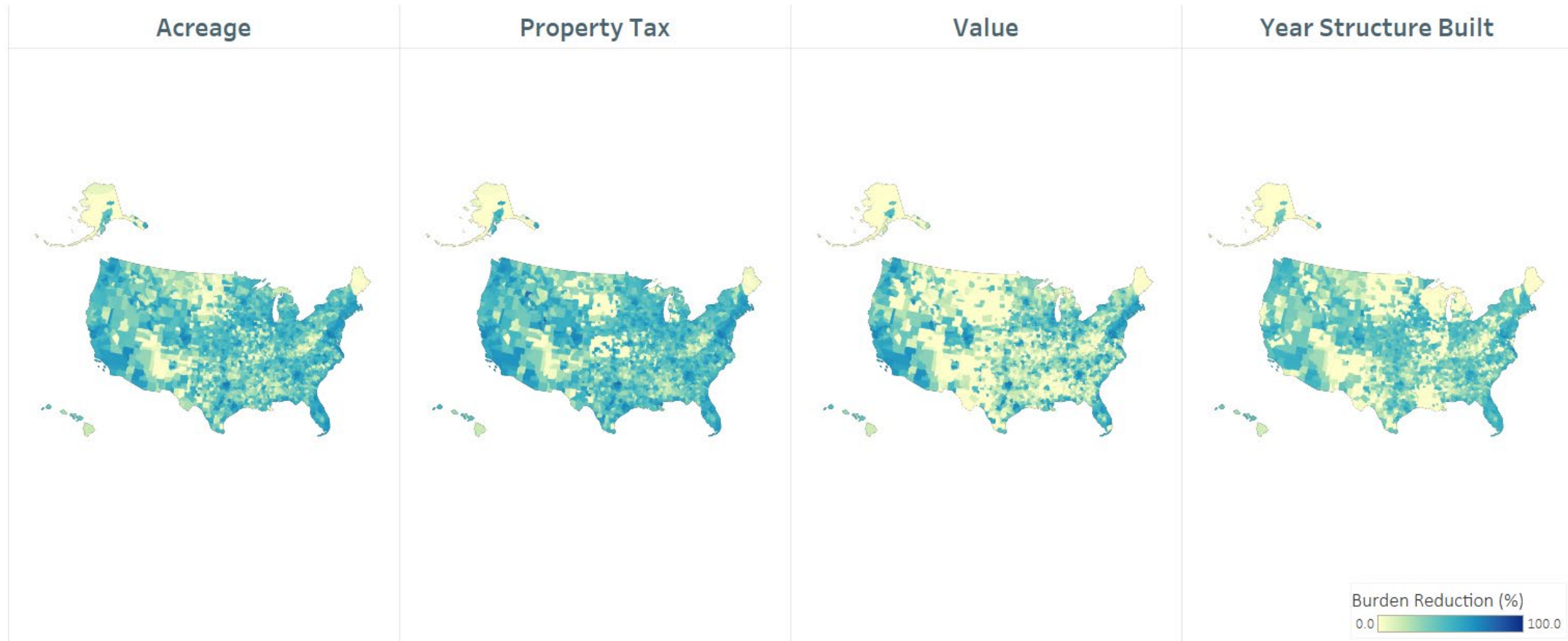
# Percent Difference in Median Property Value: Simulated minus Published - Place



Note: Estimates were not calculated for counties not shown because they do not meet the 1-year ACS population threshold of 65K or more. Also, Alaska and Hawaii are not shown, but Honolulu, HI and Anchorage, AK both had differences that were not significant.



# Geographic View – Burden Reduction by County and Survey Question



*This visualization shows the percentage of households that would have a reduction in burden because they would not be asked the question using the simple replacement method.*

# Case Study: Findings

- Reduces respondent burden in terms of asking these survey items
- Improves item allocation rates
- AR are different from ACS response data
  - Collection and reporting differs by jurisdiction
  - Time lag between survey year and AR
  - Differences in coverage/availability of AR
  - Break in series
- Implementation challenges
  - Discovered impact on other survey items
  - Difficult to adapt to mail mode

# Lessons Learned

- Direct replacement alone not enough
- Potential for improving edit and imputation methods
- Risk associated with using outside vendor
- Potential linkage bias
- Impacts entire survey life cycle and other survey items
- Acquiring access to data can be challenging
- Complicate data disclosure avoidance
- Restrictions on data release

# Current Research

- Use AR data to fill-in missing ACS values for survey items
- Use IRS data to replace/supplement income questions
- Compare characteristics of housing units that match to AR to nonmatches
- Use AR to replace and model year structure built data
- Numerous research initiatives that blend ACS and AR data to
  - Evaluate survey data quality
  - Create new data products
  - Answer specific survey questions

# The Path Forward

- Continue research initiatives to:
  - Improve linkage methods
  - Broaden access to administrative data sources
  - Assess the quality of administrative data sources
  - Develop methods to harmonize survey/administrative data and address coverage issues
  - Create blended data products
- Implement in editing and imputing procedures:
  - Adapt Decennial Census methods for use in the ACS
- Collaborate with others

# Upcoming Opportunities for Stakeholder Engagement

- Presenting research at upcoming conferences
  - American Association of Public Opinion Research
  - European Survey Research Association
  - Joint Statistical Meetings
- Collaboration with External Researchers to apply behavior insights perspectives to enhance ACS mailings

# Continue the Conversation - #ACSdata



More information online:  
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