

An aerial photograph of a city, likely Boulder, Colorado, with a dense urban area in the foreground and a range of rugged, rocky mountains in the background under a clear sky.

Remapping the ACS

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Statistical Geographies

- Since the 1920's US cities have been divided, like jigsaw puzzles into “statistical geographies” like census tracts & block groups.
- Geographic entities that exist solely for the purposes of statistical tabulation.
- Created by local committees/census, stable over time, population thresholds.
- Important for ACS data users.

Goals

- To convince you that the system of statistical geographies in the US needs to evolve in response to the ACS.
- Describe and show examples of a new way of thinking about census geography.
- Breadth over depth. Provocative. Join our conversation about this idea...

The American Community Survey

- The American Community Survey (ACS) is the primary national source for demographic and economic data about neighborhoods.
- The ACS produces over 1400 tables for 74,000+ tracts and 200,000+ block groups each year.
- Used to allocate \$450-\$500 Billion in federal spending.

ACS Estimates of African-American Median Household Income in Denver, Colorado

| Census Tract | Estimate |
|--------------------|----------|
| Census Tract 41.01 | \$28,864 |
| Census Tract 41.02 | \$21,021 |
| Census Tract 41.03 | \$43,021 |
| Census Tract 41.04 | \$36,092 |
| Census Tract 41.06 | \$60,592 |

2010 ACS Estimates of African-American Median Household Income in Denver, Colorado

| Census Tract | Estimate | Margin of Error |
|---------------------|-----------------|------------------------|
| Census Tract 41.01 | \$28,864 | \$8,650 |
| Census Tract 41.02 | \$21,021 | \$4,458 |
| Census Tract 41.03 | \$43,021 | \$14,612 |
| Census Tract 41.04 | \$36,092 | \$3,685 |
| Census Tract 41.06 | \$60,592 | \$68,846 |

Los Angeles Tracts: ACS 2011

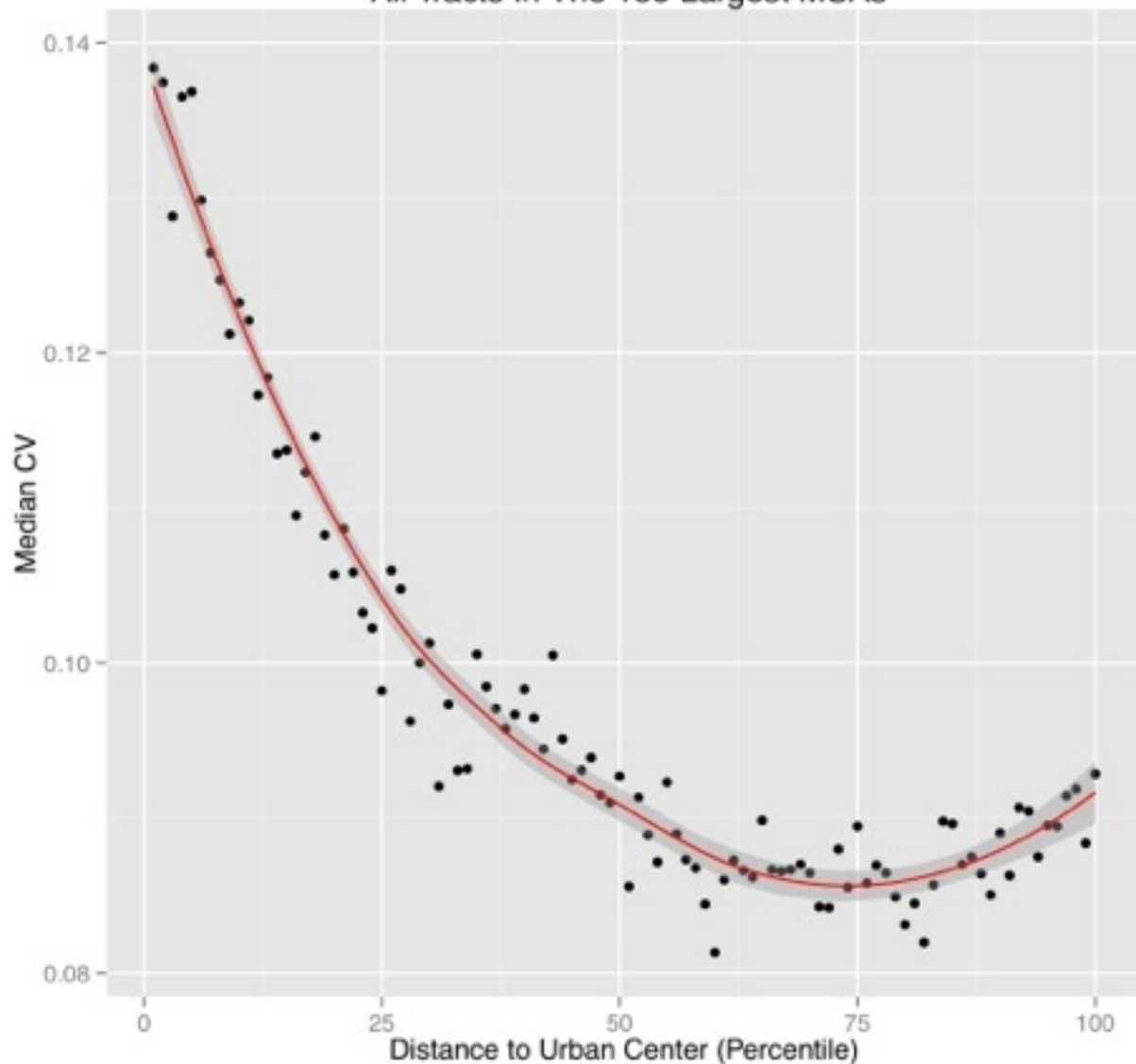
Number of Children Below Poverty Line

| CENSUS TRACT | KIDS =<5 IN POVERTY | MARGIN OF ERROR |
|------------------------------------------------------|---------------------|-----------------|
| Census Tract 2048.10, Los Angeles County, California | 92 | 142.2 |
| Census Tract 2060.10, Los Angeles County, California | 99 | 115.0 |
| Census Tract 2122.03, Los Angeles County, California | 61 | 174.1 |
| Census Tract 1913.01, Los Angeles County, California | 25 | 170.1 |
| Census Tract 1098, Los Angeles County, California | 55 | 141.3 |
| Census Tract 1204, Los Angeles County, California | 95 | 151.3 |
| Census Tract 1976, Los Angeles County, California | 12 | 165.6 |
| Census Tract 1349.03, Los Angeles County, California | 35 | 172.9 |
| Census Tract 2060.32, Los Angeles County, California | 291 | 162.9 |
| Census Tract 2124.20, Los Angeles County, California | 133 | 125.8 |
| Census Tract 1233.01, Los Angeles County, California | 87 | 146.6 |
| Census Tract 1414, Los Angeles County, California | 100 | 169.5 |
| Census Tract 1276.04, Los Angeles County, California | 54 | 109.7 |

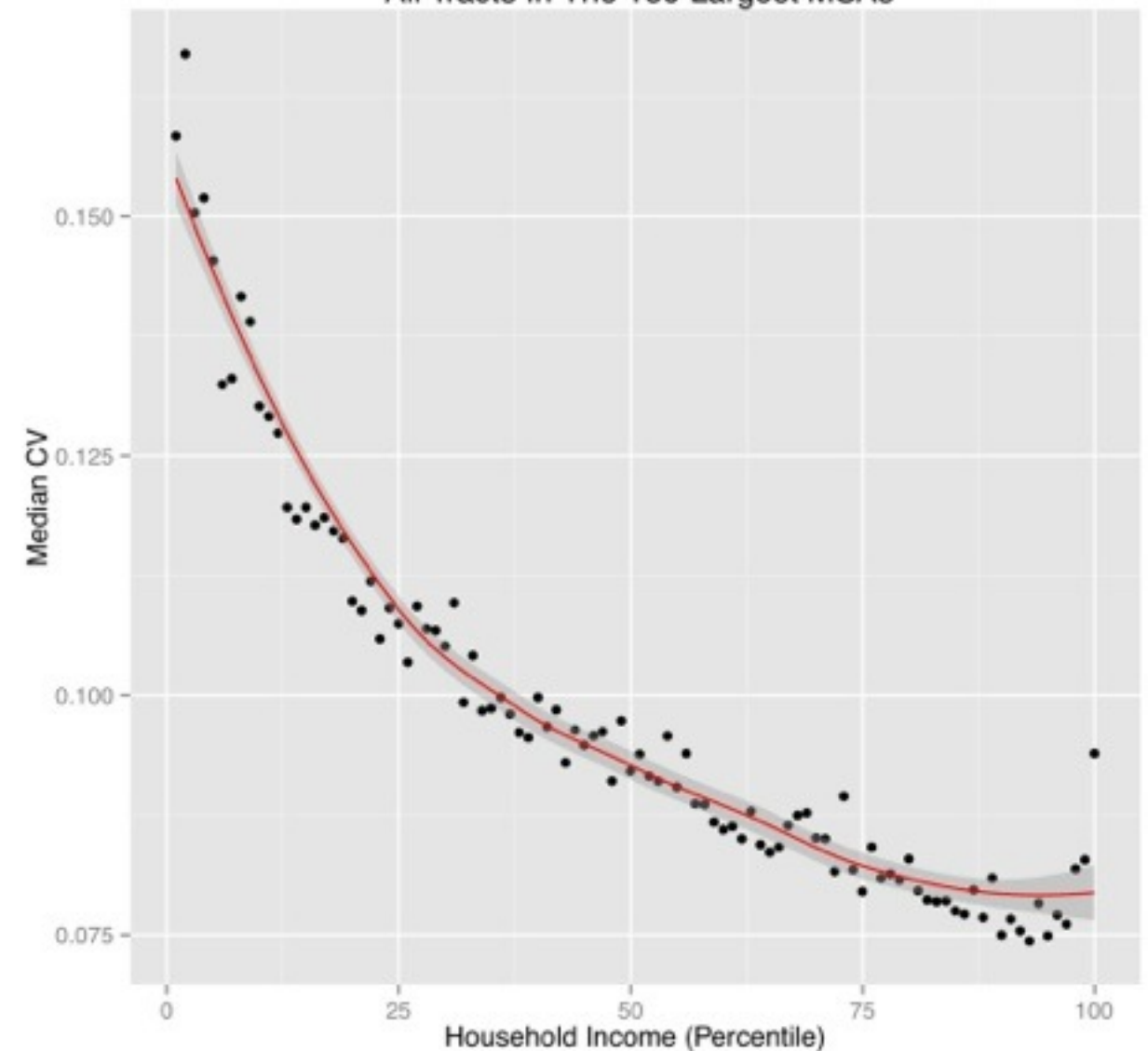
Social and Geographic Patterns in Estimate Quality

Median Household Income: 2011 ACS Tracts.

Intra-Metropolitan Patterns in Data Quality
All Tracts In The 150 Largest MSAs

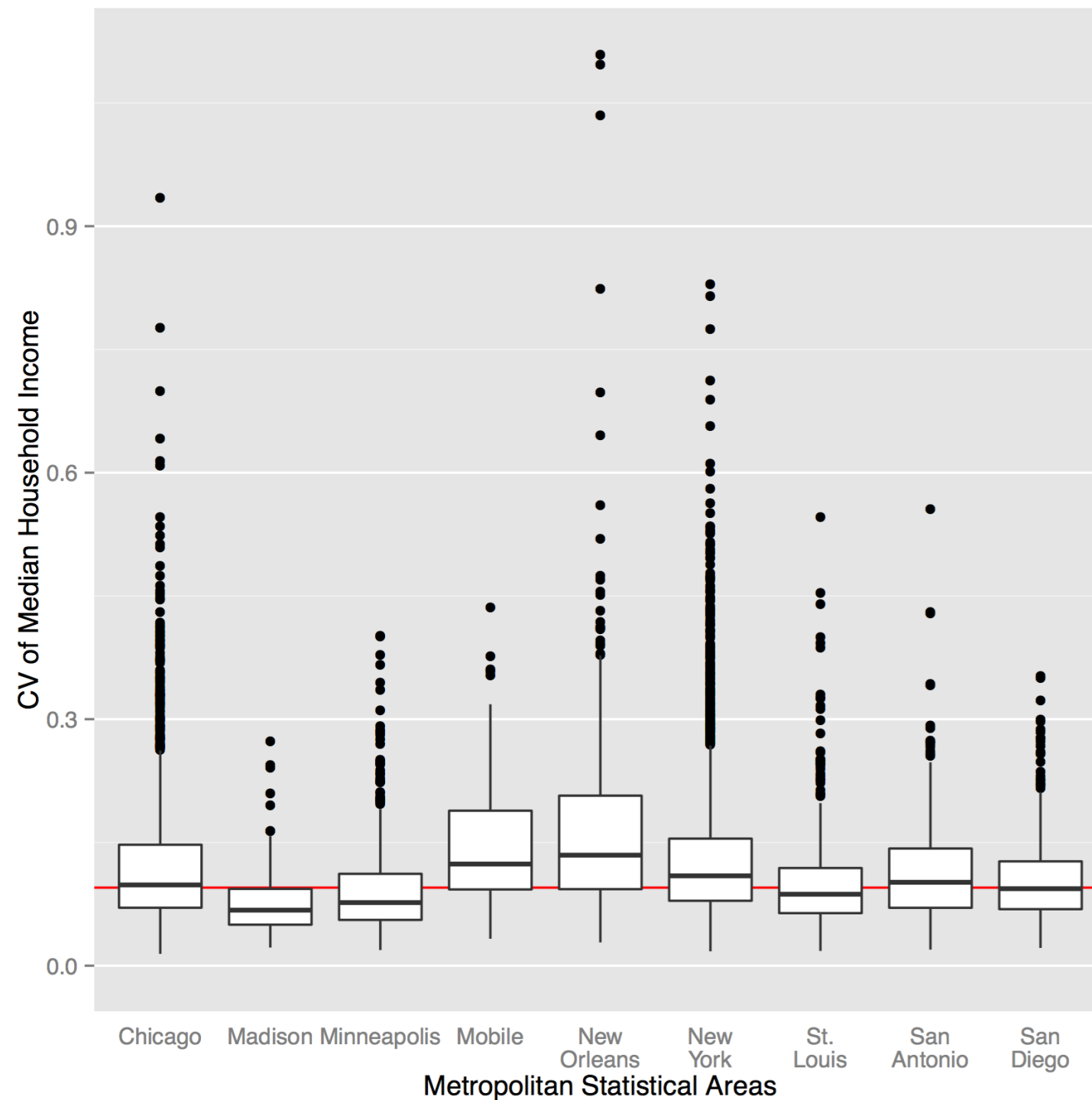


Socio-Economic Patterns in Data Quality
All Tracts In The 150 Largest MSAs



Variation in Estimate Quality

Median Household Income: 2011 ACS Tracts.



PRESS RELEASE | November 18, 2013, 2:05 p.m. ET

Broadway Federal Bank Receives Bank Enterprise Award from U.S. Treasury's CDFI Fund

LOS ANGELES--(BUSINESS WIRE)--November 18, 2013--

Broadway Financial Corporation (the "Company") (NASDAQ Capital Market: BYFC), announced that on Friday, November 15(th) , its wholly-owned subsidiary, Broadway Federal Bank, f.s.b. (the "Bank"), received a Bank Enterprise Award ("BEA") of \$199,951 as part of the fiscal year 2013 BEA Program offered by the U.S. Department of the Treasury's Community Development Financial Institutions Fund ("CDFI Fund").

The Bank was one of 85 recipients under the fiscal year 2013 BEA Program, which awarded a total of approximately \$17 million to support the selected depository institutions in their efforts to expand financial support for low-income communities by encouraging community and economic development across the country. Recipients of the awards are required to invest their awards in eligible activities, such as affordable housing projects, small business loans and commercial real estate projects, in distressed communities. The activities that qualify a potential recipient for an award under the BEA Program occur in census tracts where at least 30 percent of the population lives at or below the national poverty level and where the unemployment rate is 1.5 times above the national average. Awards granted were selected after a comprehensive review of 98 applications received by the CDFI Fund from depository institutions across the nation, which represented an increase of 38 percent over the number of applicants over the prior year and the largest number of applicants since fiscal year 2002.

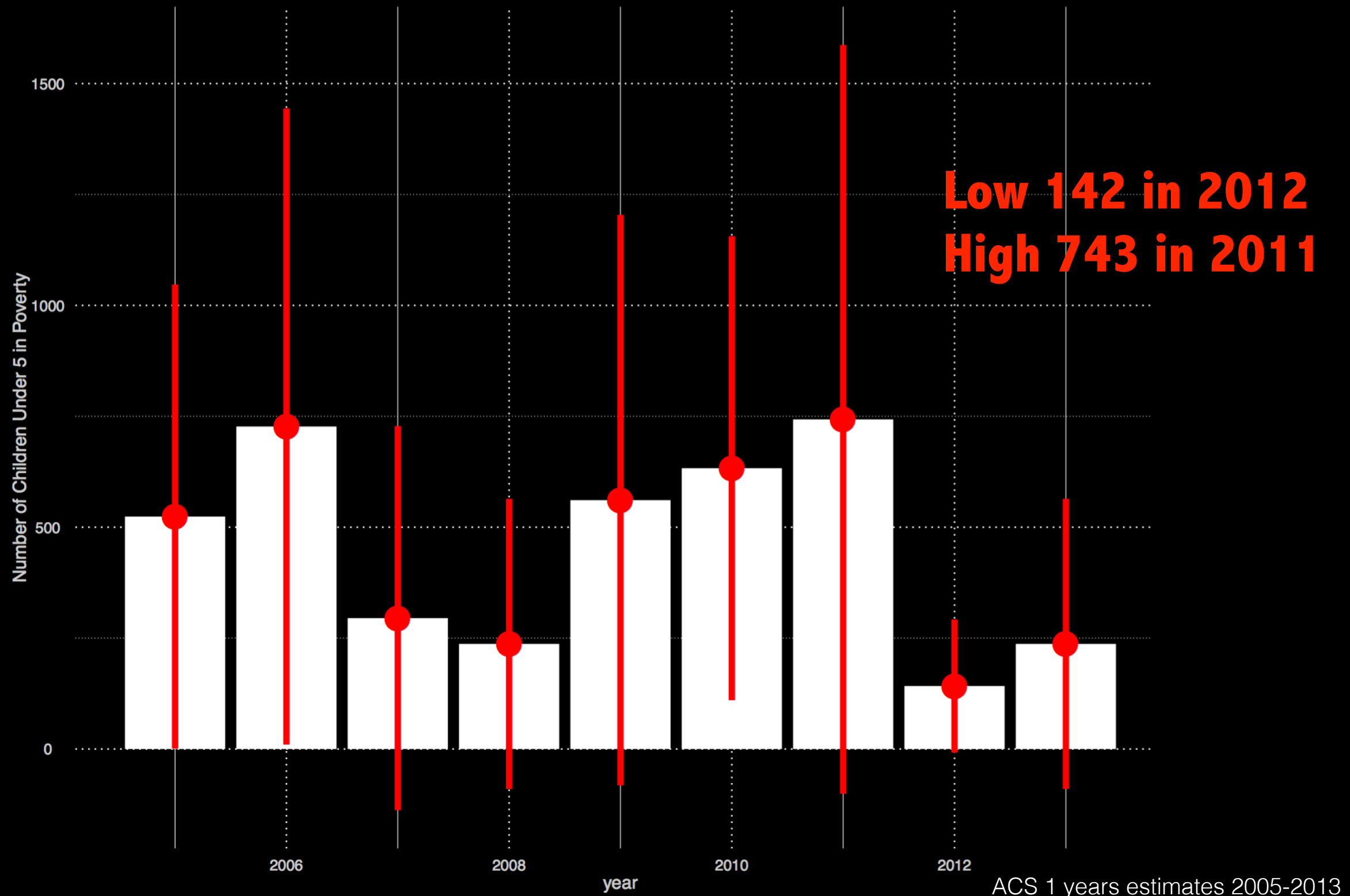
Tract level poverty estimates 2011 ACS:
MOE is $\geq 50\%$ of the estimate in
35737 tracts (~50% of all tracts in the US).

ACS Period Estimates

| Geographic Areas | 1-year estimates areas w/ 65,000 + | | 3-year estimates areas w/ 20,000 + | | 5-year estimates |
|------------------|---------------------------------------|------------|---------------------------------------|------------|------------------|
| | count | percent | count | percent | count |
| County | 825 | 26% | 1,909 | 59% | 3,221 |
| Census Tract | 0 | 0% | 0 | 0% | 74,001 |
| Block Group | 0 | 0% | 0 | 0% | 220,333 |
| Place | 568 | 2% | 2,157 | 7% | 29,509 |
| MSA/M-MSA | 530 | 55% | 934 | 98% | 955 |

Temporal Dynamics

HAS THE NUMBER OF POOR KIDS IN BOULDER, CO CHANGED?



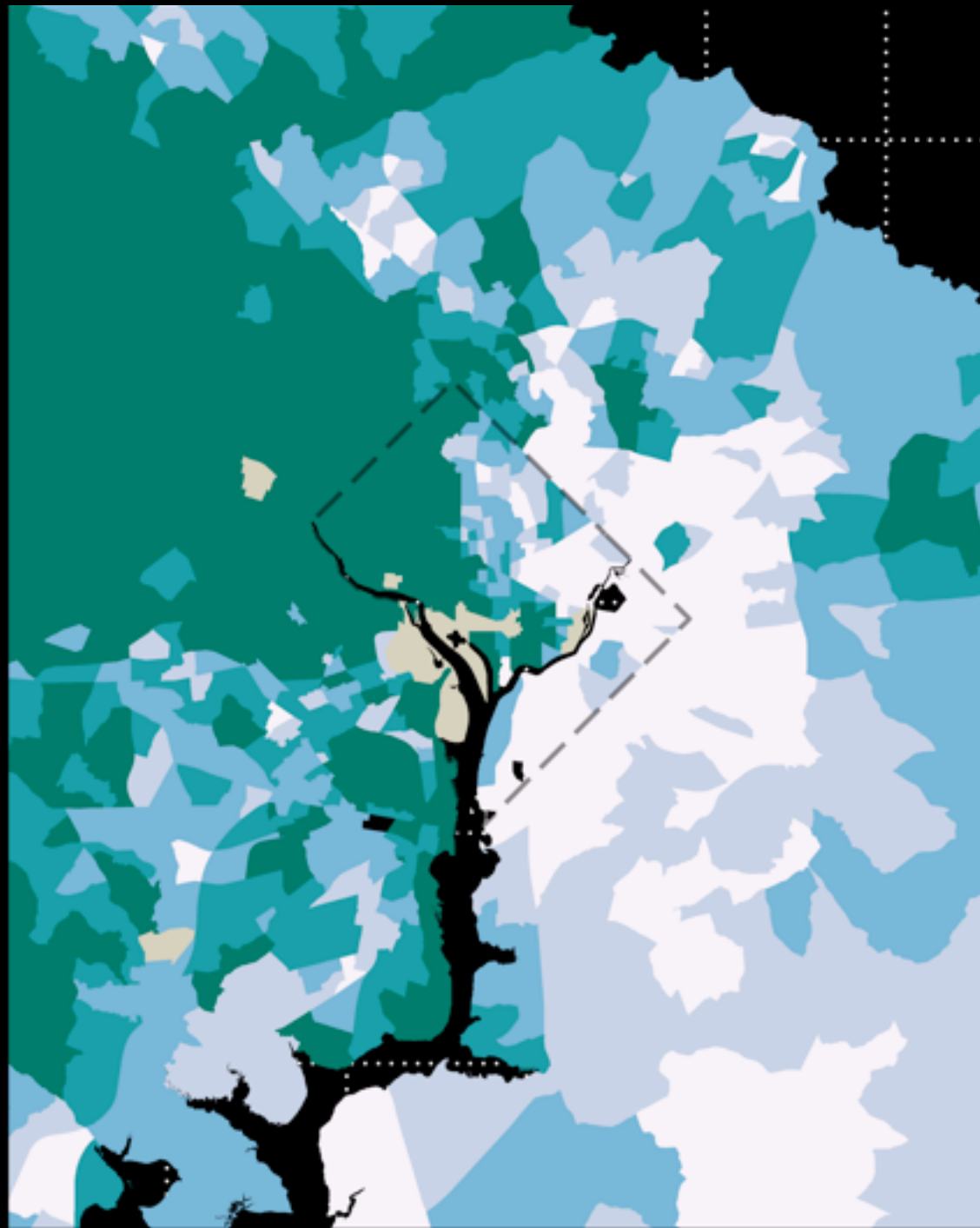
Fixing the ACS

- For many policy relevant variables the ACS margins of error are too high.
 - Our surveys indicate that people often ignore the margin of error in making planning decisions.
- We need a way to improve the usability of the data (i.e. reduce the margins of error).
- **We think there is a geographic fix...**

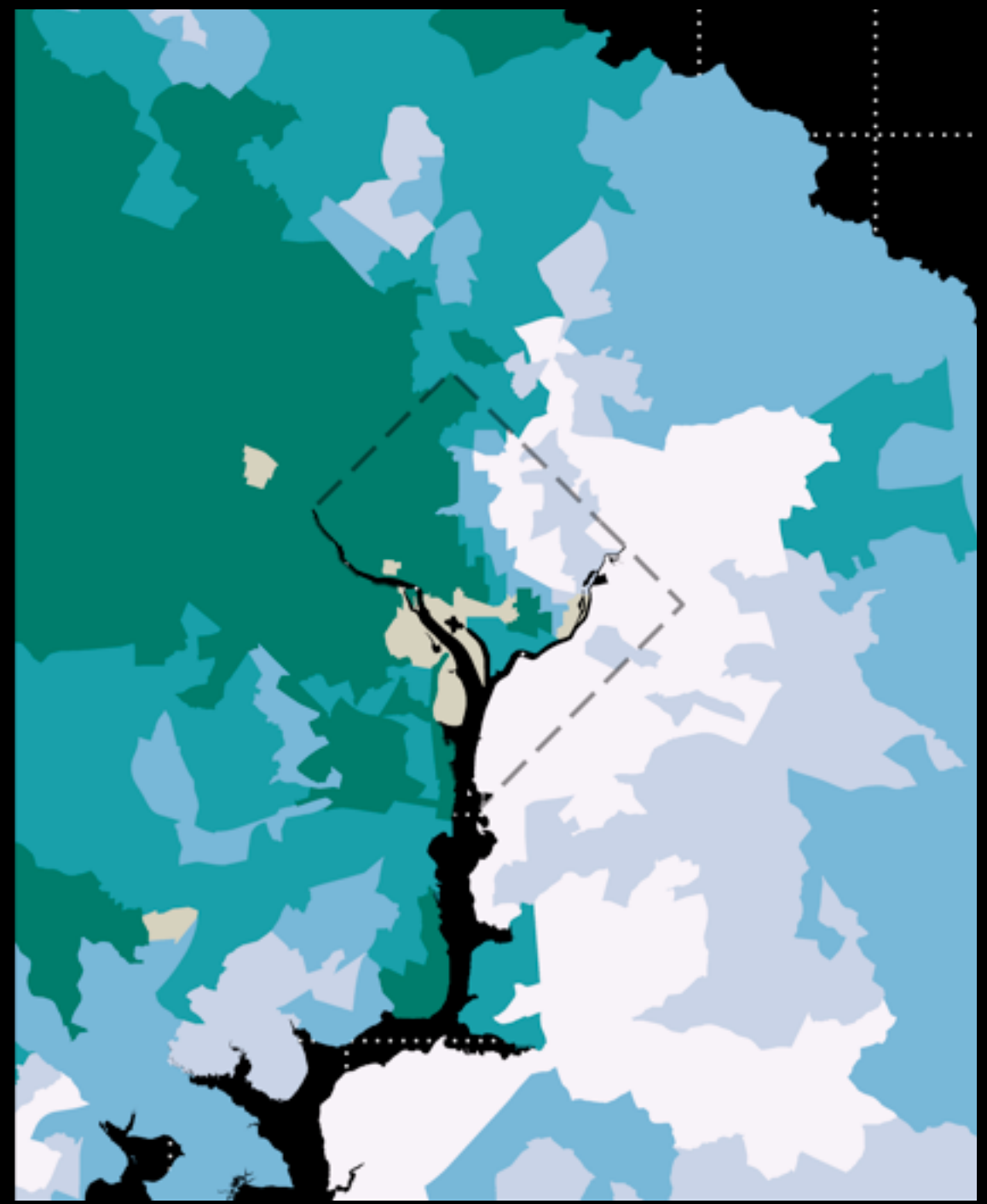
ACS Geographies

- For nearly a century Census Tracts/Block Groups have been designed around **population thresholds**.
- We are proposing a new kind of statistical geography for the ACS designed around **data quality thresholds**.
- Data for ACS geographies should have margins of error that meet some predefined usability threshold.

Tracts

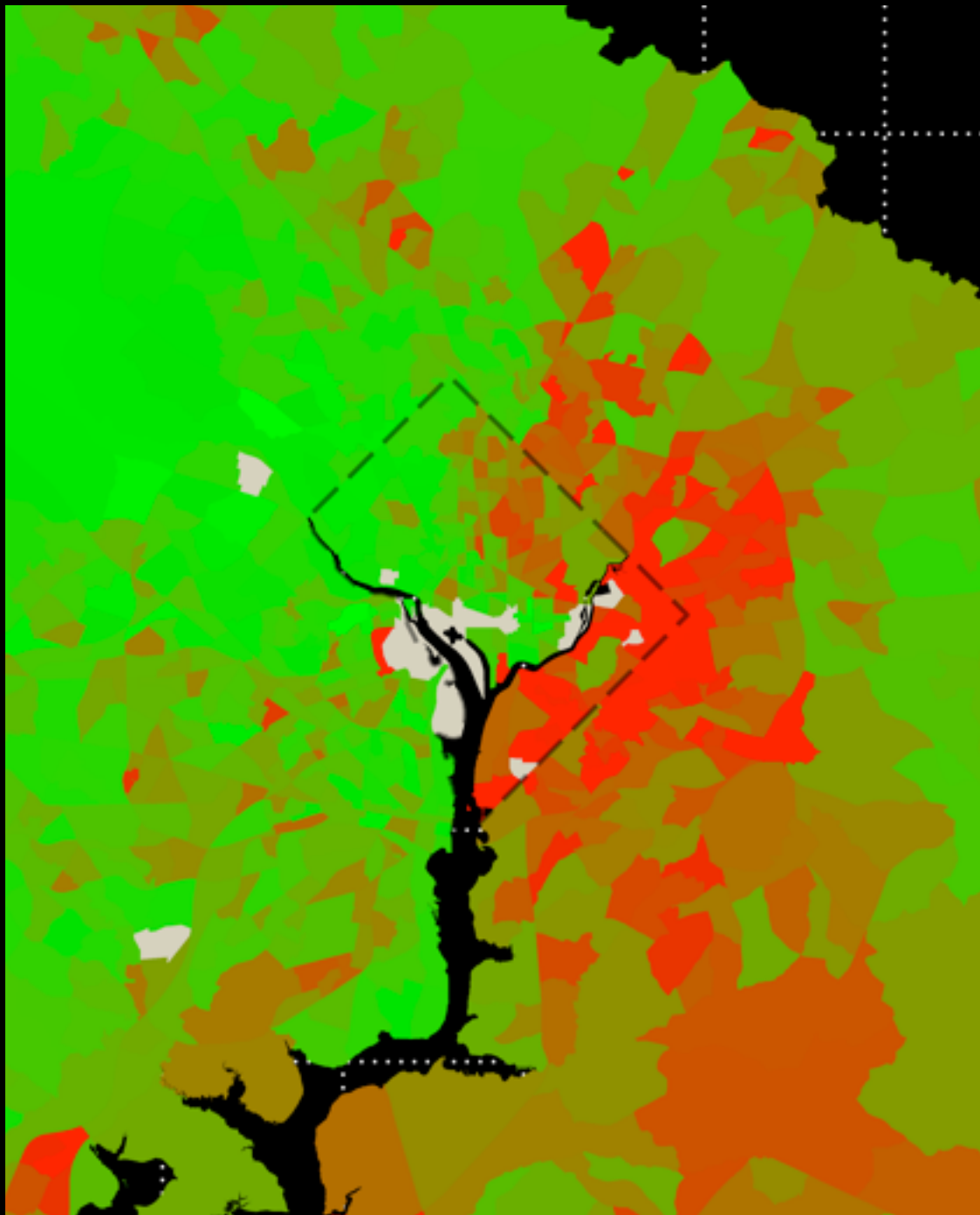


ACS Geography

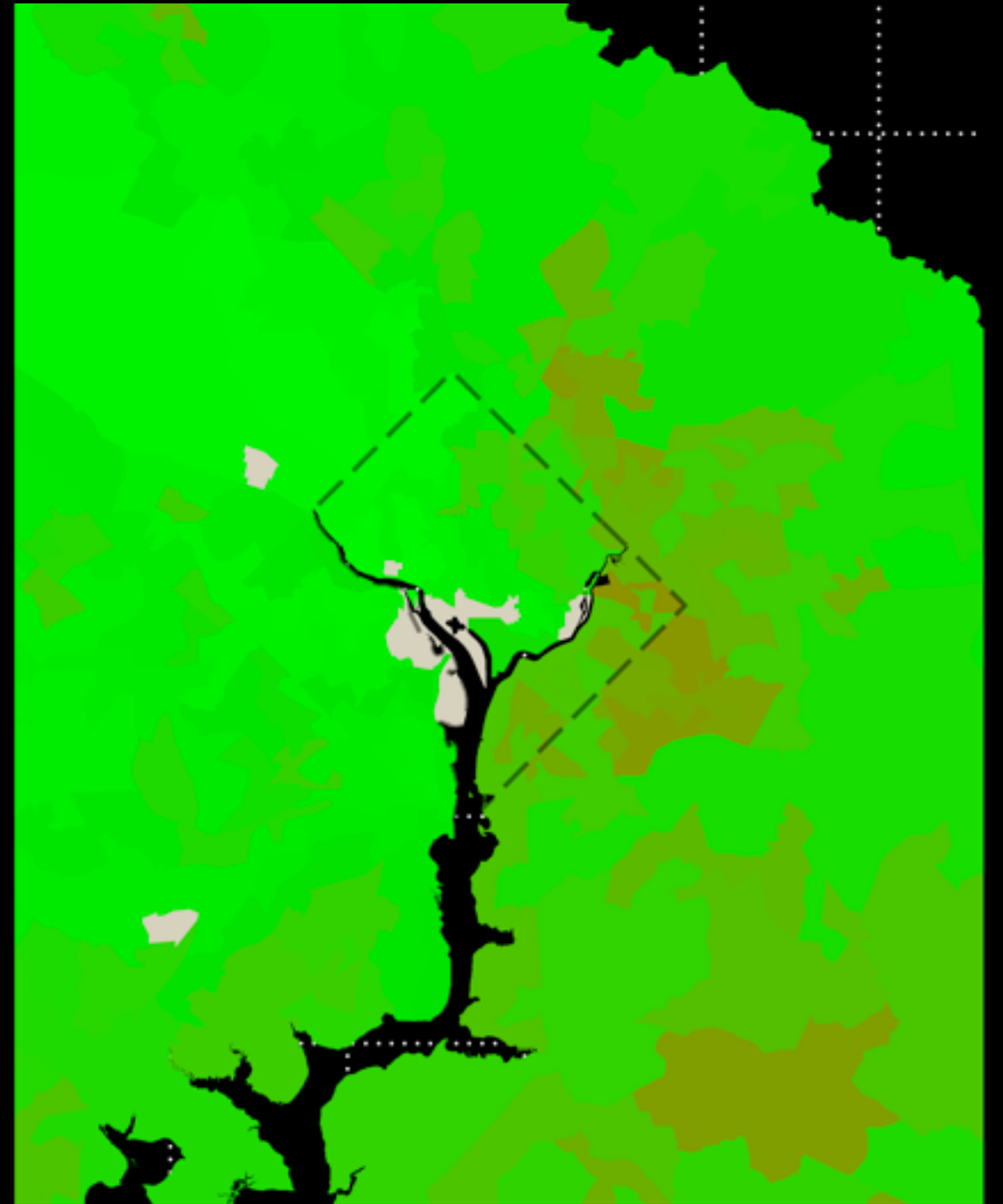


Percent of Pop w/ Bachelor's Deg.
(2,25] (25,35] (35,50] (50,63] (63,96]

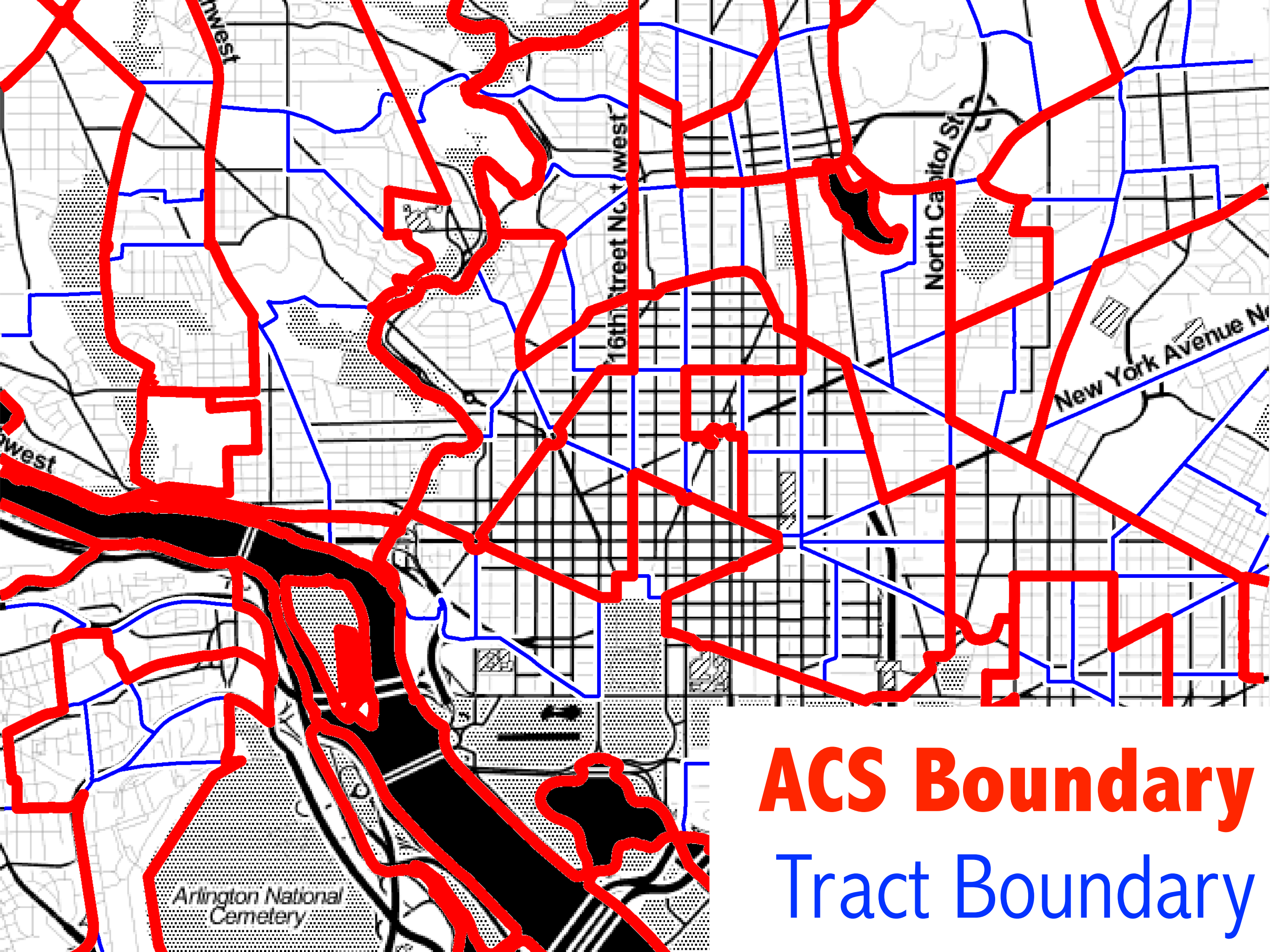
Tracts



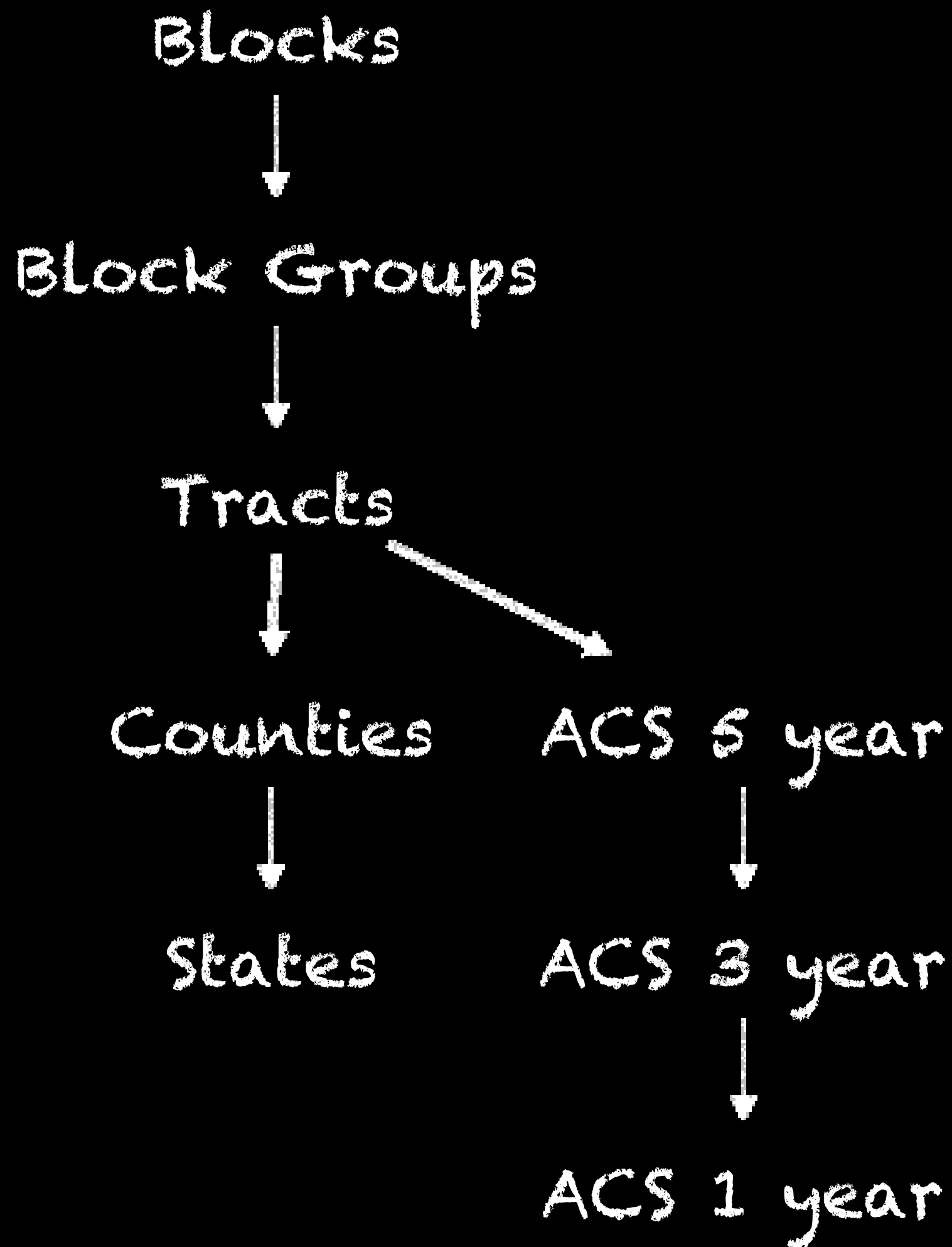
ACS Geography



Areas that are reddish have a CV over 12%



ACS Boundary
Tract Boundary



Conclusions

- Tried to show that there are problems with ACS data. We've written a number of reports and papers that document these problems in more detail.
- Presented the idea of **Quality-Based ACS Geographies**.
 - **Zooming-out** for better data.
 - These new geographies don't alter the status-quo and can be efficiently created (free software on GitHub).
 - Provide usable 1,3, and 5 year estimates to the entire US.
 - We have created 5yr geographies for a bunch of cities. **Collaborators for evaluation and dissemination (round table)**.
- **Willing to trade geographic detail for better estimates?**

References

Hyperlinks to papers

1. **Spielman, S.E.** and Folch, D.F. (2015) Reducing Uncertainty in the American Community Survey through Data-Driven Regionalization. *PLOSOne* ([code](#))
2. **Spielman, S.E.**, Folch, D., Nagle, N. (2014) Patterns and Causes of Uncertainty in the American Community Survey. *Applied Geography* ([replication data and code](#))
3. **Folch, D. and Spielman, S.E.** (2014) Identifying Regions based on Flexible User Defined Constraints. *International Journal of Geographic Information Science*.
4. **Folch, D.C., Arribas-Bel, D., Koschinsky, J., and Spielman, S.E.** (2014). Uncertain Uncertainty: Spatial Variation in the Quality of American Community Survey Estimates. Arizona State University, Geoda Center Working Paper Series.