

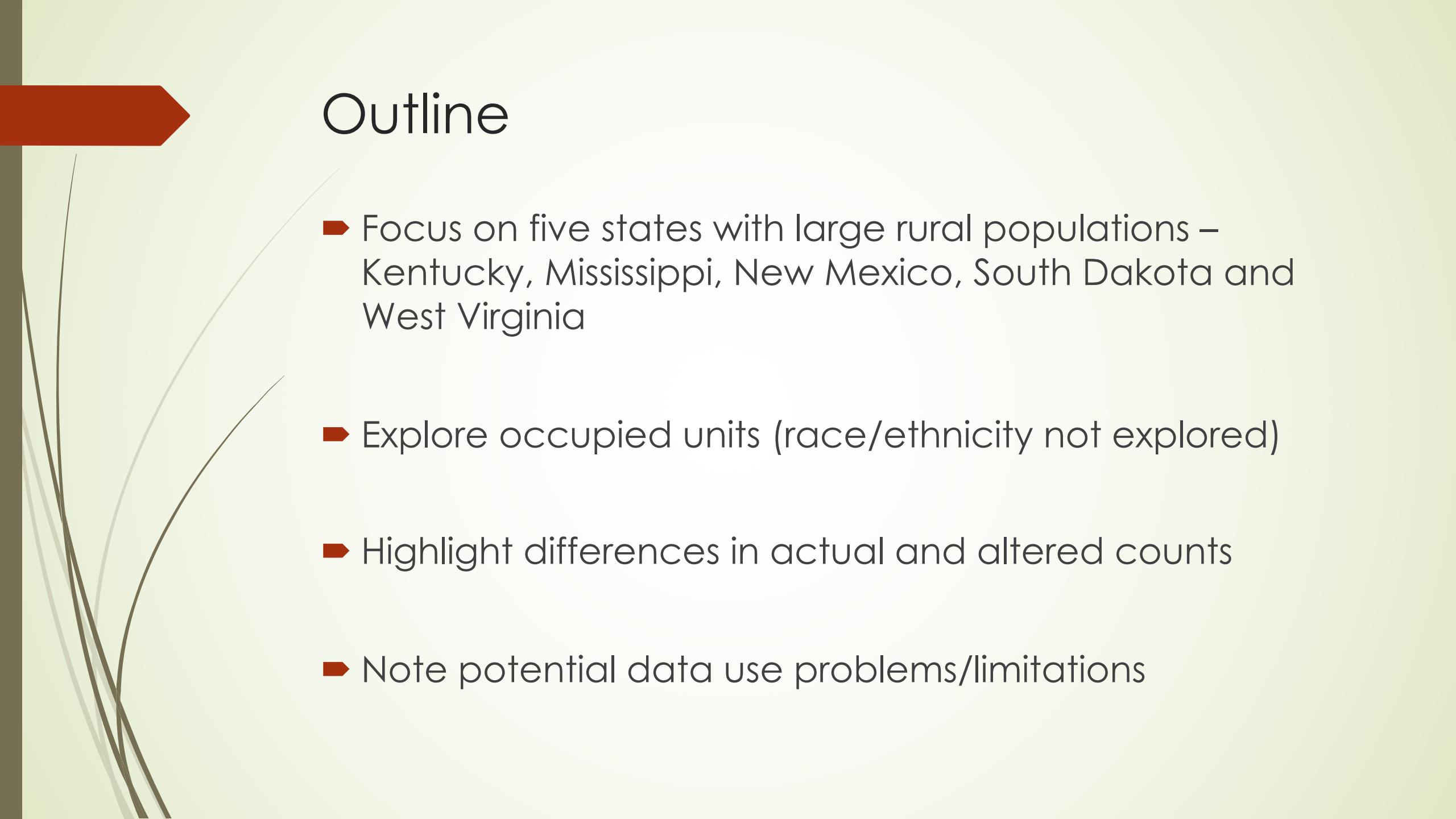


# Decennial Census, Rural Housing Data and Differential Privacy

December 11<sup>th</sup>, 2019

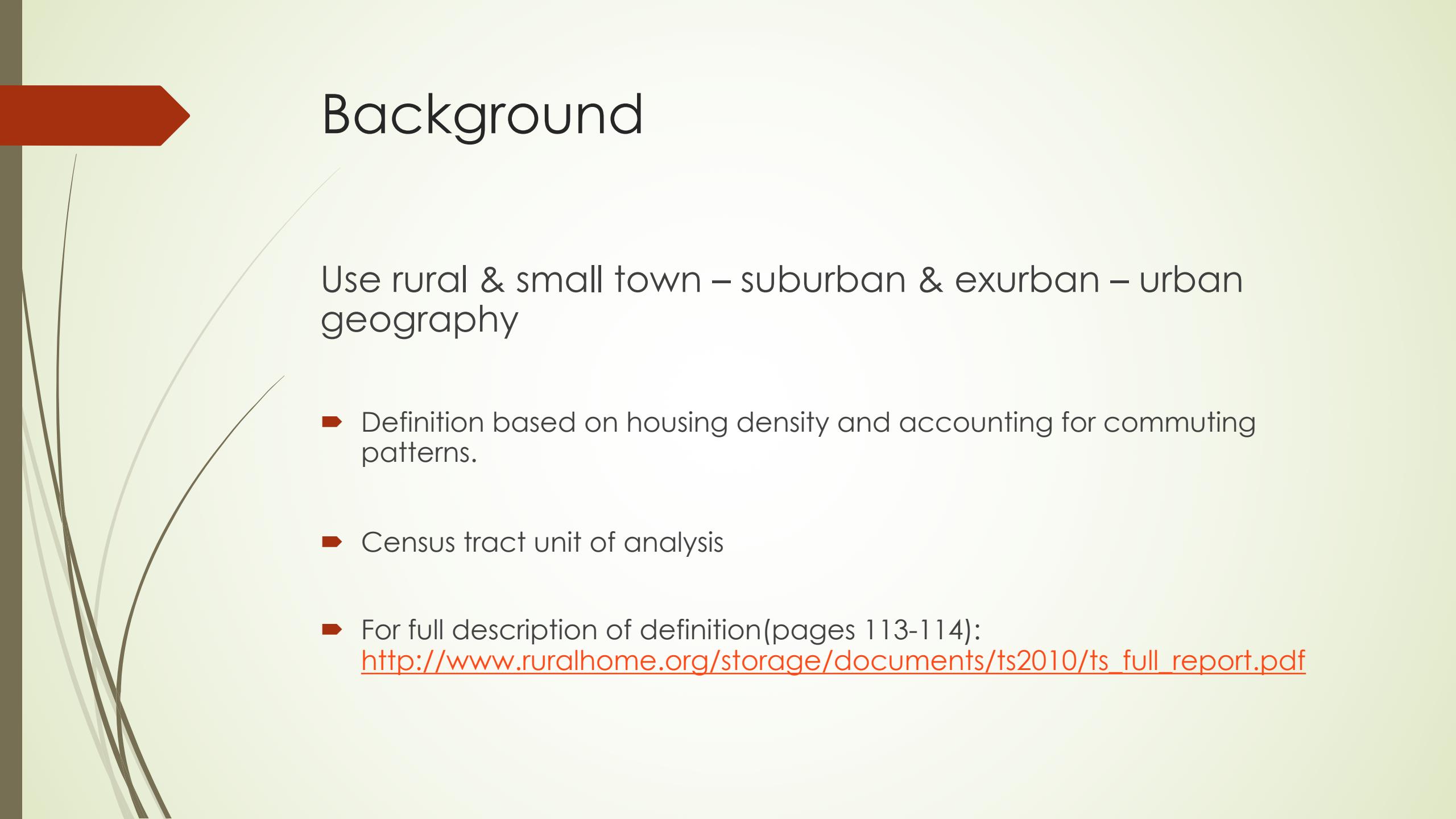
Housing Assistance Council

Keith Wiley



# Outline

- ▶ Focus on five states with large rural populations – Kentucky, Mississippi, New Mexico, South Dakota and West Virginia
- ▶ Explore occupied units (race/ethnicity not explored)
- ▶ Highlight differences in actual and altered counts
- ▶ Note potential data use problems/limitations



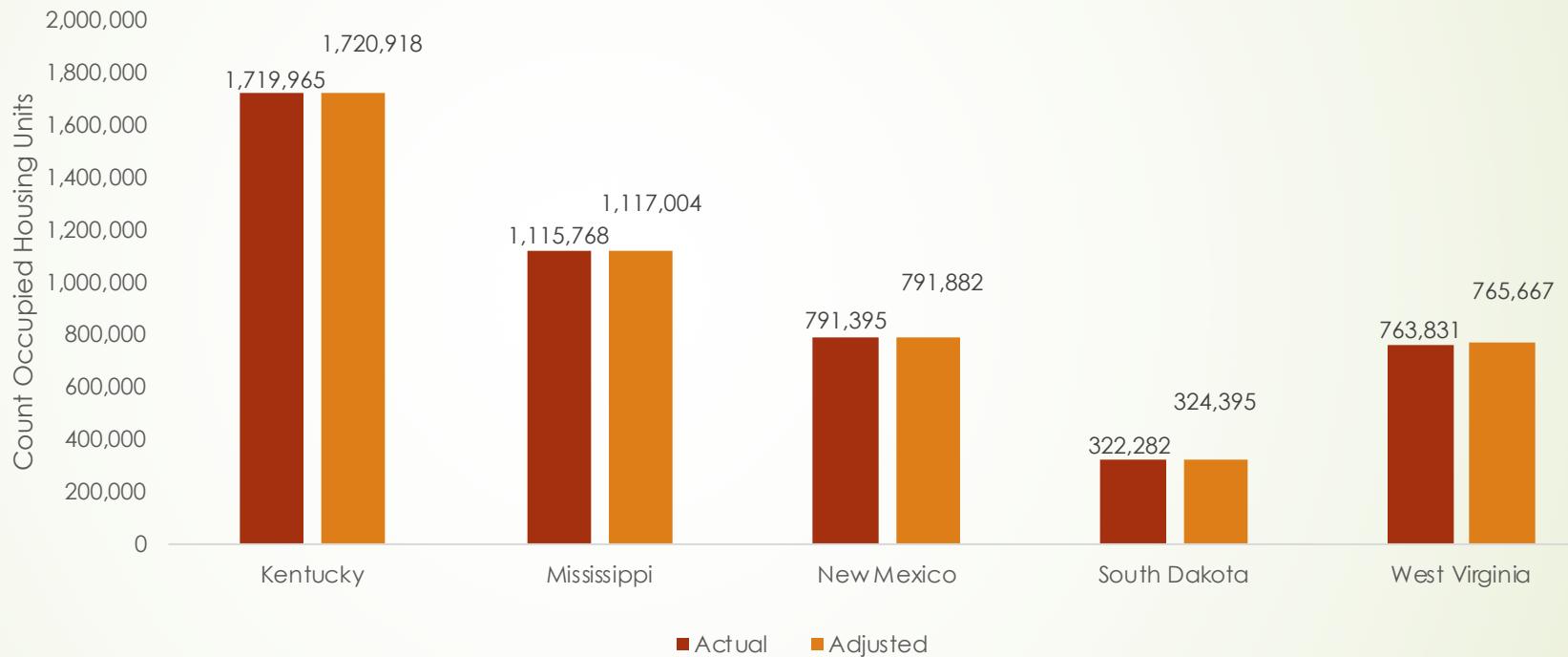
# Background

Use rural & small town – suburban & exurban – urban geography

- ▶ Definition based on housing density and accounting for commuting patterns.
- ▶ Census tract unit of analysis
- ▶ For full description of definition(pages 113-114):  
[http://www.ruralhome.org/storage/documents/ts2010/ts\\_full\\_report.pdf](http://www.ruralhome.org/storage/documents/ts2010/ts_full_report.pdf)

# Differences State Level

Census 2010 Occupied Housing Units  
Actual versus Adjusted\* for Select States

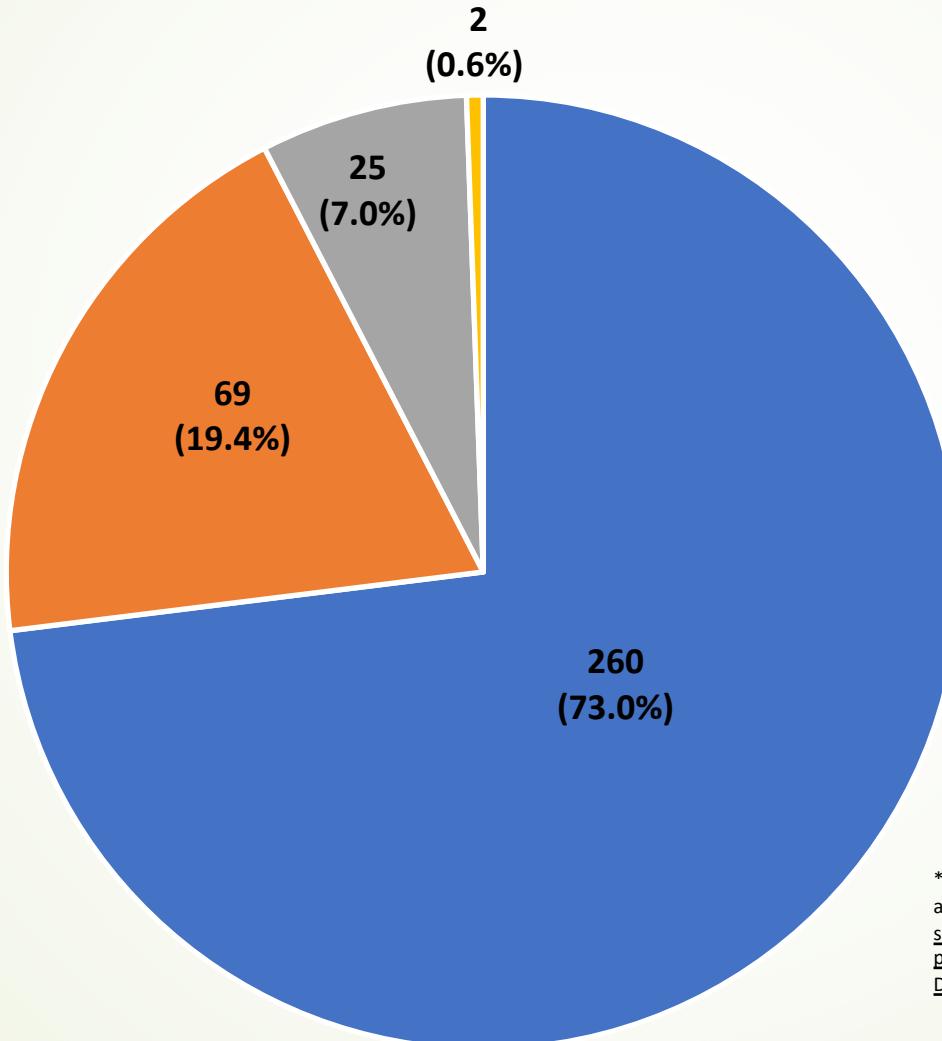


# Differences Rural-Suburban-Urban Geographies

Difference by Geography*	Census 2010 Actual Occupied Housing Units Counts versus Adjusted Counts							
	Total		Rural & Small Town		Suburb & Exurban		Urban	
	Diff	Percent	Diff	Percent	Diff	Percent	Diff	Percent
Kentucky	953	0.1%	18,184	2.2%	-14,813	-2.4%	-2418	-0.9%
Mississippi	1,236	0.1%	13,762	2.0%	-11,321	-2.8%	-1205	-6.4%
New Mexico	487	0.1%	15,792	5.0%	-9,411	-3.3%	-5894	-3.1%
South Dakota	2,113	0.7%	8,744	4.2%	-5,055	-5.4%	-1576	-7.0%
West Virginia	1,836	0.2%	9,630	2.9%	-6,161	-1.6%	-1633	-3.1%
Total	6,625	0.1%	66,112	2.8%	-46,761	-2.6%	-12726	-2.3%

\*Census Bureau adjusted counts for Census 2010 accessed 11/21/19 at the following url: [https://www2.census.gov/programs-surveys/decennial/2020/program-management/data-product-planning/2010-demonstration-data-products/02-Demographic\\_and\\_Housing\\_Characteristics/](https://www2.census.gov/programs-surveys/decennial/2020/program-management/data-product-planning/2010-demonstration-data-products/02-Demographic_and_Housing_Characteristics/)

# Differences at County Level



Counties by Difference  
between  
Actual and Adjusted  
Census 2010  
Occupied Unit Counts\*

■ 10% or Less

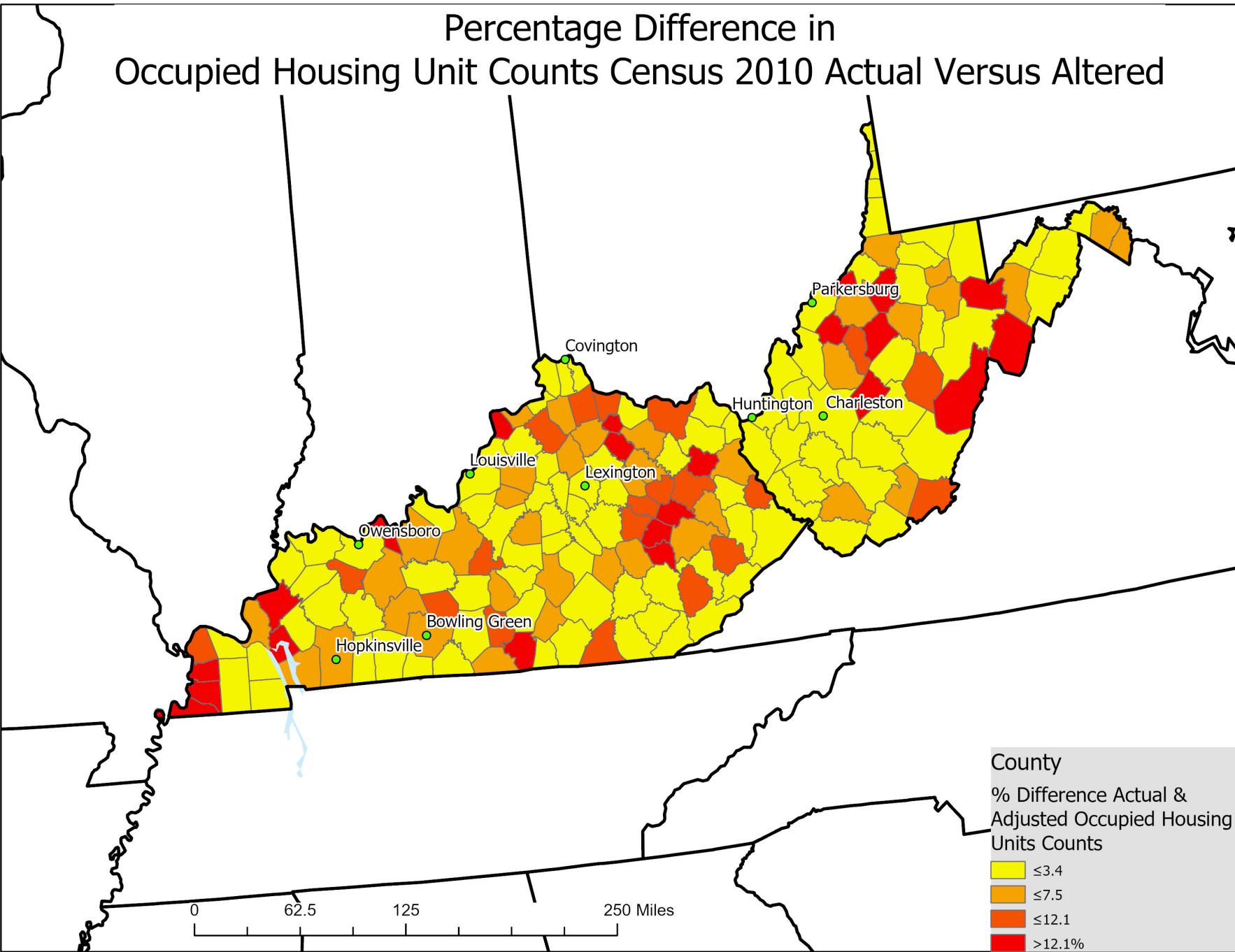
■ 11 to 20%

■ 20 to 50%

■ More than 50%

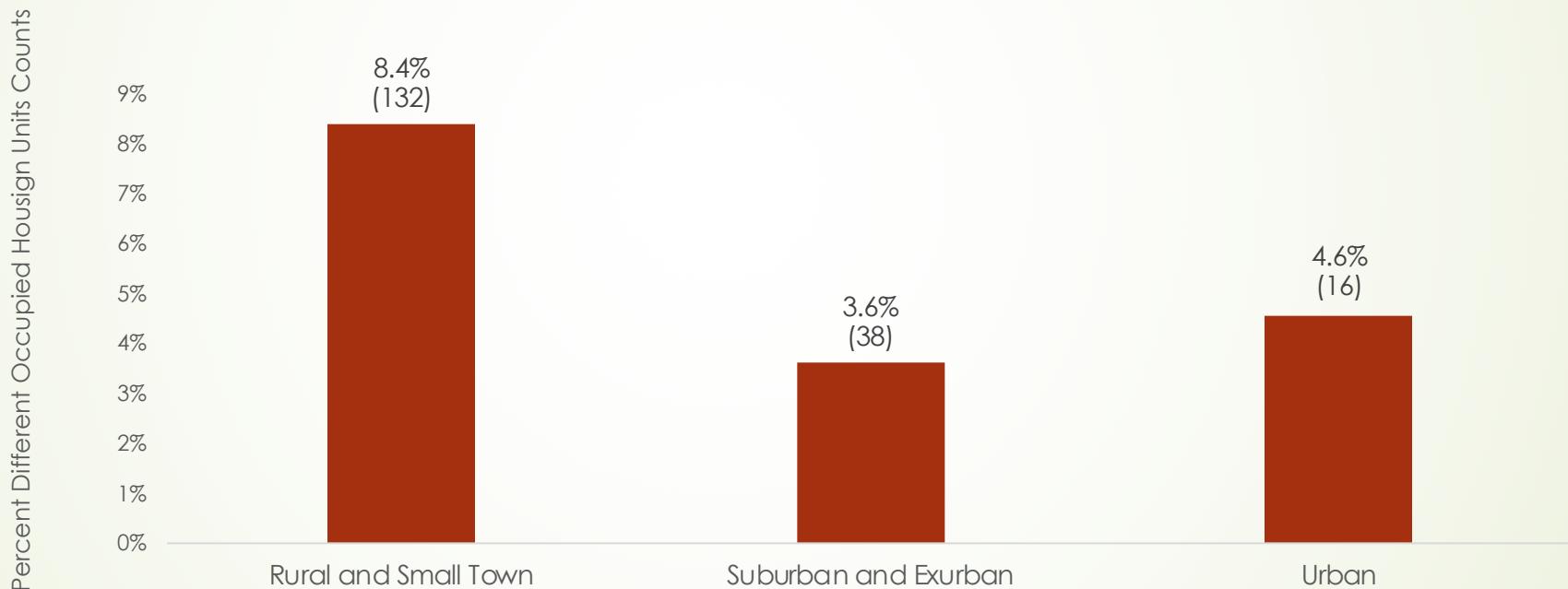
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# Percentage Difference in Occupied Housing Unit Counts Census 2010 Actual Versus Altered



# Census Tract Differences

Census 2010 Difference Actual vs. Adjusted Occupied Housing Units Exceeding 20% by Census Tract and Geography



\*Census Bureau adjusted counts for Census 2010 accessed 11/21/19 at the following url:<https://www2.census.gov/programs-surveys/decennial/2020/program-management/data-product-planning/2010-demonstration-data-products/02-Demographic-and-Housing-Characteristics/>



# Areas of Concern

- ▶ Explore Subsidized units as share of occupied housing
  - ▶ USDA Rural Development, Section 515 multi-family units share of rental stock in rural areas
  - ▶ In accurate values would likely mean inaccurate results
- ▶ Explore mortgage lending activity
  - ▶ Use ratio of loans to owner-occupied units
  - ▶ High needs area (Colonias, Native American Lands, etc.) census tracts
- ▶ Continuity



# Conclude

- ▶ Appreciate privacy and data protection concerns.
- ▶ Proceed with caution given the important role that Census Bureau data products play.
- ▶ Data adjustments would limit the use of the data.