



Decennial Census, Rural Housing Data and Differential Privacy

December 11th, 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



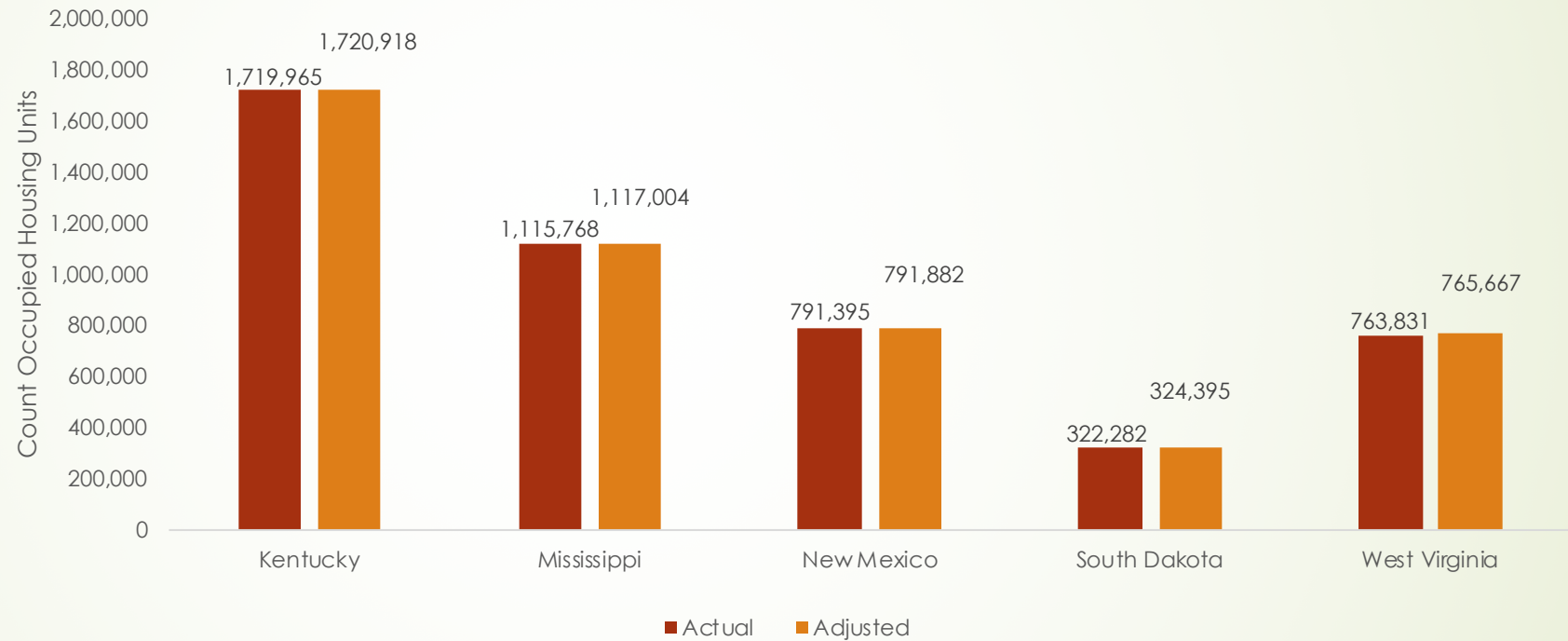
Background

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

Differences State Level

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

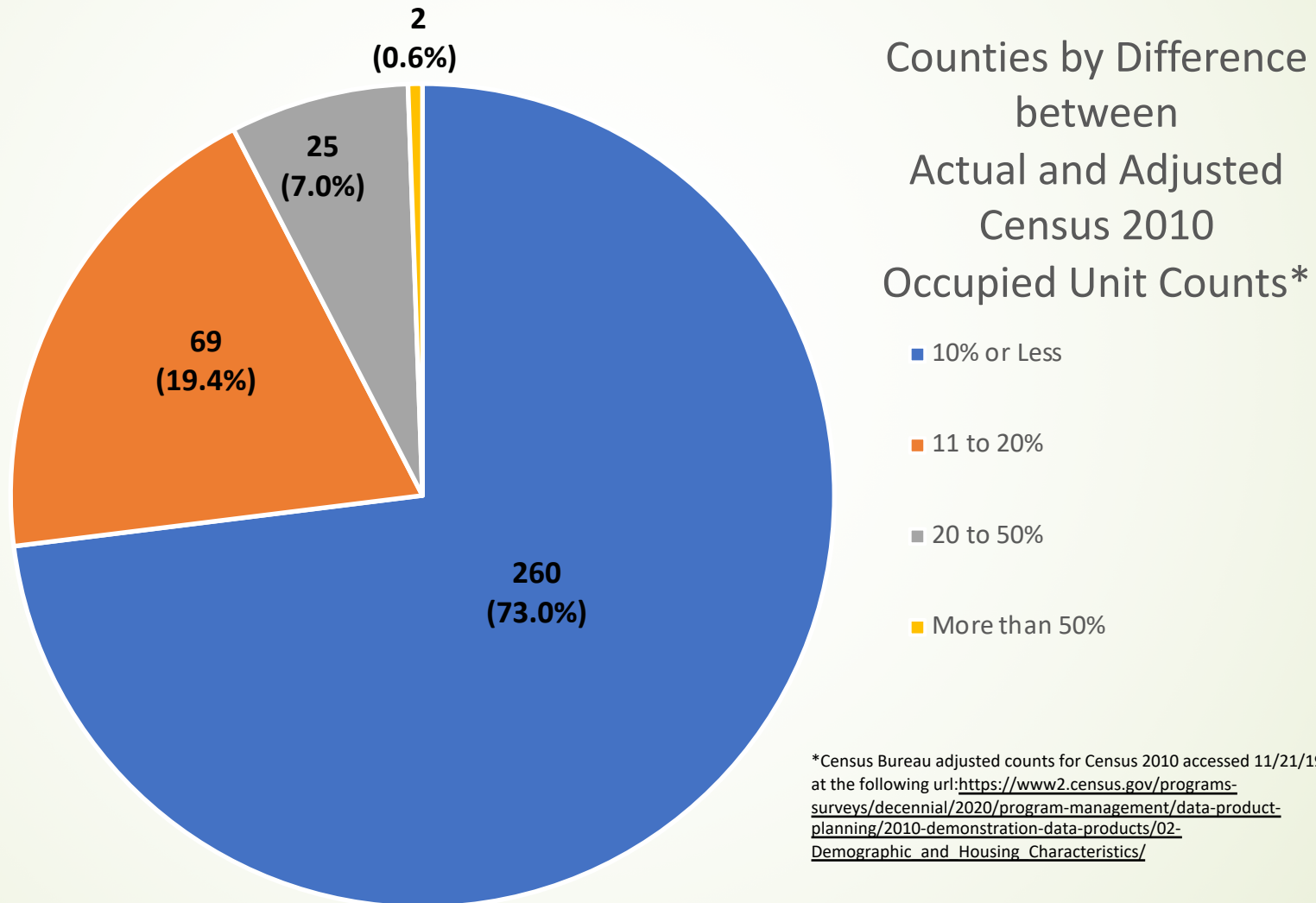


Differences Rural-Suburban-Urban Geographies

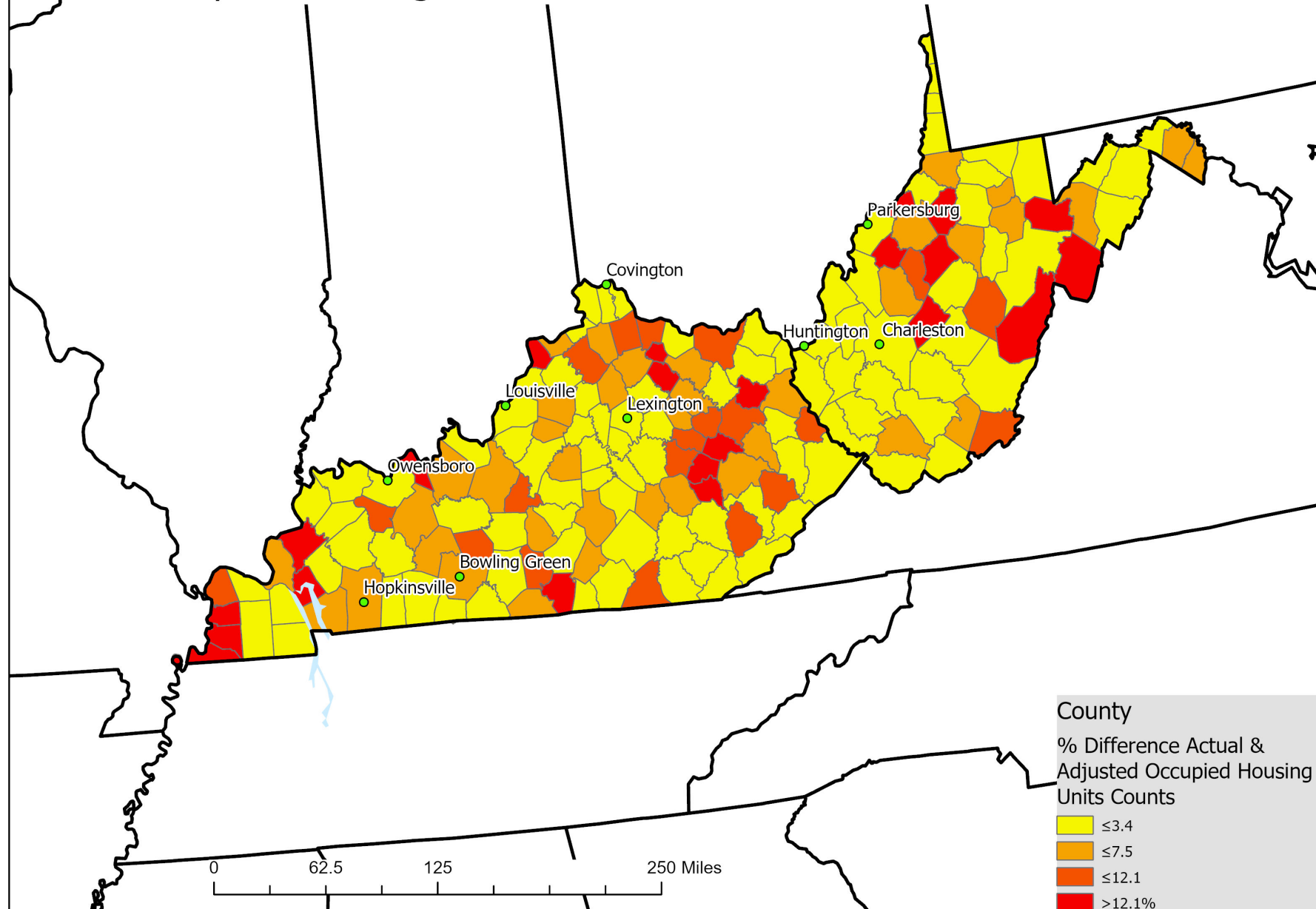
Difference by Geography*	Census 2010 Actual Occupied Housing Units Counts versus Adjusted Counts							
	Difference (Diff) = adjusted minus actual Percent = difference divided by actual							
	Total		Rural & Small Town		Suburb & Exurban		Urban	
	Diff	Percent	Diff	Percent	Diff	Percent	Diff	Percent
Kentucky	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/

Differences at County Level

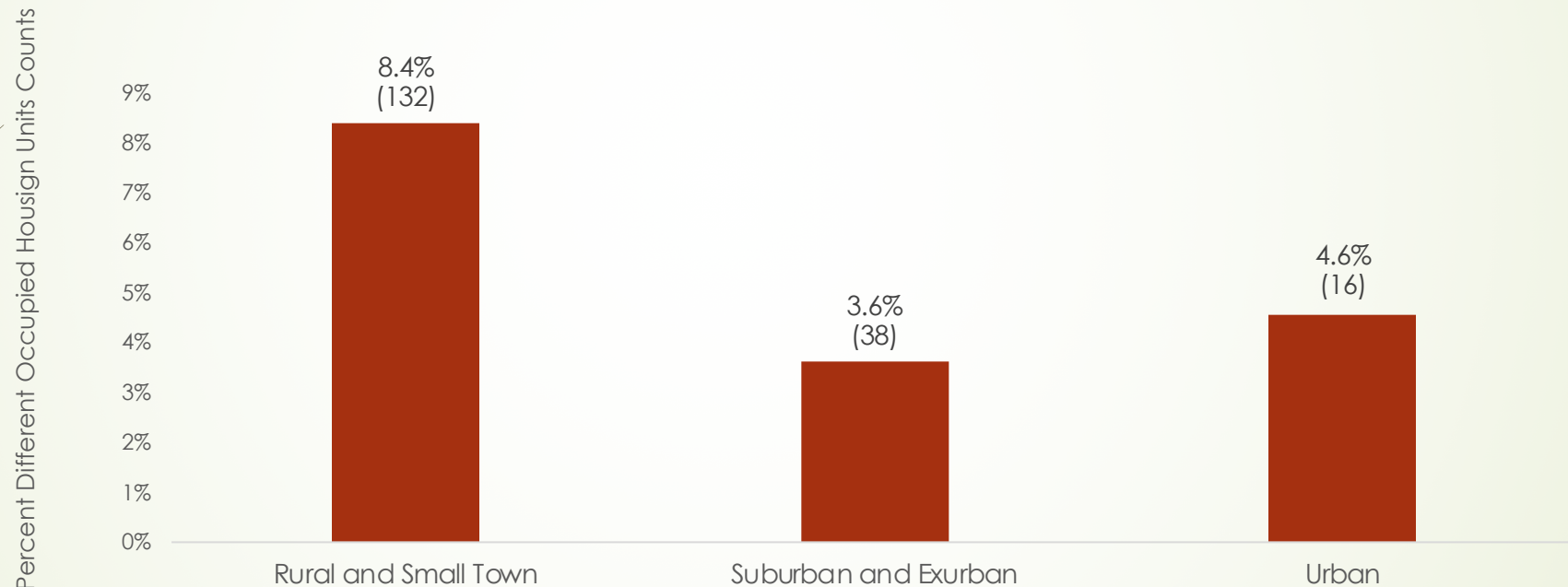


Percentage Difference in Occupied Housing Unit Counts Census 2010 Actual Versus Altered



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/](https://www2.census.gov/programs-surveys/decennial/2020/program-management/data-product-planning/2010-demonstration-data-products/02-Demographic%20and%20Housing%20Characteristics/)



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.
- 