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Adapting the ACS PUMS for Housing Policy Analysis

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ACS Data Users Group Conference

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Overview

- Background
  - The importance of Area Median Income (AMI)
  - Lack of detailed data on AMI
- Methods
  - Calculating Area Median Income for the PUMS
  - Assessment of data quality
- Applications
  - Detailed portraits of low-income households
  - Forecasting need for affordable housing units
  - Population in low-income households
  - Annual estimates of rental affordability

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What is Area Median Income?

- Defined by HUD; specific to geographic areas
  - $82,900 for MSP metro versus $107,000 for DC metro
- Percentages of AMI are used to measure household income and housing affordability:

30% of AMI	50% of AMI	80% of AMI
• **$621** is an affordable rent • Jobs at this wage include home health aides and funeral attendants	• **$1,036** is an affordable rent • Jobs at this wage include interior designers and bus drivers	• **$1,596** is an affordable rent • Jobs at this wage include accountants and police officers
$24,850 annual income for a family of four	**$41,450** annual income for a family of four	**$63,900** annual income for a family of four

Source: U.S. Bureau of Labor Statistics

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Limited Data for AMI

	Pre-defined tabulations	*Microdata for any tabulation*
Absolute dollar amounts	**ACS Summary Files** "What % of households making less than $50,000 are cost-burdened?"	**ACS PUMS** "What % of households making less than $50,000 have a vehicle?"
% of AMI	**CHAS Data** "What % of households under 50% of AMI are cost-burdened?"	**ACS PUMS with AMI** "What % of households under 50% of AMI have a vehicle?"

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Methods: Getting AMI into the PUMS

- Household income as % of AMI
  - "How does household income compare to HUD's limits?"

	1 person	2 people	3 people	…	8 people
80% of AMI	$44,750	$51,150	$57,550	…	$84,350
50% of AMI	$29,050	$33,200	$37,350	…	$54,750
30% of AMI	$17,400	$19,900	$22,400	…	$32,850

2-person HH
Income = $20,000

3-person HH
Income = $20,000

30% to 50%
of AMI

Under 30%
of AMI

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Methods: Getting AMI into the PUMS

- Affordability of housing units (rental)
  - "At what level of AMI could a household afford this unit?"
  - Assume household size = 1.5 persons per bedroom

	1 person	2 people	3 people	…	8 people
80% of AMI	$44,750	$51,150	$57,550	…	$84,350
50% of AMI	$29,050	$33,200	$37,350	…	$54,750
30% of AMI	$17,400	$19,900	$22,400	…	$32,850

2-bedroom unit
Assume 3 people
Gross rent = $1,000

Affordable at 50% to 80% of AMI

	Assumed income (3 people)	Affordable rent (Income ÷ 12 × 30%)
80% of AMI	$57,550	$1,439
50% of AMI	$37,350	$934
30% of AMI	$22,400	$560

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Methods: Getting AMI into the PUMS

- Affordability of housing units (ownership)
  - "At what level of AMI could a household afford this unit?"
  - Assume household size = 1.5 persons per bedroom

	1 person	2 people	3 people	…	8 people
80% of AMI	$44,750	$51,150	$57,550	…	$84,350
50% of AMI	$29,050	$33,200	$37,350	…	$54,750
30% of AMI	$17,400	$19,900	$22,400	…	$32,850

Two-bedroom unit
Assume 3 people
Value = $200,000

Affordable above 80% of AMI

	Assumed income (3 people)	Affordable property value (Income × 3.36)
80% of AMI	$57,550	$193,368
50% of AMI	$37,350	$125,496
30% of AMI	$22,400	$75,264

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Methods: Assessing quality

- PUMS now has the income level at which each housing unit is affordable, as well as the household income for each household, in terms of % of AMI

- Also has same limitations of PUMS relative to summary files
  - Less geographic precision
  - Fewer cases

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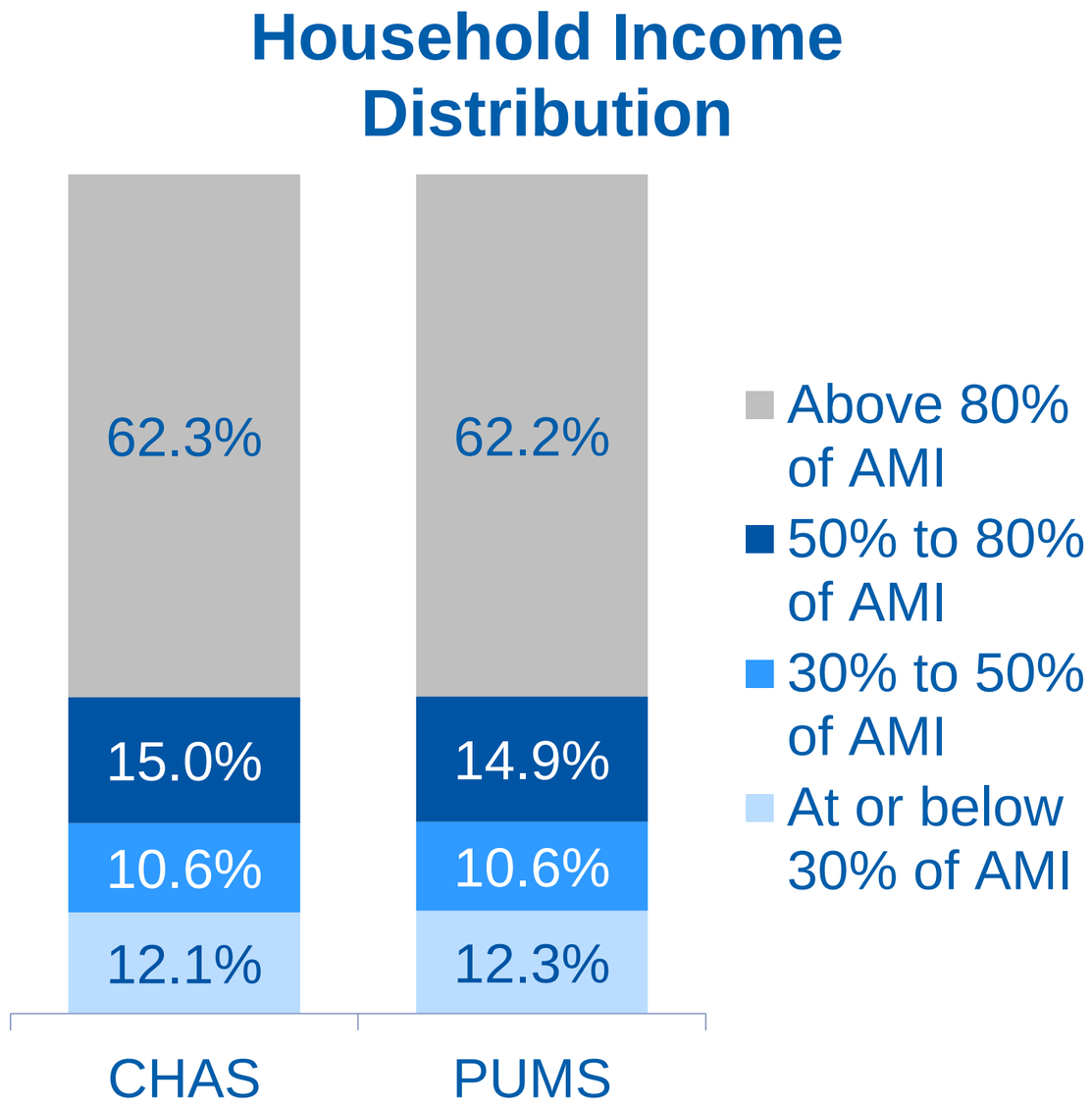
Methods: Assessing quality

- Apples-to-apples comparison of PUMS and CHAS*
  - PUMS estimates generally quite close to CHAS estimates
  - Reliability of PUMS estimates slightly lower than CHAS estimates, but generally very good (most CVs < 0.15)



** - Reflects comparison of selected tables from 2007-2011 CHAS with estimates based on 2007-2011 ACS PUMS for the seven-county Twin Cities region*

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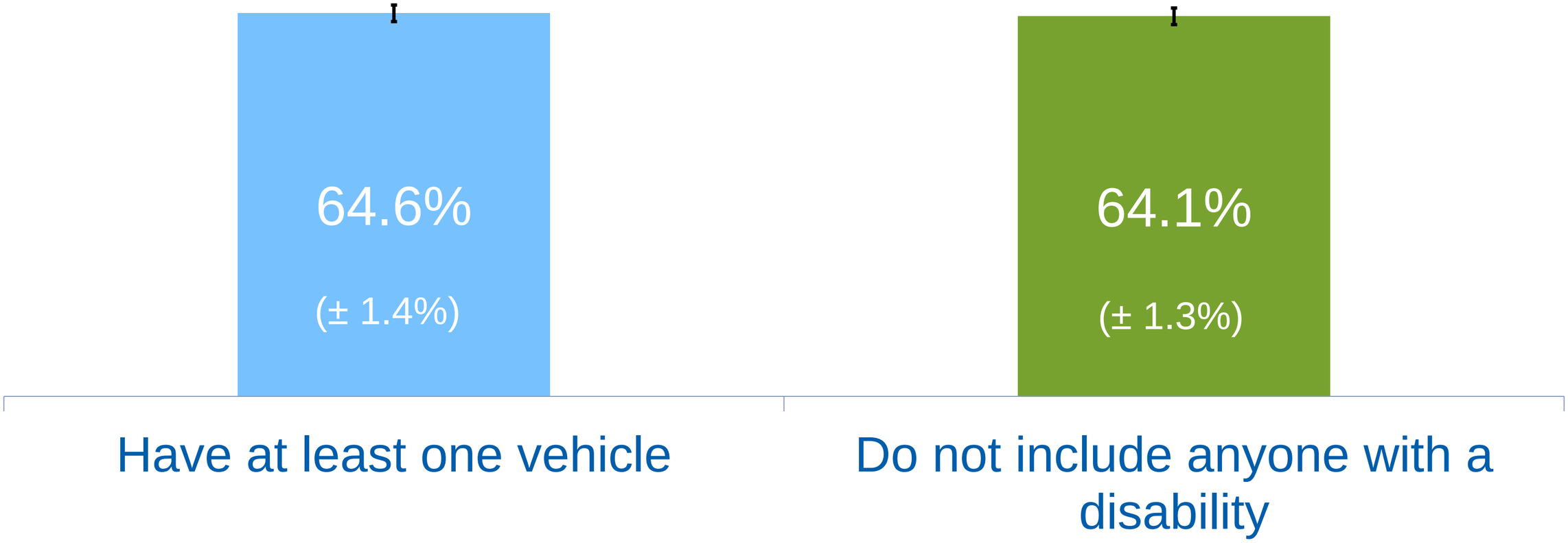
Application 1: Portraits of Households

Among extremely low income households (<= 30% of AMI) in the TC region:



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Application 2: Forecasting

- Met Council must determine future need for affordable housing units

- Met Council forecasts regional household growth (16 categories)

- How many of these households will need new affordable units?
  - What share are low-income (at or below 80% of AMI) AND
  - Don’t already own a home free and clear?

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Application 3: Portraits of People

- In Twin Cities households with income at or below 30% of AMI:

40.5% of *householders* are people of color

(± 1.4%)

56.5% of *all people* are people of color

(± 1.6%)

CHAS or PUMS provides this

Only PUMS provides this

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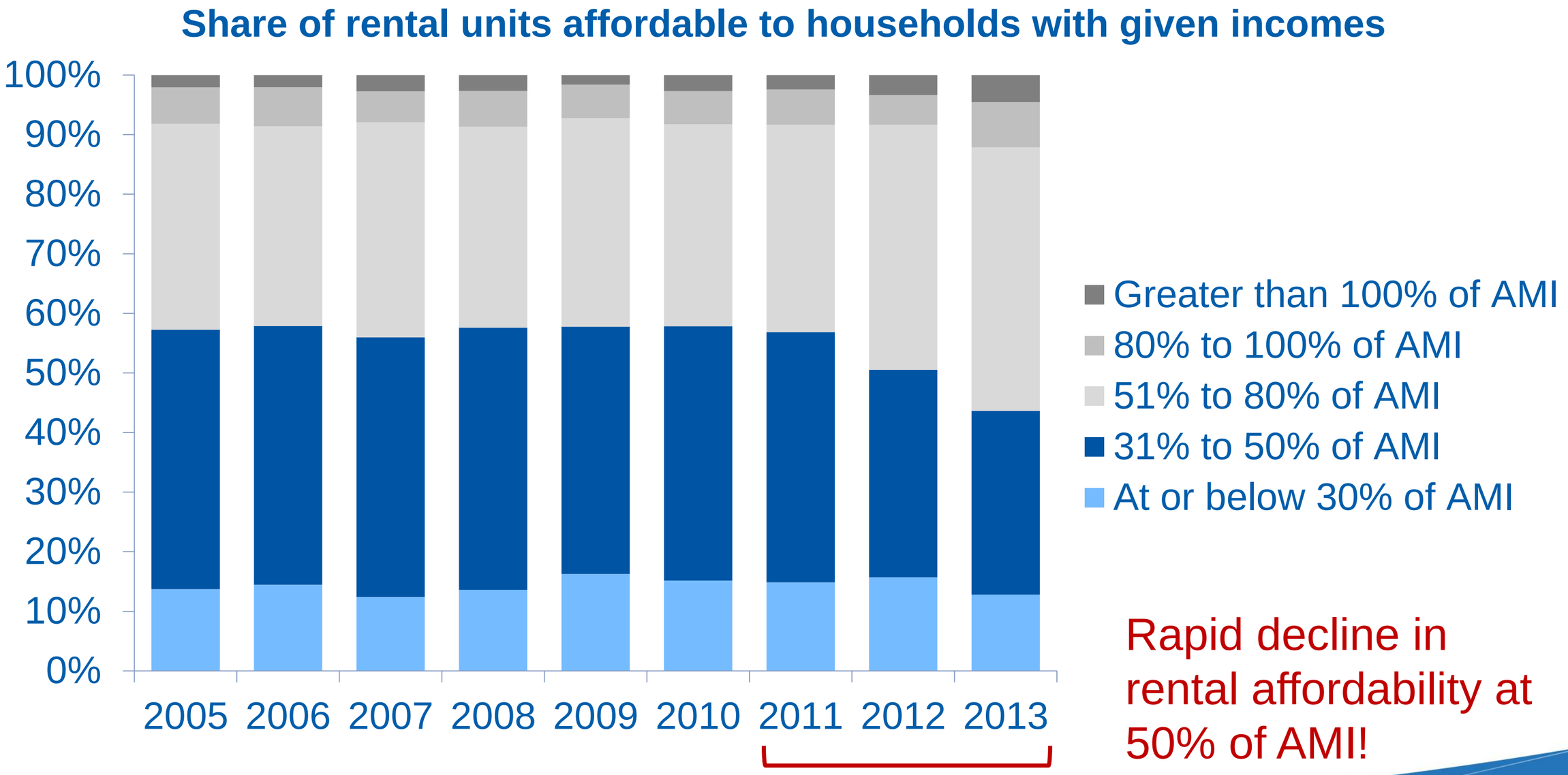
Application 4: Trends



Rapid decline in rental affordability at 50% of AMI!

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Lessons

- Generally, the PUMS is a good alternative where CHAS data do not have necessary detail on AMI

- Small losses in accuracy and reliability

- Applications and advantages
  - More detailed characteristics
  - Data on *population in households*
  - More current data

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Questions and comments welcome!

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