

# Matching the American Housing Survey to tax assessment data: some preliminary results

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# Five Research Questions

1) Can individually deeded housing units in a household survey be linked to tax assessment data via an address match?



Single family detached and attached

70 – 80 %



Manufactured homes (not in parks)

30%



Condos in MF buildings

13%

# Research Questions

Can tax assessment data be used to...

- 2) ... replace a housing characteristic question for all respondents?
- 3) ...directly substitute for a single respondent's missing or erroneous housing characteristic response?
- 4) ...impute a housing characteristic for a single respondent using neighborhood aggregates? (future research)
- 5) ...add a new housing characteristic to the AHS?

# Challenges

- A tax assessment characteristic may not be available for all jurisdictions
- A tax assessment characteristic may not be conceptually similar to the AHS characteristic
- A tax assessment characteristic may not be measured the same way across all jurisdictions

# Characteristics

## Exterior

- Type of structure
- Lot size
- Unit size
- Year built
- Garage/carport
- Floors/stories

## Interior

- Basement
- Bathroom
- Bedrooms
- Total rooms
- Sewer and Water type
- Fireplace
- HVAC

## Financial

- Year acquired
- Tax amount

### For a later date...

- Condo
- Sale price

# Results:

## Type of Structure

- No clear correspondence between a single tax assessment variable and the Census type of structure concept.
- 6 different tax assessment variables contain information that might be helpful
- Substantial variation in availability of each of the six variables at the state level.

# Results:

## Type of Structure

- Used state-level, tree-based classification models to determine which of the six tax assessment variables predict structure type
- Results show different tax assessment variables matter in different states
- Generally, the state models perform well (misclassification rates of 5-15%)

# Results:

## Exterior Features

Characteristic	Availability Rate	Correspondence Rate
Lot size	97%	59% in same group 90% in same group or within 1 group
Unit size	91%	52% in same group 83% in same group or within 1 group
Year built	90%	75% in same group 93% in same group or within 1 group
Garage	63%	91% (present or not present)
Floors	82%	84% (exact value) for all housing units 89% (exact value) for housing units w/o basement



# Results:

## Interior Features

Characteristic	Availability Rate	Correspondence Rate
Basement	uncertain	71% (present/not present)
Full bathrooms	59%	80% (exact value)
Half bathrooms	58%	78% (exact value)
Bedrooms	66%	77% (exact value)
Total rooms	46%	41% (exact value) 81% are +/- 1 room
Sewer type	27%	93% (exact value)
Water type	25%	91% (exact value)
Fireplace	41%	81% (exact value)

# Results:

## Interior Features

Characteristic	Availability Rate	Correspondence Rate
Heating type	73%	80% (warm air furnace/other type)
Heating fuel	25%	66% (gas/not gas)
Central A/C	50%	95% (present/not present)

# Results:

## Sales/Financial

Characteristic	Availability Rate	Correspondence Rate
Property tax amount	98.2%	<ul style="list-style-type: none"> <li>• 50% of the AHS cases are +/- 10% of tax records value</li> <li>• 80% of the AHS cases are +/- 30% of tax records value</li> <li>• AHS respondents have a slight tendency to underestimate their property tax amount, relative to tax records value</li> </ul>
Year acquired	74%	<p>74% in same 5-year group 87% in same group or within 1 group</p>