

# Audit Notes from Tallahassee Utilities

Overview of data and future research  
questions

# Audit Notes

- Comments from Free Energy Audits
  - Time period: 2004-2011
  - Self-selected participants: renters and owners
- 11,613 unique audit notes were coded
- Coded along 33 different variables
- Coding guide created for each variable
- 5 different coders

# Coding Categories

- Policy Information
  - 7 variables
    - What policy being used/previously used?
    - Policy Specifics/Policy Use
- Housing Characteristics
  - 18 variables
    - Before and after characteristics
    - Habits and habit changes
    - Recommendations, and does rec. match needs?

# Coding Categories

- Attitudes and Audit Details
  - 8 variables
    - Who was the surveyor?
    - Did client attend scheduled audit?
    - Attitudes toward conservation, behavior
    - Barriers to conservation, utility issues/mistakes?

# Coding Variables

- Policy
  - Rebates
  - Loans
  - Grants
  - Energy Assistance Program
  - Ceiling Insulation Program (80/20, 100, Unknown)
  - Other
  - Past Policy

# Coding Variables

- Housing
  - Insulation (Pre, Post, Recommended)
  - Air/Heat Temperature (Current, Recommended, Special)
  - Water Heater Temperature (Current, Recommended)
  - Usage KWH Per Day
  - Usage CCF Per Month
  - New Technology (Added, Recommended)
  - Pool Pump Runtime (Current, Recommended)
  - Recommended Match

# Coding Variables

- Attitudes and Audit Details
  - Surveyor
  - Surveyor Complaint
  - Audit Declined
  - No Show
  - Customer Energy Performance
  - Customer Attitude
  - Discussed Barrier
  - Meter Test Request

# Coding Example

CIP 80/20 ,gen audit. Lowered w/h to 120,  
owner not home 3 days a week.

Rec: when away that he turn off w/h, set a/c to 85,  
R-38, CFL's. alex

CIP	r-waterheat	a_specialtemp
80/20	120	85
r_ins	r-newtech	Surveyor
38	lightbulbs	alex



# Examples of Coding

- Customer using the 80/20 plan to increase insulation from R22 to R38 on 1000 sq. foot. Customer is requesting Mark or Russell because of some HVAC questions and concerns..atw
- Customer requested an energy audit on 9/25/06. I schedule the energy audit on 12/14/06 at 8:30 I forgot to due the audit. I talk with customer and we where going to reschedule the audit. I called 1/22/06. He will call me back. Russell
- Top story apartment has no attic. Ceiling poorly insulated. Keep air atd heat at 68 and 78 degrees respectively. Air set at 76 all summer. Turn off when vacant. Consumption dropped by over 60% this winter. High bills due to cooling.

# Interrater Reliability

- 6.26% of total coded notes randomly sampled
  - 50% by grad assistant at IUPUI
  - 50% by grad assistant at FSU
  - Approx. 50 per 1,000 completed
  - 727 coded for interrater reliability right now
- Coded with blank slate using same guidelines

# Interrater Reliability

- Compared all IUPUI vs. all FSU
  - Numeric Variables more precise: most >60%
    - For agreement on actual values
    - Coded as missing not included in percent measure, if included most >80%

# Potential Research Questions

- How do energy/water use changes correspond to recommendations?
  - Do changes unrelated to recommendations occur?
- Are recommendations followed?
  - Based on subsequent check-ins, policy use.
- Which issues are most tied to high consumption?
- Do surveyors recommend certain changes at different frequencies?
  - How do surveyors' qualitative judgments compare to consumption figures?

# Potential Research Questions

- Why were specific loans/rebates/grants targeted often?
  - Surveyor tendencies?
- Is there a major issue with customer lack of energy information, due to a lot of maintenance and weather stripping recommendations?
  - Lack of Information?
- Is there a difference in recommendations followed if house/apartment is owned or rented (Landlord decisions).

# Limitations

- There are no standardized reporting requirements in regards to energy audit inspections in Tallahassee.
- Repeats in Database do exist, most have been taken care of, but are still within dataset.
- Character cutoff within reporting makes certain audits inadequate to code.
- There can be variations in perception of what is needed to code due to hand-coding.