Integrating Open Source Data into Utility Customer Systems

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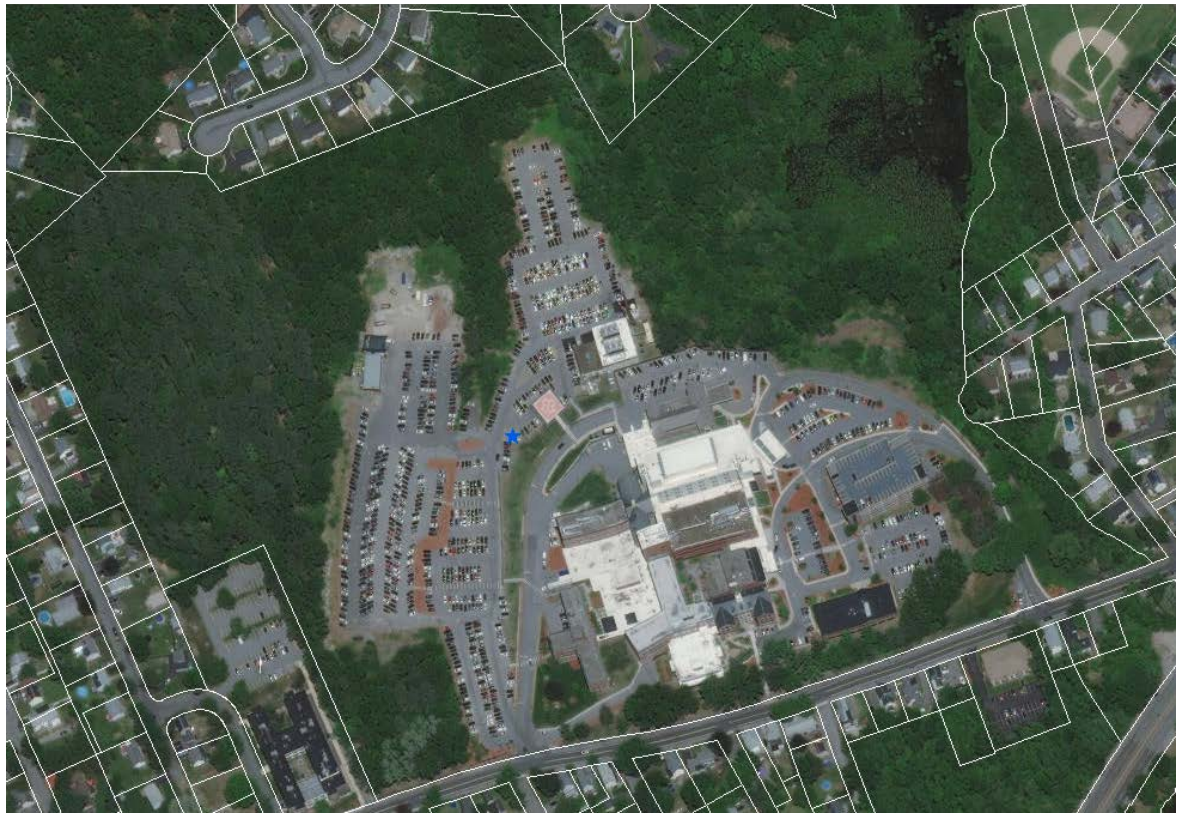
Discussion Overview

01	Introduction and background
02	Data integration: sources and methods
03	Data integration: challenges and solutions
04	Locational analytic targeting
05	Customer analytic targeting



How do we get data talking when there is no clear link between datasets?

Background: Why we did this, and why it matters to you

"***trying to make connections in our data jungle is next to impossible sometimes***"...why?!

- Systems do not talk / share any similarities
- Institutional knowledge is inaccessible (or retiring!)
- Too much material, and too complex
- Help is not affordable
- Rationalization: data would not tell us anything new

Massachusetts – 5+ years data, 7 program administrators, legacy company IT systems.

the "data jungle" does not have to be daunting; it also does not have to be complex, expensive, or out of reach

Data Used

Thematic Data

- Location - primary shared grain
- Text – non-standard, but (usually) very descriptive
- Descriptive attributes – refine matches and confidence

Data you (probably) have

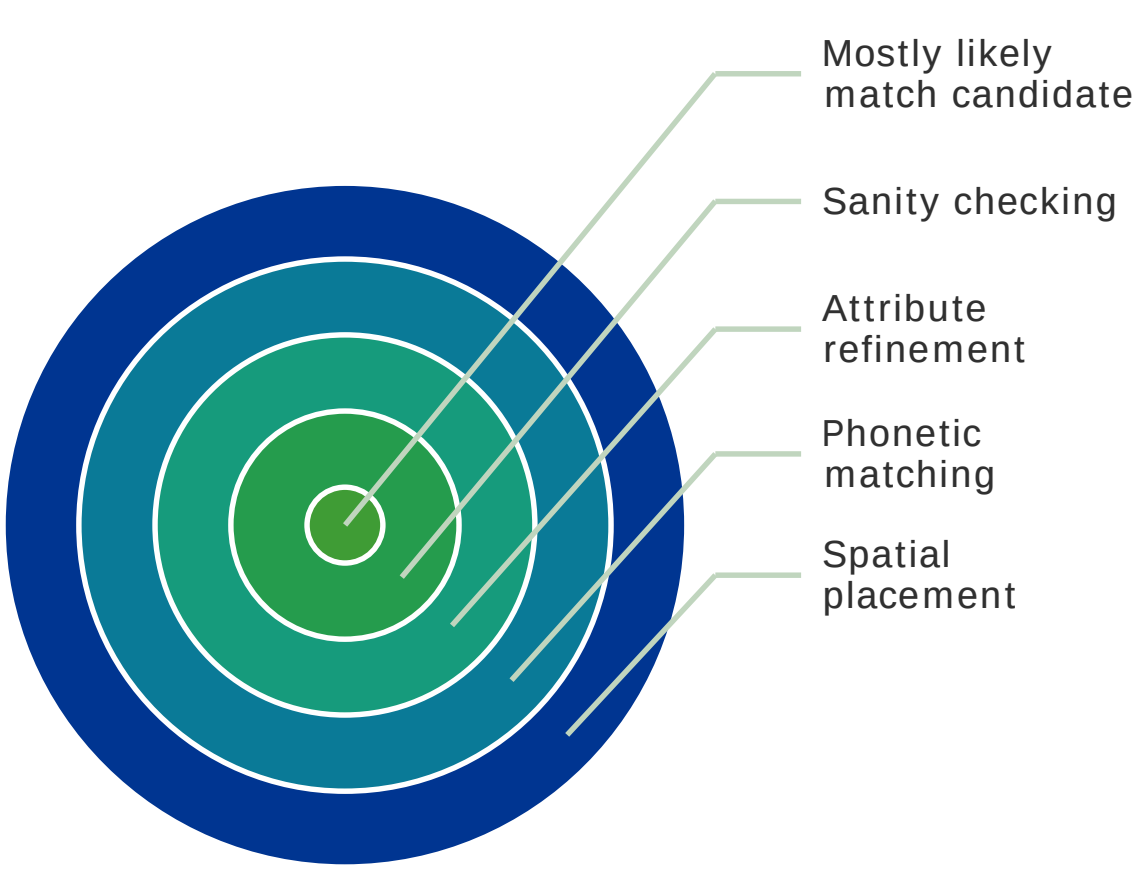
Specific Data Sources (*paper table 1*)

- PA Billing and Tracking inventory data
- Tax assessment building data (MA L3 Parcels)
- EPA emissions and industry data (FRS database)
- Geographic summary data (e911, ACS, ZCBP, URCC, LULC)

The data to integrate

You probably already have a lot of this information… or at least a quick link to it!

Methods, Challenges, and Solutions



Spatial Placement

- Address records are inaccurate
- Address is missing
- Geocoder is inaccurate
- Data grain is inconsistent

Phonetic Matching

- Names inconsistent
- Names missing
- Names unstructured

Attribute Refinement

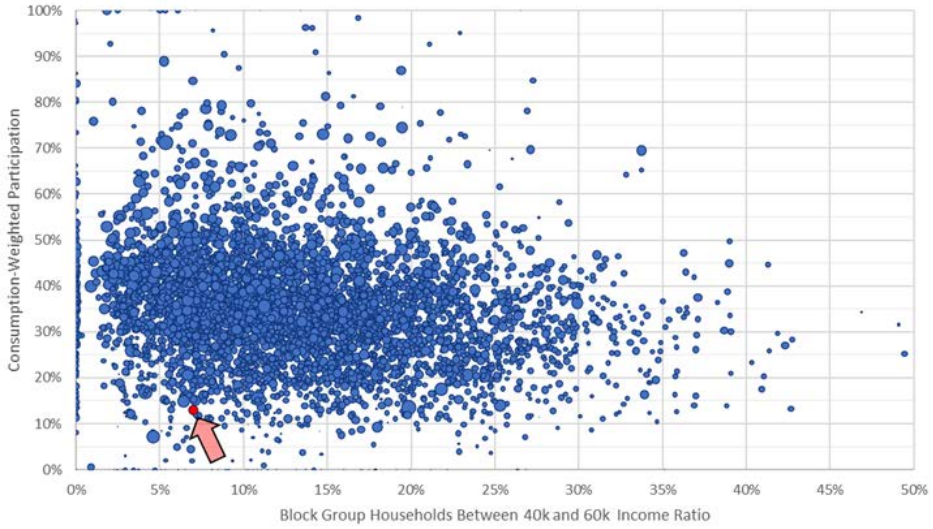
- Phone number alignment
- Consumption relative to building size
- Neighbourhood checks

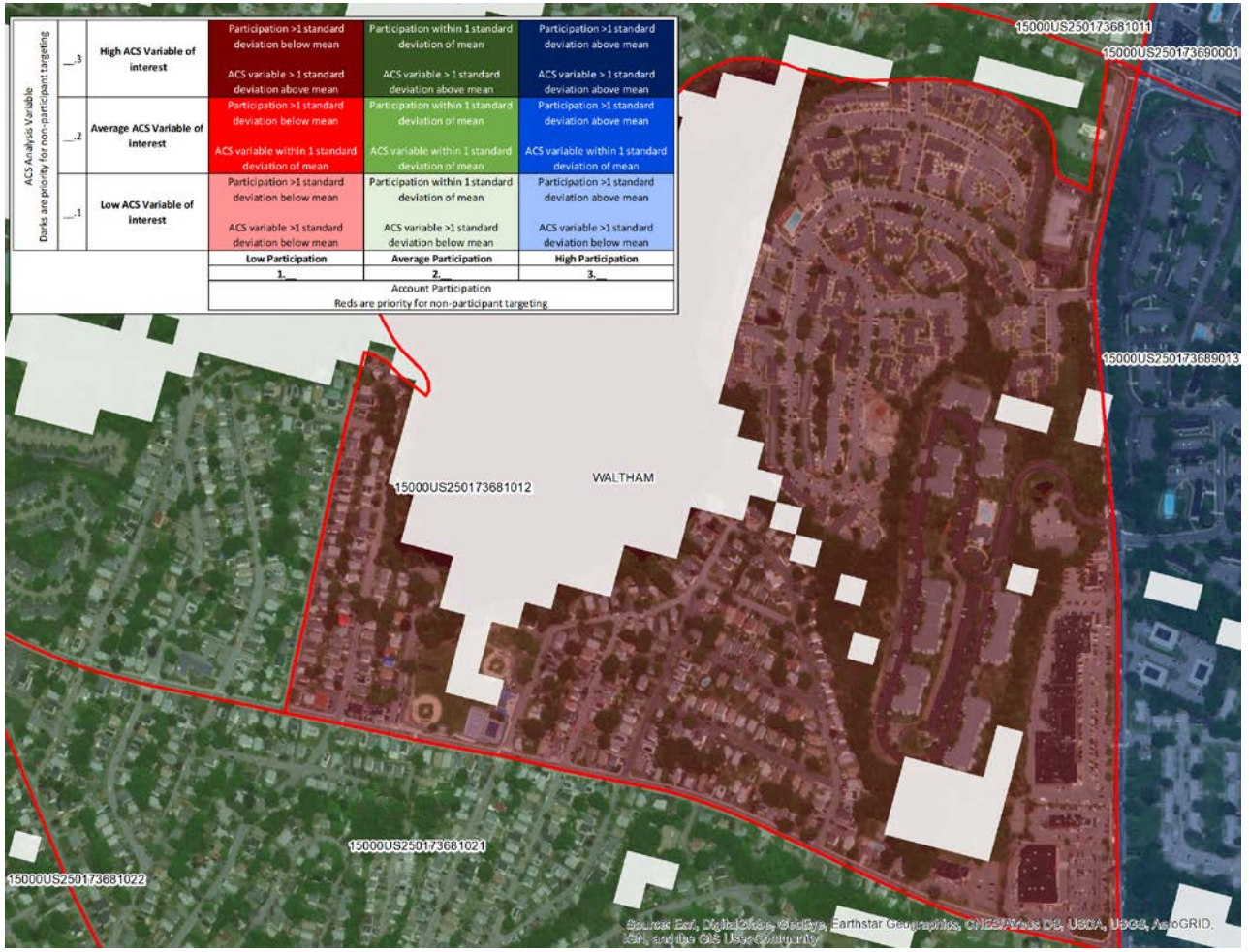
For best results – especially point level – there is no one silver bullet: use everything you have!

Locational analytic target

- Bivariate map – moderate income to unique street address participation rate
  - Z-scores to identify outliers
  - Mask out land use

- Identification of comparable groups



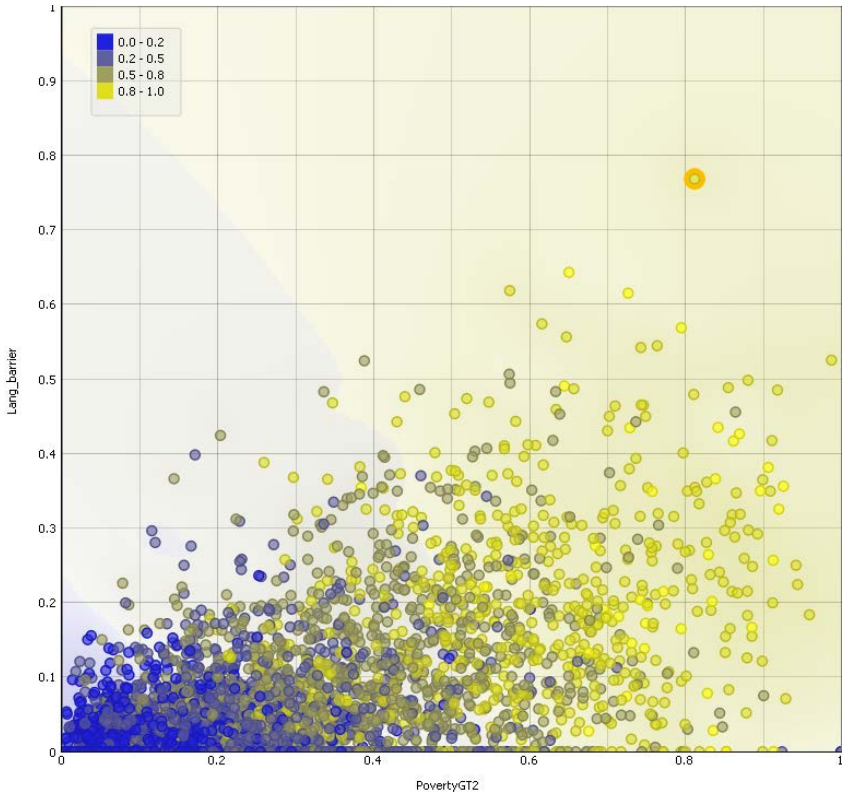


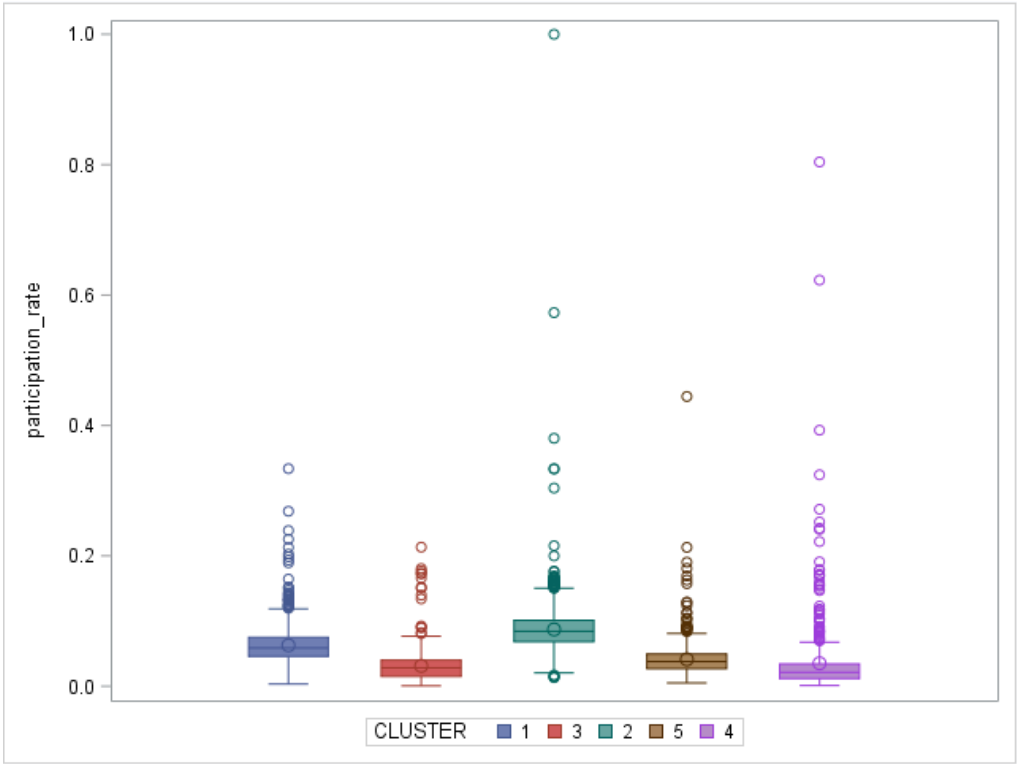
Customer Analytic Targets

- Town homes… same vintage, style, and sizes… but not same participation and savings
- Single family cross fuel opportunities
- Affordable housing units in the apartment complex
- Using different program tracks… can impact savings and measure choices
- Tax data can help understand ownership structures! (Owner-occupied, LLC, renters, etc.)

What the future holds

- Geography: critical for data integration, and for data insights
- Once integrated… how to leverage?!
- Real time or informative time… real time is not always feasible or desirable!





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