

# MULTIFAMILY PROGRAM DESIGN OPPORTUNITIES AND WHERE TO FIND THEM

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DISCOVERING CUSTOMER INSIGHTS FROM  
DIVERSE DATA SOURCES

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# MOTIVATION

## A key challenge for program administrators is understanding multifamily buildings in their territories

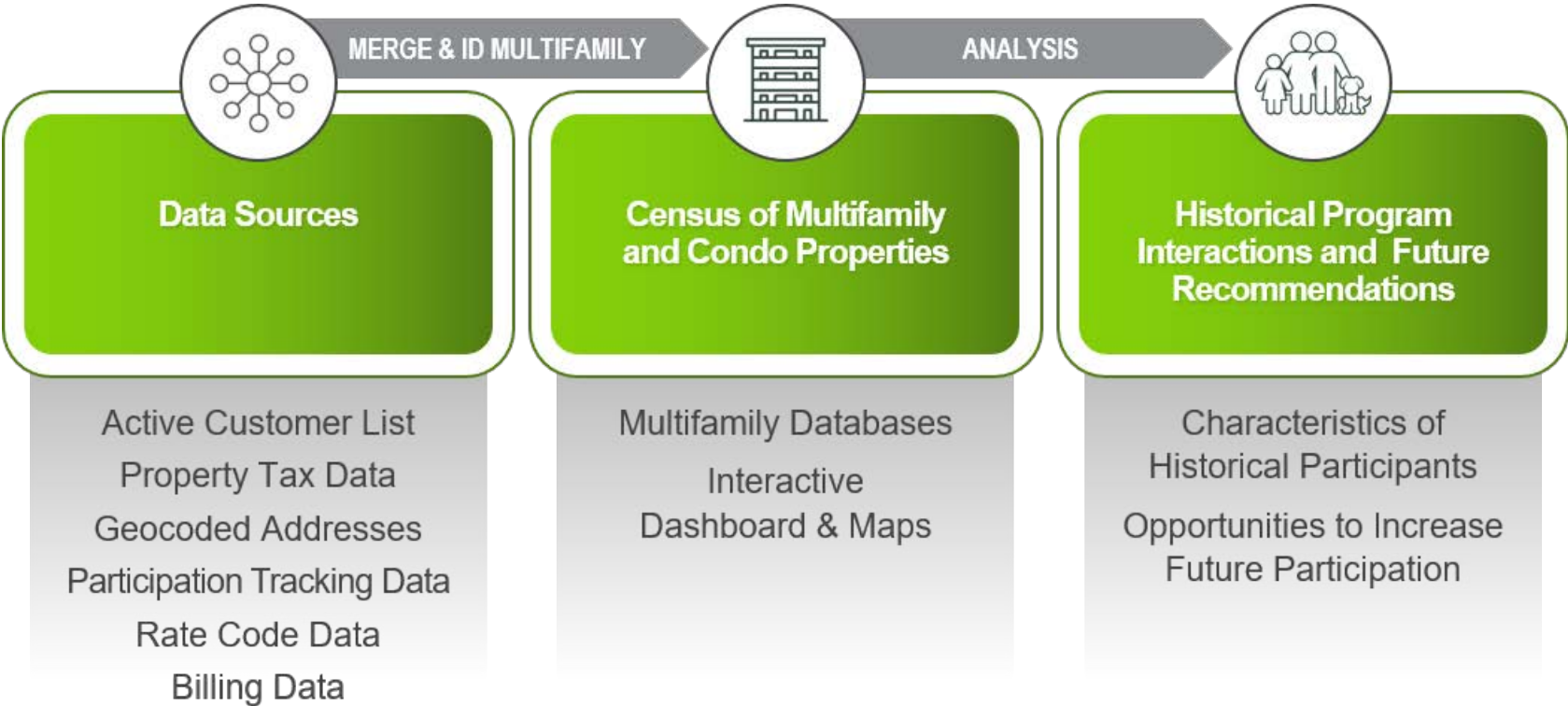
- Where are these buildings located?
- What are the characteristics of these buildings?
- How have past program activities have served these markets?

Recently, the team conducted study with the electric and gas program administrators in Massachusetts with these objectives:

1. Develop a **detailed database of multifamily buildings in Massachusetts** and characterize any past program interactions with this population
2. Analyze this compiled building data to **identify opportunities for customized multifamily program delivery strategies** to maximize energy savings.

# STUDY OVERVIEW

A solution to this challenge is leveraging a diverse set of available data sources to gain key insights



# METHODOLOGY

The team reviewed and merged several data sources to develop a multifamily building database



Geocoded  
Addresses



Participation  
Tracking



Property Tax  
Data



Billing History



Active Customer Lists  
(Residential and  
Commercial & Industrial)



Multifamily  
Building  
Databases



Rate Codes



Census Data

# DATA HEALTH

Each active account may have been linked with one or more data sources, though not all accounts were completely matched with all other data sources

## Residential Active Customer List

**56%**

of 3.9 million customers  
matched to all sources

## C&I Active Customer List

**40%**

of 120,000 customers  
matched to all sources  
(accounts associated with  
residential locations only)

# MULTIFAMILY DEFINITION

**After developing the database, the team identified accounts associated with multifamily buildings**

This study focused on identifying buildings with five residential units or more that met any of the following criteria:

## Number of Housing Units

- has five or more housing units at the address

## Property Tax Data

- has a property tax use code indicating a multifamily building with five or more housing units

## Past Participation

- historically participated in a multifamily program

## Rate Code

- have one or more accounts under multifamily-specific rate codes

# MULTIFAMILY CENSUS RESULTS

The team identified approximately 64,197 multifamily buildings comprising 644,274 housing units

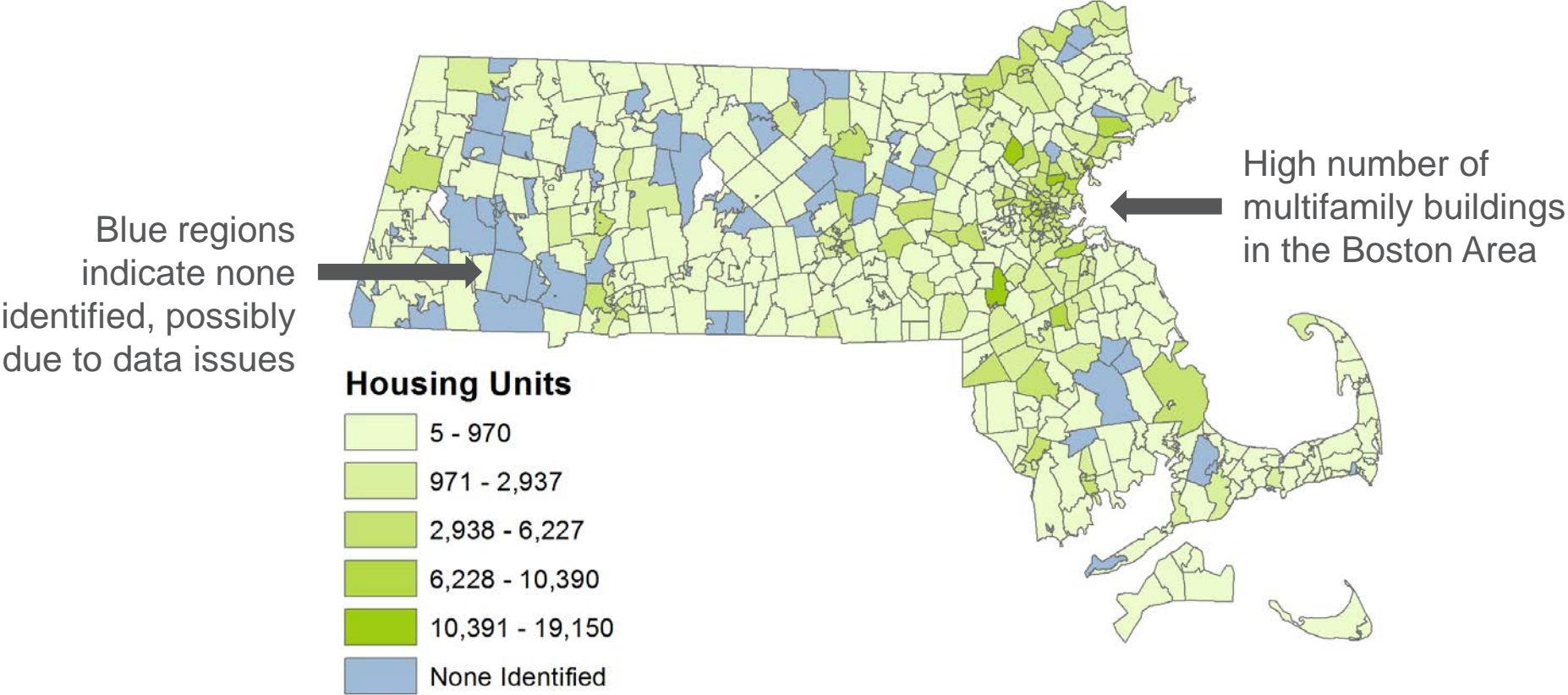
Description	Housing Units in Building	Housing Units	Buildings
Multifamily buildings (including both apartments and condos)	5 or more units	611,381	37,751
	Less than 5 units	32,893	26,446
	<b>All</b>	<b>644,274</b>	<b>64,197</b>
Multifamily condos only	5 or more units	111,005	6,713
	Less than 5 units	13,591	11,961
	<b>All</b>	<b>124,596</b>	<b>18,674</b>

- The American Community Survey estimates 586,956 housing units in buildings with five or more units (US Census Bureau 2016)
- The team also identified 18,674 multifamily condo buildings comprising 124,596 units

United States Census Bureau. "Selected Housing Characteristics." 2016 American Community Survey 5-year Estimates. Available at: <https://factfinder.census.gov>

# GEOGRAPHIC DISTRIBUTION

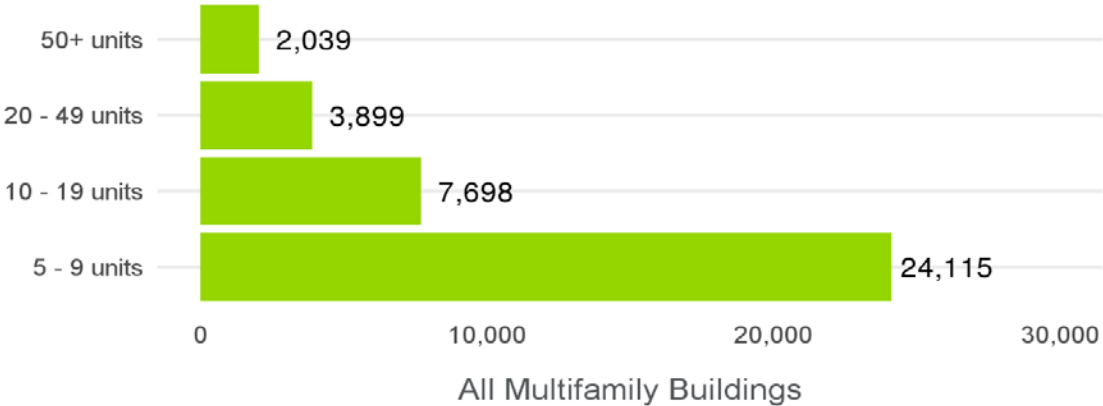
The multifamily database enabled exploration of the geographic distribution of multifamily buildings



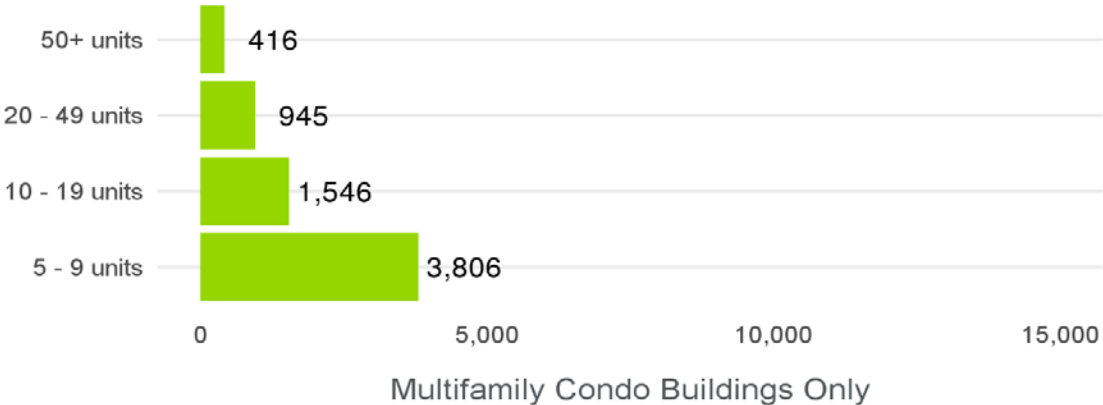


# BUILDING CHARACTERISTICS

The multifamily database enabled exploration of various building characteristics, including building size (number of housing units)



A large number of multifamily buildings have between 5 to 9 units, representing a potential opportunity for increasing engagement



# EVERSOURCE CASE STUDY

**Eversource has used this data to better understand, segment, and tailor offerings to the multifamily market**

Data prepared as part of Statewide effort

Additional Eversource data appended

Additional cleaning and data aggregation done more manually

Use dataset to understand, target, and deliver program

# EVERSOURCE MULTI-FAMILY DATASET

## CoStar

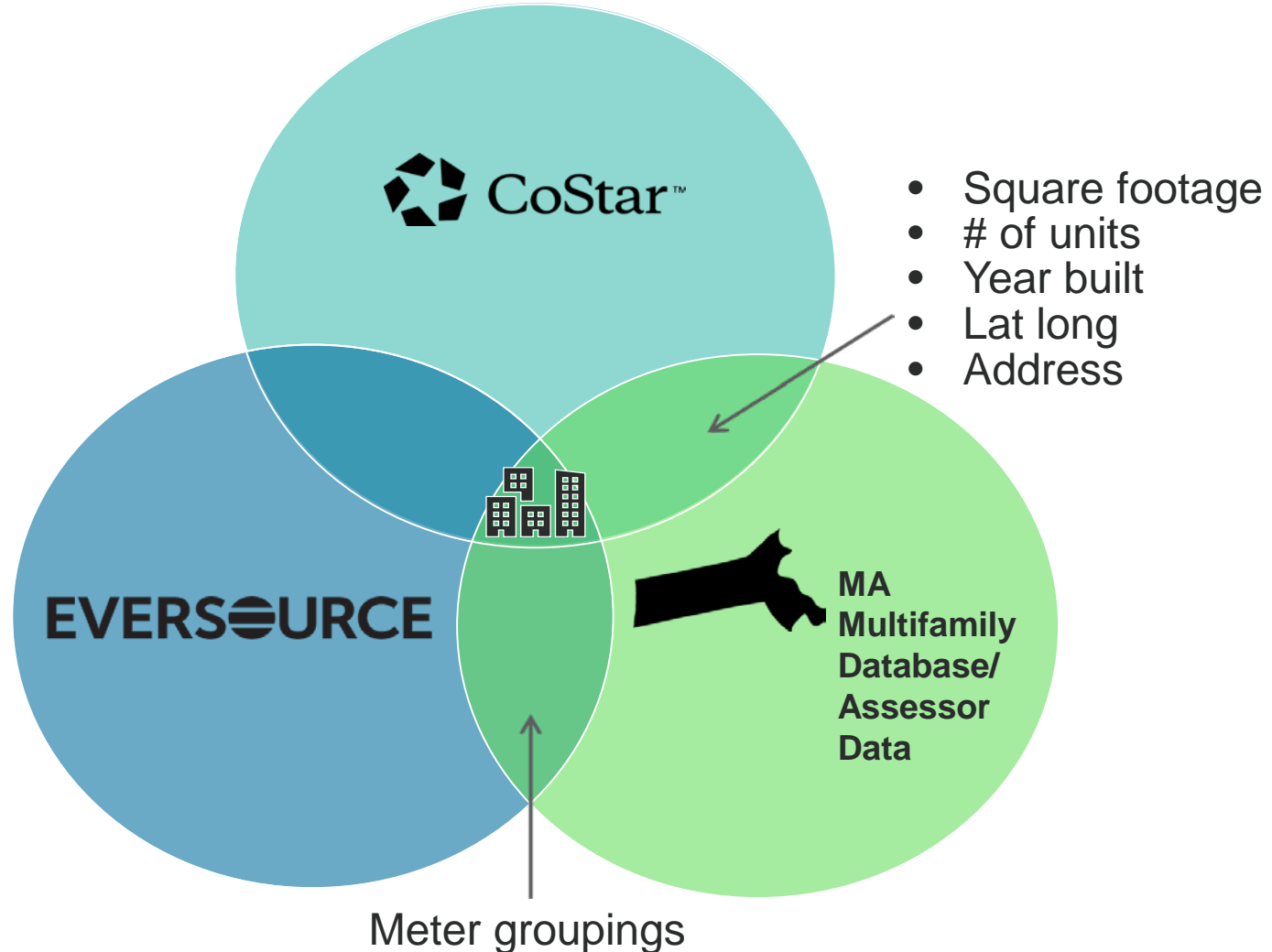
- True owner
- Property manager
- Building class
- # of stories

## Eversource

- Billing (CIS/C2)
- Past participation
- Segmentation

## MF Database

- Building Type
- Fuel Type



# DATA CLEANING

## Some challenges with multi building/address data

- About 85% of this matching done in statewide effort and remaining 15% using a more manual effort.
- Ranged addresses (i.e., 38-42 Main Street) match to one address
- Used ARC GIS to identify range addresses and capture multiple meters in single complex

## Address match

- Matching data across multiple datasets (Costar and utility billing data) required standardizing address information

## Conflicting data

- Hierarchy of assigning data (i.e., assigning data when multiple datasets include same but conflicting data)

# UNDERSTAND, TARGET, DELIVER PROGRAM

## Understand

- Informed planning decision to segment into attached low rise and high rise in planning cycle
- Universe of building opportunities and untapped potential

## Target

- Remove previous participants
- Higher energy use intensity
- Larger communities (i.e., large condo owned townhouse developments / home owner associations)

## Program offerings

- Craft different program designs with specially chosen contactors to target complexes with good potential as identified using data

# SUMMARY

## **A variety of existing data sources can be leveraged to develop a thorough understanding of customers and facilitate program design**

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Not all data sources will be available in all areas, but similar methods could be applied even without all of the resources that we've had available here

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Currently, the study identified statewide potential strategies for future targeting efforts for multifamily programs, such as unserved customers by specific geographic region, ownership type, and specific building sizes (i.e., buildings with 5 – 9 units)

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The database provides continuing value as a tool for PA implementers to use to further explore the multifamily population and provide opportunities for new delivery approaches

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