

Background

Energy Efficiency

- There is an increased interest in energy efficiency projects, nationwide
- Recent projects include wind turbines in Cape Cod, solar development in California, and residential retrofitting

Residential Retrofitting

- One of the fastest growing energy efficiency industries
- Potential to reduce the country's energy consumption and provide thousands of green collar jobs nationwide
- The American Recovery and Reinvestment Act provides stimulus funds to federal, state and local governmental agencies to promote building retrofitting

American Recovery and Reinvestment Act Programs with Funds for Building Retrofitting

Program	Funding (national)	Uses	Impact on City of Boston
Weatherization Assistance	\$5 billion	<ul style="list-style-type: none"> Weatherization of residences Installing renewable energy systems 	No funds allocated yet
Energy Efficiency and Conservation Block	\$3.2 billion	<ul style="list-style-type: none"> Residential and commercial building energy audits Establish financial incentive programs for energy-efficiency improvements 	\$6.5 million. Will finance Renew Boston
Public Housing Capital Fund	\$4 billion	<ul style="list-style-type: none"> Development, financing, and modernization of public housing projects 	\$33 million
Energy and Green Retrofit Investment	\$250 million	<ul style="list-style-type: none"> Retrofit and green investments in project-based assisted housing. 	Not funds allocated yet
State Energy Program	\$3.1 billion	<ul style="list-style-type: none"> States may use funds to promote energy efficiency in government buildings and residential 	Not funds allocated yet

Source: A User Guide to the 2009 American Recovery and Reinvestment Act
City of Boston Federal Recovery Webpage

Residential Retrofitting in the City of Boston

- The building stock in Boston is old and energy inefficient
- A comprehensive energy retrofit can make old homes as energy efficient as new ones

Objective

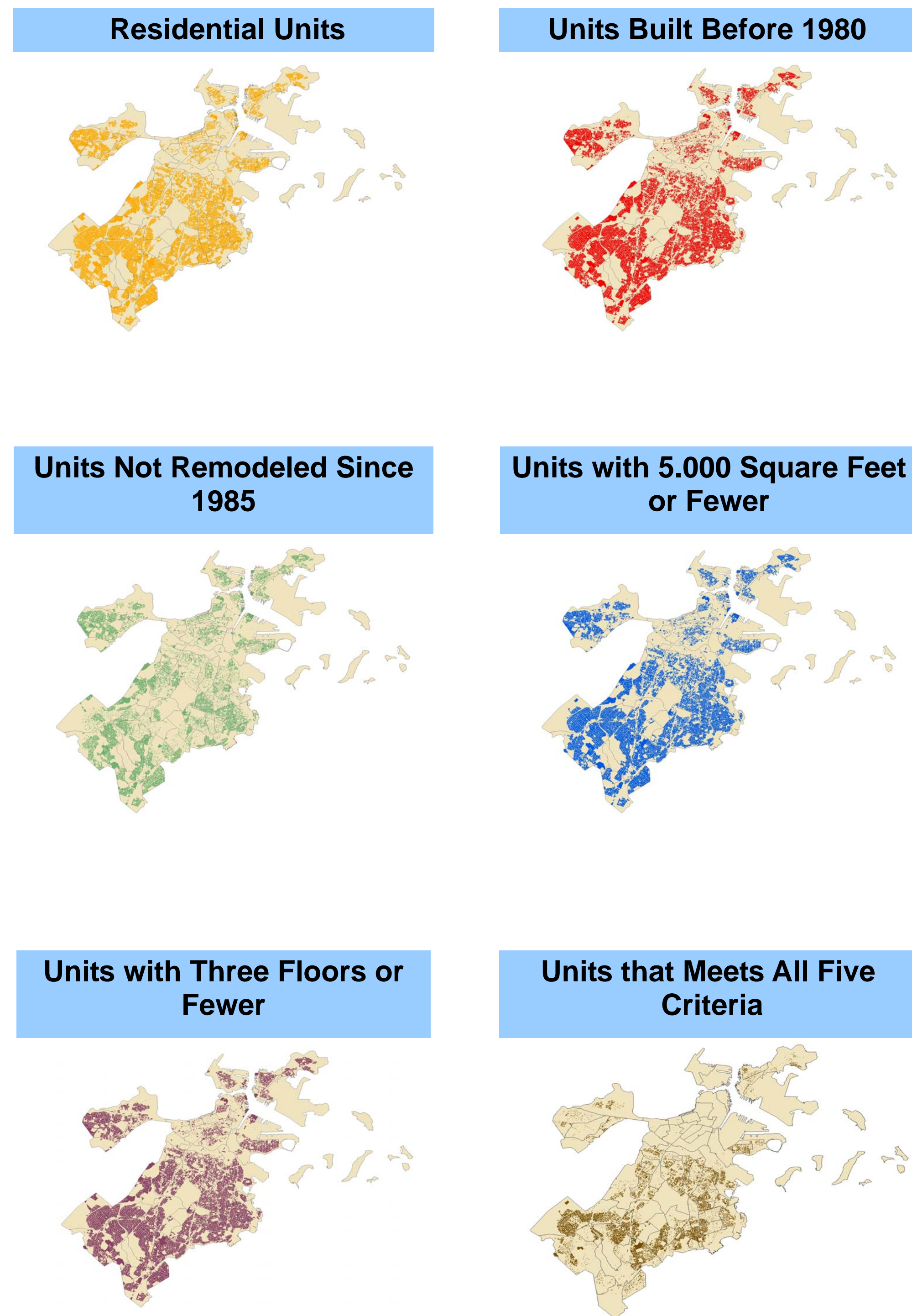
The focus of this analysis is to identify areas with a high density of small residential units in need of retrofitting in the city of Boston.

Methodology

Using the City of Boston's parcel dataset, residential parcels were selected to limit the analysis to residential units. The following criteria were applied to determine which residential buildings were likely to be in need of retrofitting:

- Units built before 1980
- Units not remodeled since 1985
- Units smaller than 5,000 square feet
- Units with three floors or fewer

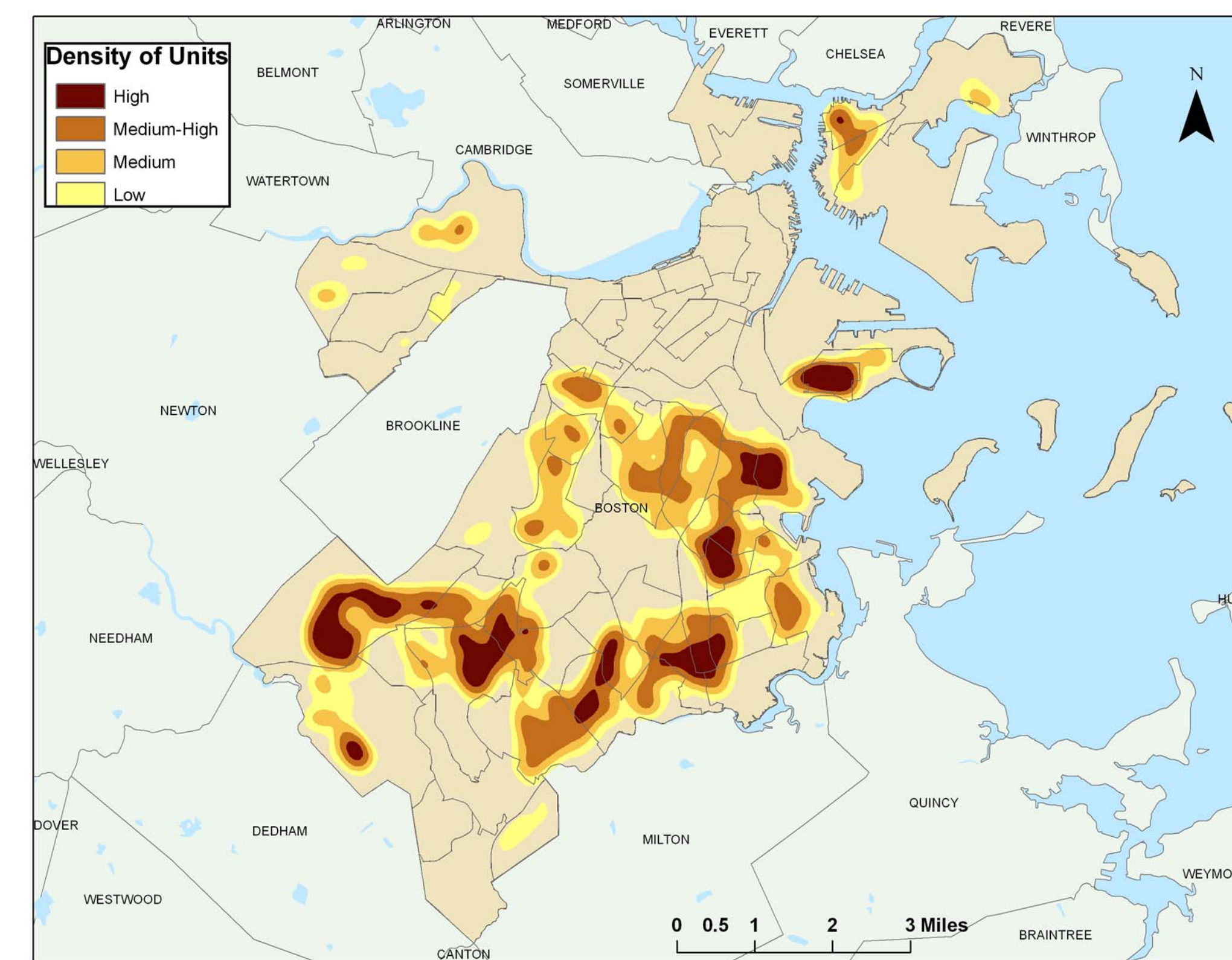
Parcels that met all of the criteria were considered likely to be in need of retrofitting. These parcels were used to create density maps



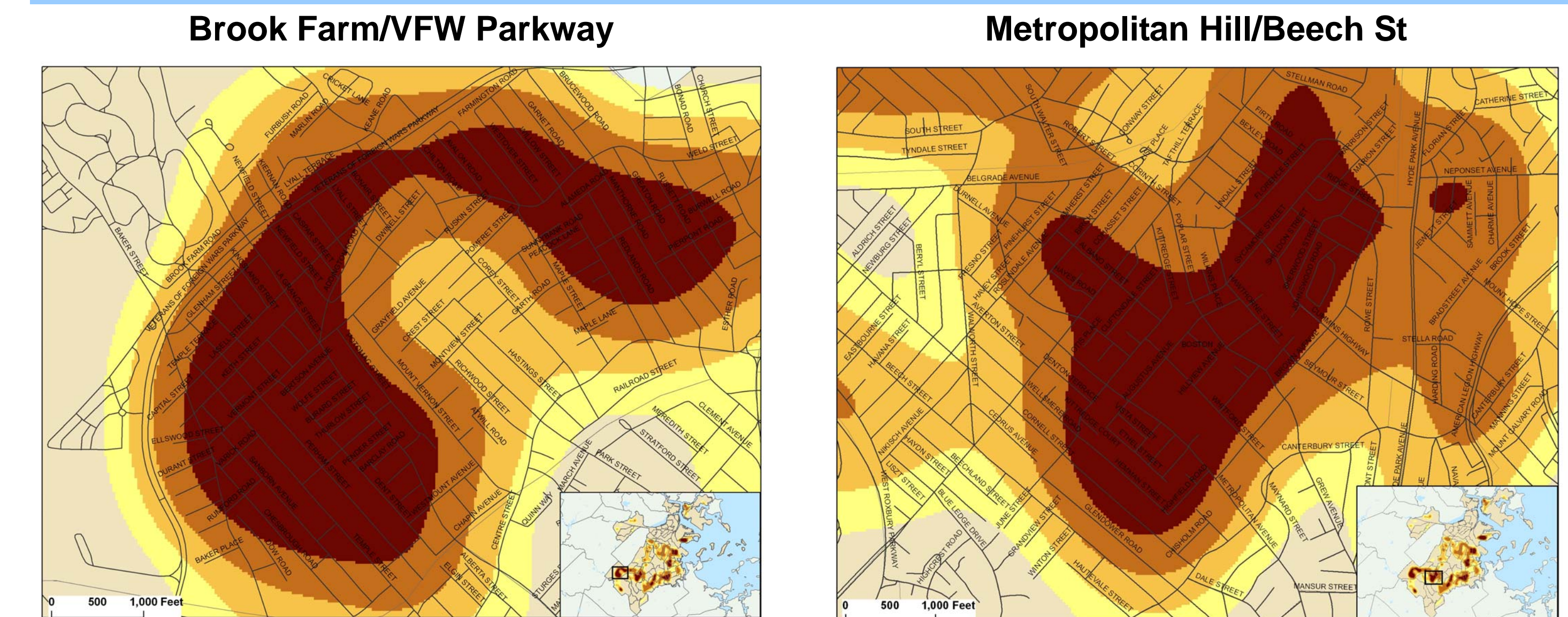
Neighborhoods with the Most Residential Units in Need of Retrofitting in the City of Boston

Rank	Number of Units	Neighborhood
1	2725	Brook Farm/VFW Parkway
2	1557	Metropolitan Hill/Beech St
3	1487	West St./ River St.
4	1439	Southern Mattapan
5	1133	Lower Washington/Mt. Hope
6	1063	Upper Washington/Spring St
7	952	Columbia Pt./Savin Hill
8	909	Jamaica Central/South/Sumner
9	906	Telegraph Hill
10	841	Uphams Corner/Jones Hill

Concentration of Residential Units in Need of Retrofitting in the City of Boston



Neighborhoods with the Highest Potential for Retrofitting



Conclusion

- The following communities have a high density of residential units in need of retrofitting: Mattapan, West Roxbury, Roslindale, Dorchester and Roxbury.
- The criteria used in this analysis are by no means comprehensive; rather they were used to explore the capabilities and potential of the "parcels dataset of the City of Boston". In order to conduct a study with more comprehensive results, it would be necessary to consult with a panel of experts in the field of energy efficiency, in order to identify all of the criteria needed to accurately select residential units in need of retrofitting.

Cartographer: Juan Sanchez
Projection: NAD_1983_StatePlane_Massachusetts_Mainland_FIPS_2001_Feet
Data Source: City of Boston's 2009 Assessors Parcel Data. Mass GIS 2008 May, 2009