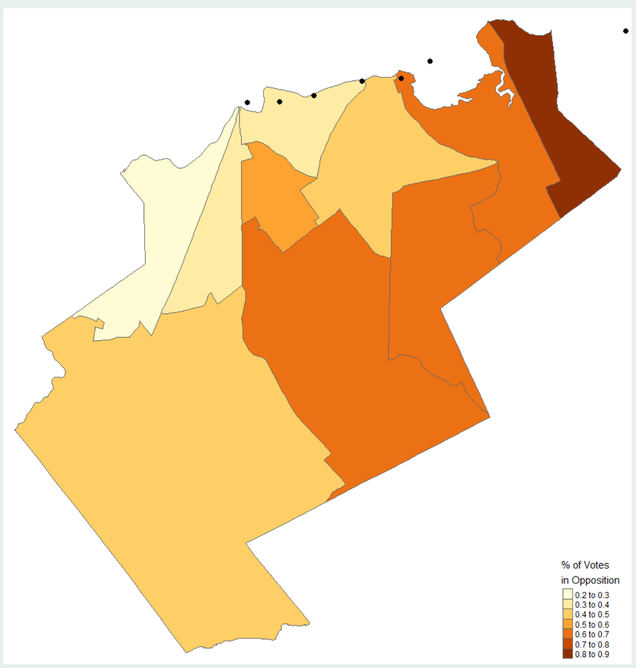
Understanding Opposition to the MBTA Communities Act:

A Tale of Two Cities

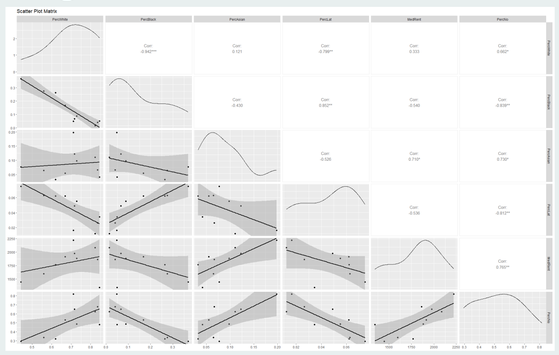
Background:

In 2021, the Massachusetts state legislature passed a law known as the MBTA Communities Act as part of an attempt to address the housing crisis. This law requires towns and cities served by the MBTA to "have at least one zoning district of reasonable size in which multi-family housing is permitted."[1] Throughout the state, 177 communities fall under one of four categories defined by the law—Rapid Transit Communities, Commuter Rail Communities, Adjacent Communities, and Adjacent Small Towns. The first of these categories was required to pass compliant zoning by the end of 2023, with the others to follow over the next two years. Despite requiring only zoning, and not development, there has already been vehement opposition from residents of the communities impacted by the legislation. In particular, two Rapid Transit communities saw organized opposition lead to public votes on whether or not to comply with the statute. In Brookline, this movement failed and compliant zoning was passed by the Town Meeting. In Milton, the opposition succeeded on a ballot initiative, and the community is now in open violation and being sued by the state. This project explores the differences between these two town in an attempt to understand what factors may have led to their divergent voting outcomes.

Milton



The distribution of opposition votes shows evidence of spatial auto-correlation. The Global Moran's I (0.45) is significantly greater than the expectation (-0.11) using a Queen's weight matrix.

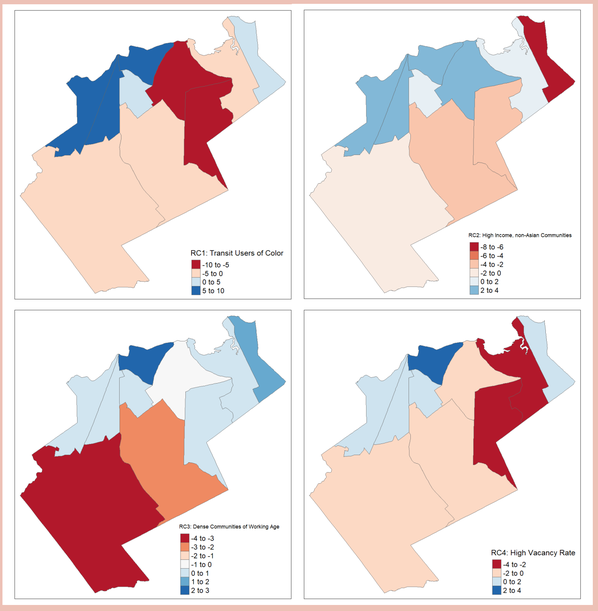


Principle Component Analysis

A Local Moran's I analysis turned up no clusters, and of the explanatory variables examined, only five had a significant correlation with the % of opposition votes: % White, % Black, % Asian, % Latinx, and Median Rent.

A PCA with varimax rotation produced 4 principle components that explained 89.9% of the variance between precincts.

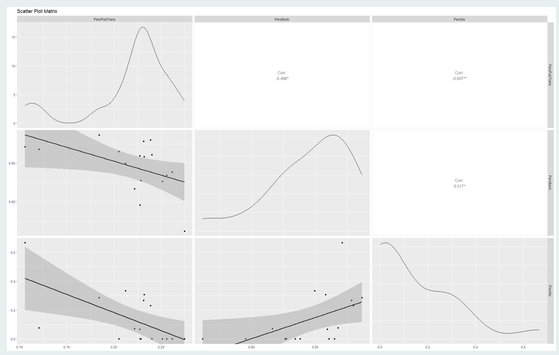
	Dependent variable:
	PercNo
RC1	-0.018
	(0.010)
RC2	-0.038***
	(0.009)
RC3	0.010
	(0.018)
RC4	0.013
	(0.026)
Constant	0.522***
	(0.028)
Observations	10
R^2	0.853
Adjusted R^2	0.735
Residual Std. Error	0.088 (df = 5)
F Statistic	7.236** (df = 4; 5)
Note:	*p<0.1; **p<0.05; ***p<0.01

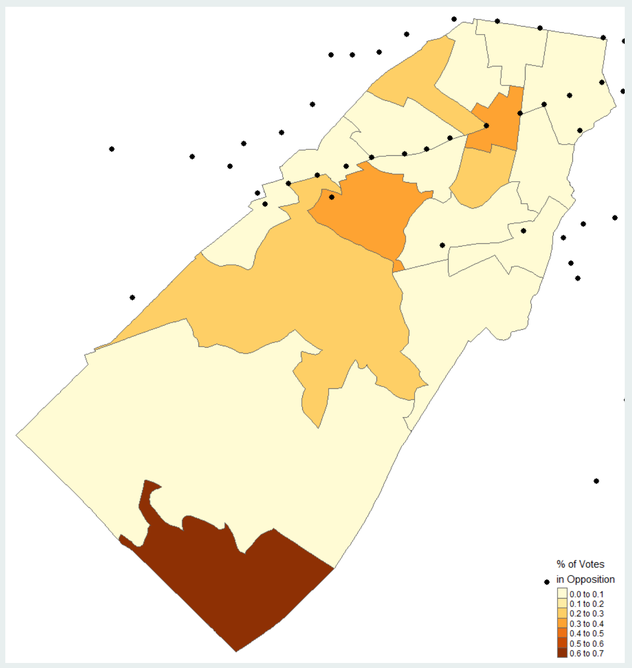


Using these components in a Ordinary Least Squares Regression indicated only the 2nd component had a significant relationship with the outcome variable.

Brookline

There is no strong evidence of spatial auto-correlation in the distribution of opposition votes. The Global Moran's I (-0.12) is not significantly different than the expectation (-0.06) using a Queen's weight matrix.

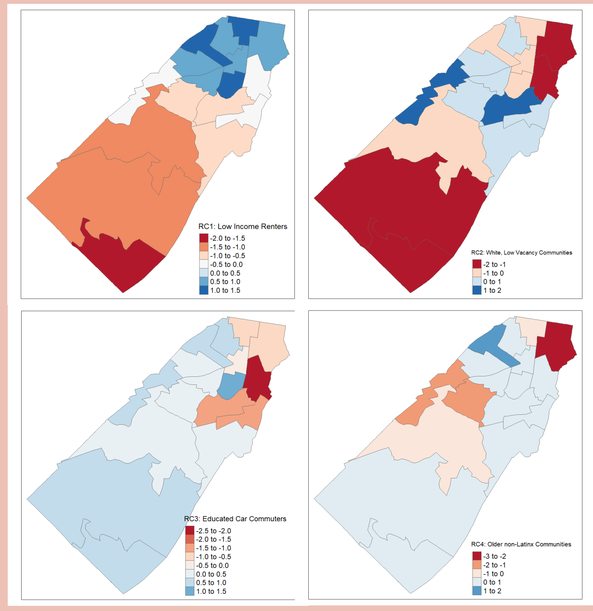




Principle Component Analysis

A Local Moran's I analysis turned up no clusters, and of the explanatory variables examined, only two had a significant correlation with the % of opposition votes: % that use public transportation and % with a bachelor's degree or greater.

A PCA with varimax rotation produced 4 principle components that explained 89.3% of the variance between precincts.



	Dependent variable:
	PercNo
RC1	-0.062
	(0.041)
RC2	-0.060
	(0.041)
RC3	0.072
	(0.041)
RC4	0.042
	(0.041)
Constant	0.136***
	(0.040)
Observations	17
R^2	0.414
Adjusted R^2	0.219
Residual Std. Error	0.165 (df = 12)
F Statistic	2.121 (df = 4; 12)
Note:	*p<0.1; **p<0.05; ***p<0.01

Using these components in a Ordinary Least Squares Regression indicated no significant relationship between any component and the outcome variable.

Conclusion:

Very different factors seem to be governing the voting patterns in Milton and Brookline. Rather than a single set of explanatory variables shared across both towns, EDA and PCA indicate that the distribution of opposition voters is best explained by different demographic components in each town. Even these analyses are limited, however, with little explanatory strength or significance, indicating perhaps other variables better describe this phenomenon than those chosen. One potential weakness of this analysis involves the need to aggregate social data tracked at the census tract-level to the voting precinct-level. In this case, the mean was taken of all the tracts that intersected a precinct, but other approaches might result in better fidelity to the actual precinct demographics.

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References: 1. Mass.gov, *Multi-Family Zoning Requirement for MBTA Communities,* Accessed April 2024.
Data Sources: MassGIS, Town of Brookline, Town of Milton, Social Explorer