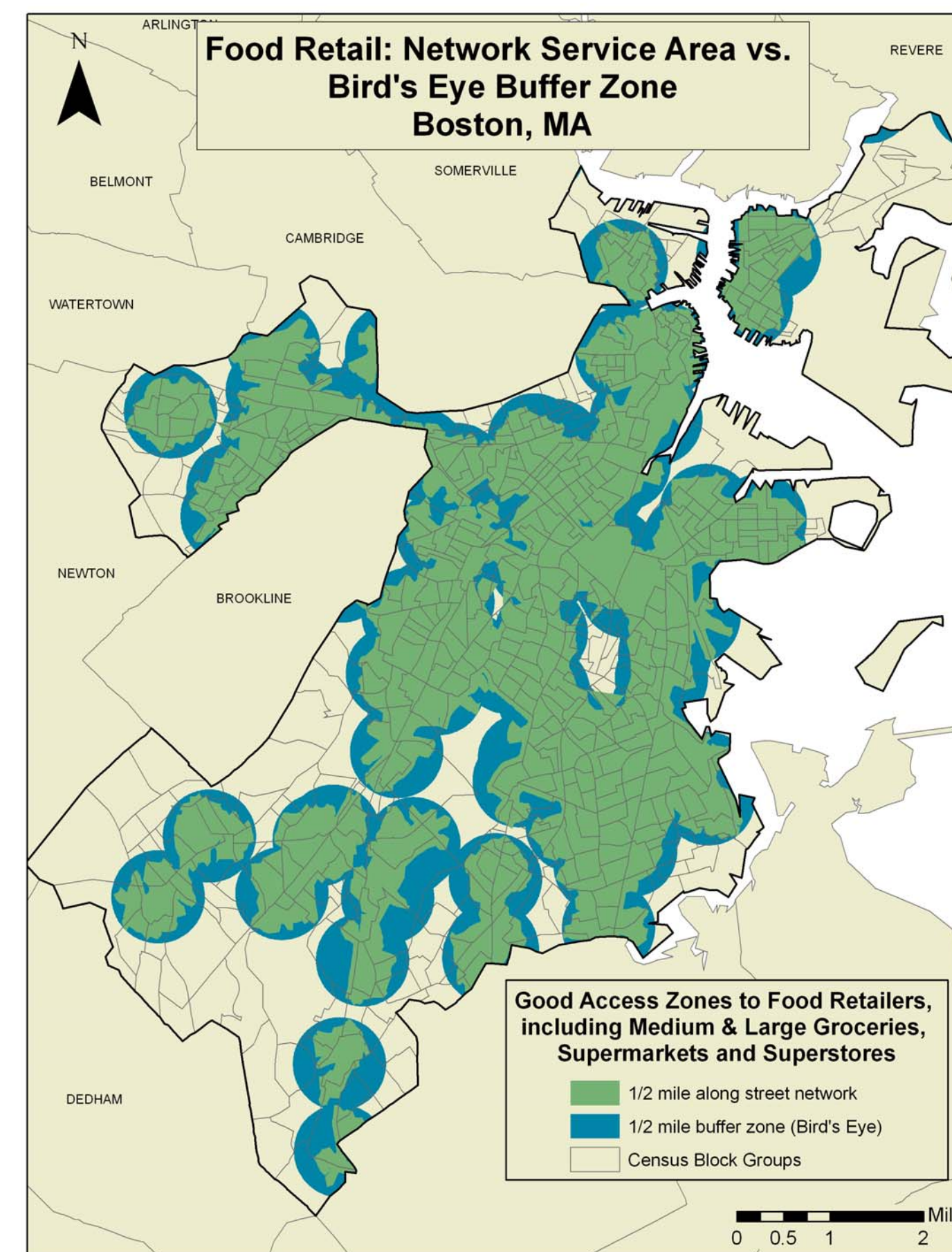


Food Deserts in Boston

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Summary

I examined food deserts in Boston, MA. The three questions I aimed to answer were: Do food deserts exist in Boston? Do the community members in deserts and non-deserts have similar demographic profiles? Are disadvantaged populations disproportionately affected by poor food retail access? For this study, a food desert was defined as an area that is greater than a half mile from a retail food store.



	Access to Medium & Large Groceries, Supermarkets & Superstores		Access to Large Groceries, Supermarkets & Superstores	
	Good Access	Food Retail Desert	Good Access	Food Retail Desert
By Census Block				
Number of Blocks	3,589	1,968	2,417	3,140
% Total Population	72.4	27.6	49.4	50.6
% <18	19.5	20.5	18.6	20.9
% >65	9.4	13.0	9.1	11.7
By Census Block Group				
Number of Block Groups	375	169	249	295
% Total Pop	70.0	30.0	46.9	53.1
Median HH Income (\$)	39,997	45,799	39,448	43,784
% Living in Poverty	21.2	15.4	22.5	16.9
% <18 Living in Poverty	5.4	4.1	5.2	4.9
% >64 Living in Poverty	1.9	1.4	2.0	1.6
% HH with income >200K	2.7	2.9	3.1	2.5
% HH income < 15K	23.4	18.8	24.7	19.6
% Total Boston Poor	77.3	22.7	54.2	45.8
Total Unemployment Rate	7.3	6.9	7.6	6.8
Total Labor Force Participation	64.0	62.6	63.6	63.5
% White	51.4	61.5	51.8	56.7
% Black	26.1	22.3	24.7	25.2
% Asian	8.6	5.1	9.9	5.4
% Hispanic	15.4	12.1	15.5	13.5
% Owner Occupied	28.0	43.3	26.5	37.7
% Renter Occupied	72.0	56.7	73.5	62.3
% with Bachelors	20.6	19.4	21.4	19.3
% with Masters	9.8	10.0	10.3	9.5
% with PhD	1.9	1.8	2.1	1.7
% HH 0 car	38.5	25.6	38.4	28.2
% HH 1 car	44.1	45.0	40.9	43.4
% HH 2+ cars	17.4	29.4	15.2	24.0

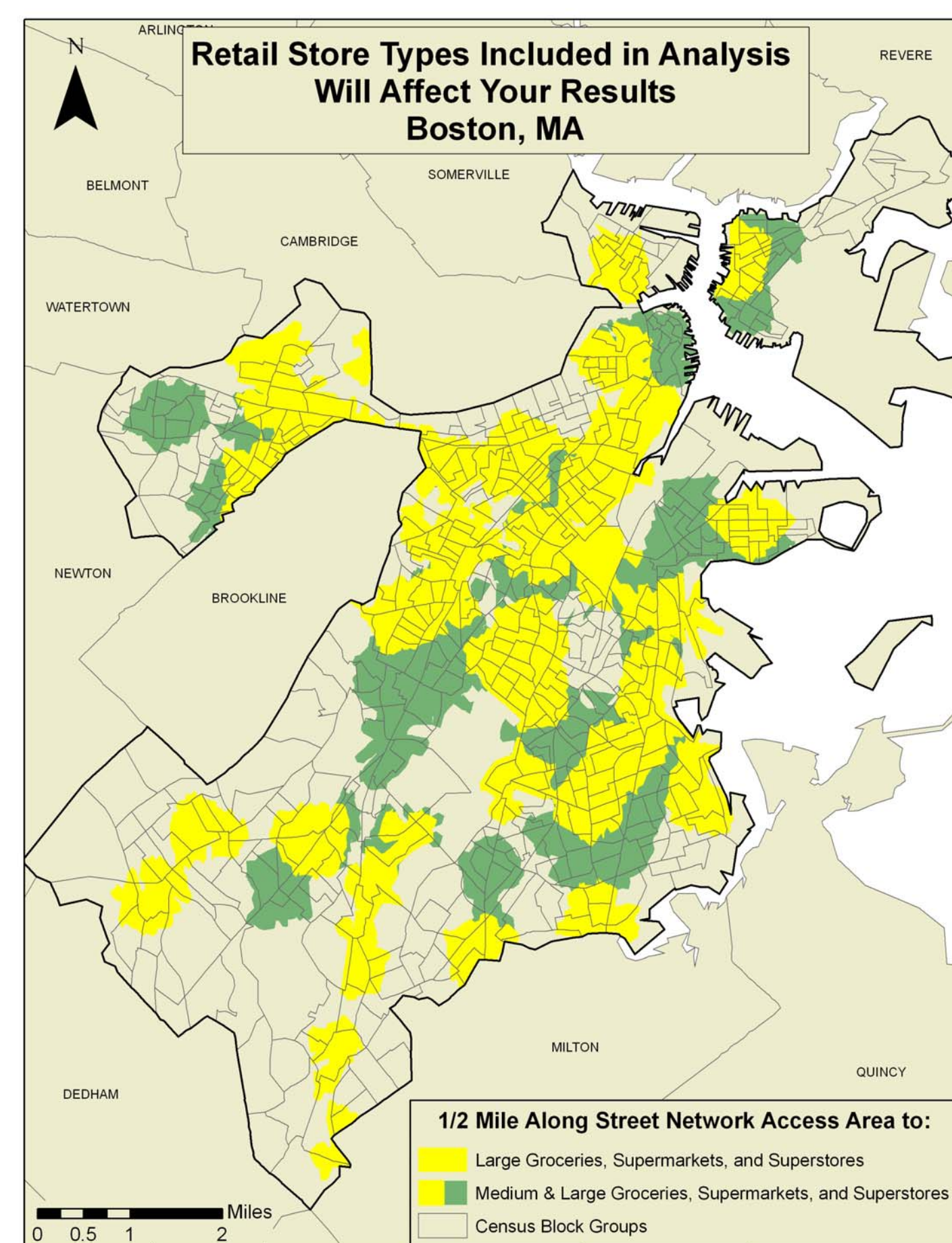
Census data was joined to the block group and block layers. New variables were created indicating desert status: one for the analysis with large groceries, supermarkets, and superstores; one that includes medium groceries as well. The summarize feature calculated means of each variable by group, desert and non-desert.

Conclusions

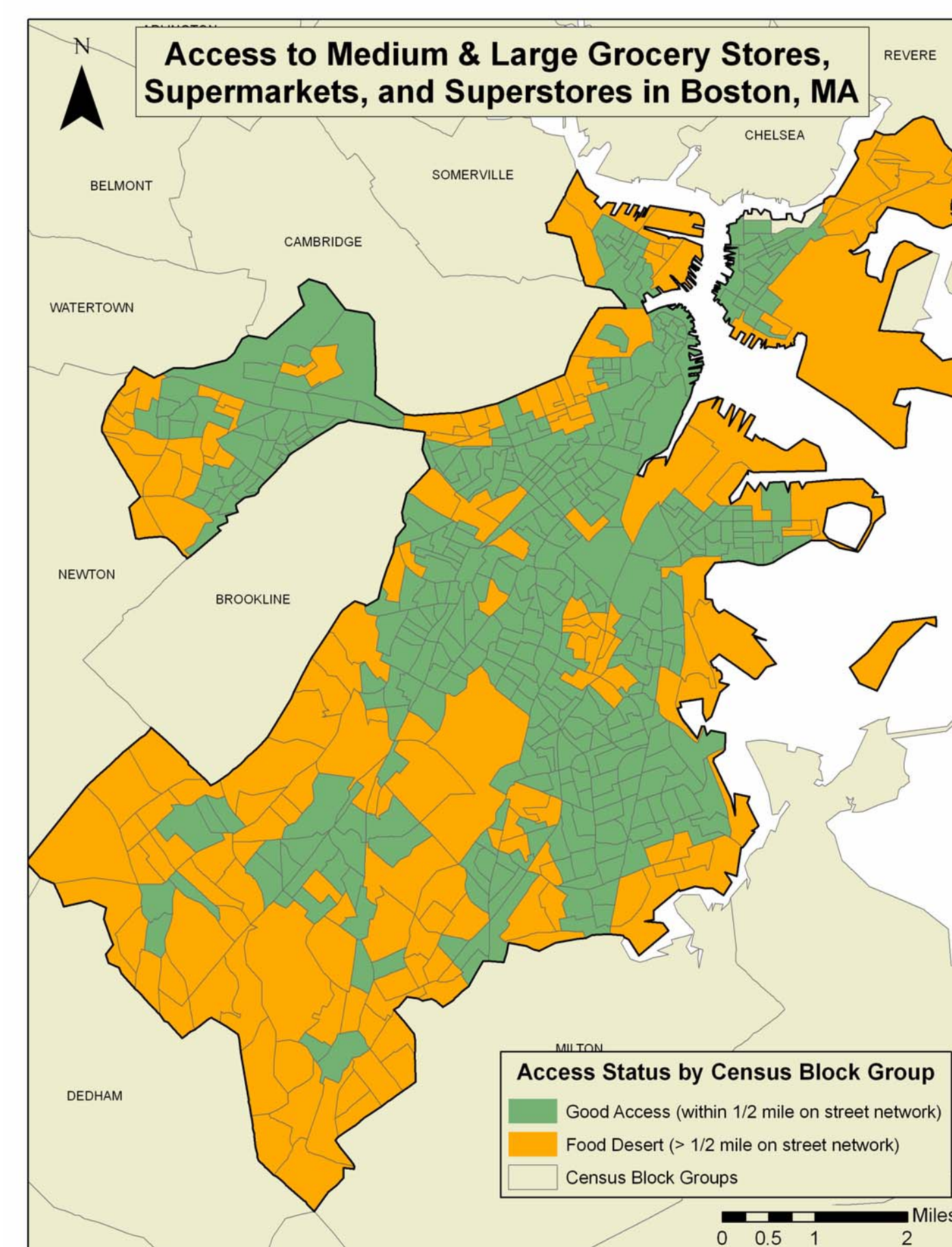
Using the half mile network definition of non-desert, I found that Boston does have food deserts. However, this definition takes only walking distance into account and does not consider food retail access by car or public transportation. Furthermore, the analysis of census data for each group showed that the majority of demographic and economic variables were similar for both groups. Variables indicating financial well-being tended to be better for those in the areas defined as food deserts in this analysis: median household incomes were higher, poverty rates were lower, home ownership was higher, and multiple car ownership was higher. This brings into question whether these areas are actually food deserts, where inhabitants have low access to food retailers. Further analysis should look at redefining food deserts, accounting for multiple means of access (walking, driving, public transportation).

Examining different methodologies

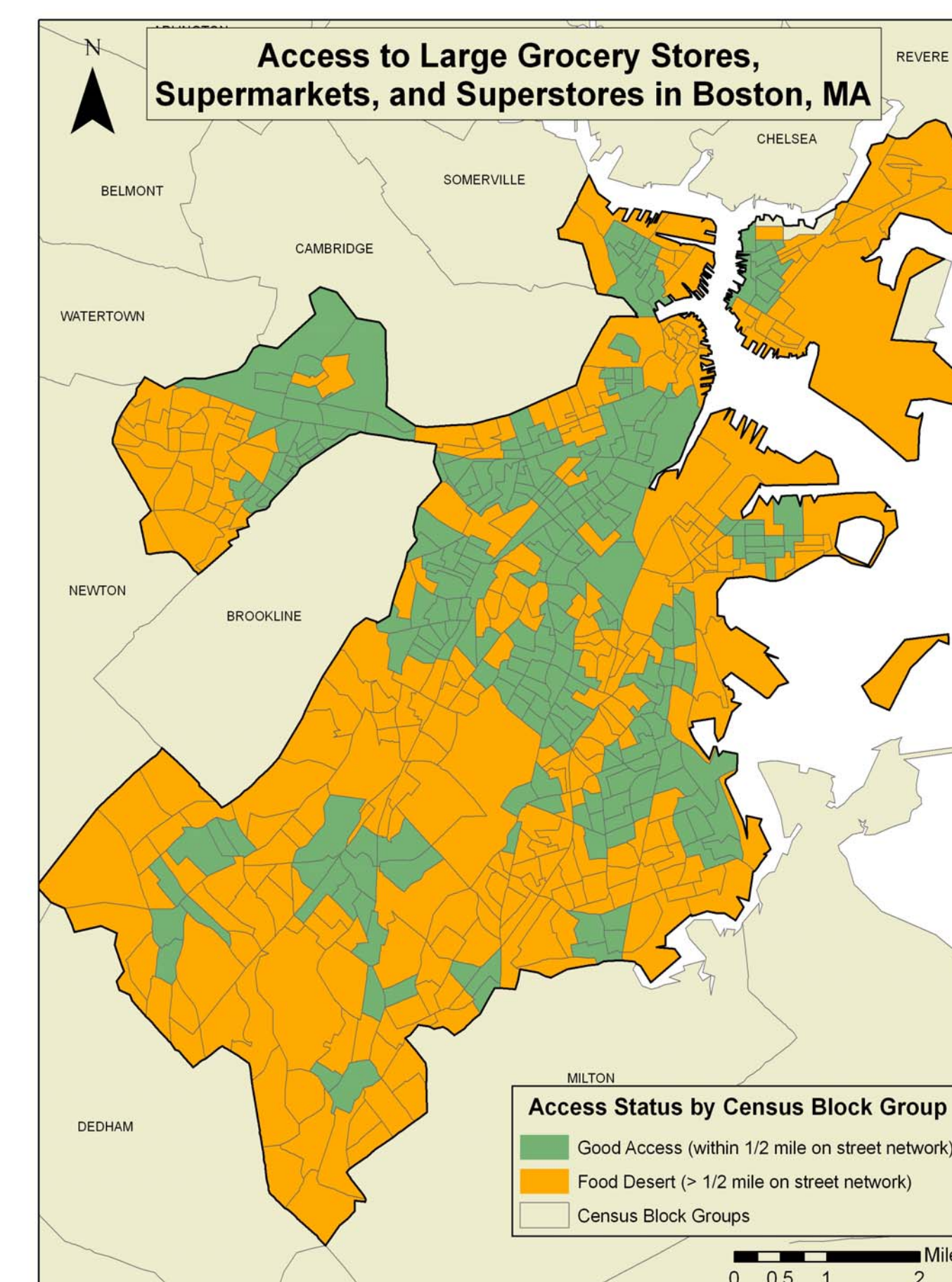
Distance from a retail store can be measured "as the crow flies" (radius around the store), or along the street network. I chose to continue with the more accurate street network access area.



Food retail store data was classified into 7 different store types. I wanted to include stores that offered foods that are part of a healthy diet, and that tend to be under consumed, like fresh vegetables and fruits. Above is shown how non-desert area vary along with retail stores included in analysis.



Block group were assigned to desert or non-desert status based on where the center of the block group fell. Block groups with their center in the food desert area were designated food deserts, while those with centers in the non-desert area were designated non-deserts.



Sources: MassGIS: Massachusetts Census 2000 Data, Department of Transitional Assistance for MA, 2008. Projection: NAD 1983 Massachusetts State Plane
Created: Dec 12, 2008