



# BOSTON FOOD DESERTS AND TRANSIT

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Bryce Russell-Benoit

# Food Desert

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Defined as areas where it is difficult to buy fresh and affordable food

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Most common in low-income areas with inadequate transportation options

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Linked to increased risk for nutrition-related conditions such as obesity and diabetes

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# Boston Transportation



Known as a walkable city



Flawed but extensive rapid  
transit network



Expanding but limited and  
fractured bike network

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## Question

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How equitable is the current distribution of food deserts?

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How does transit interact with food deserts in Boston?

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# Analytic Strategy



Obtain data for grocery stores and farmer's markets, roads, rapid transit, and census data



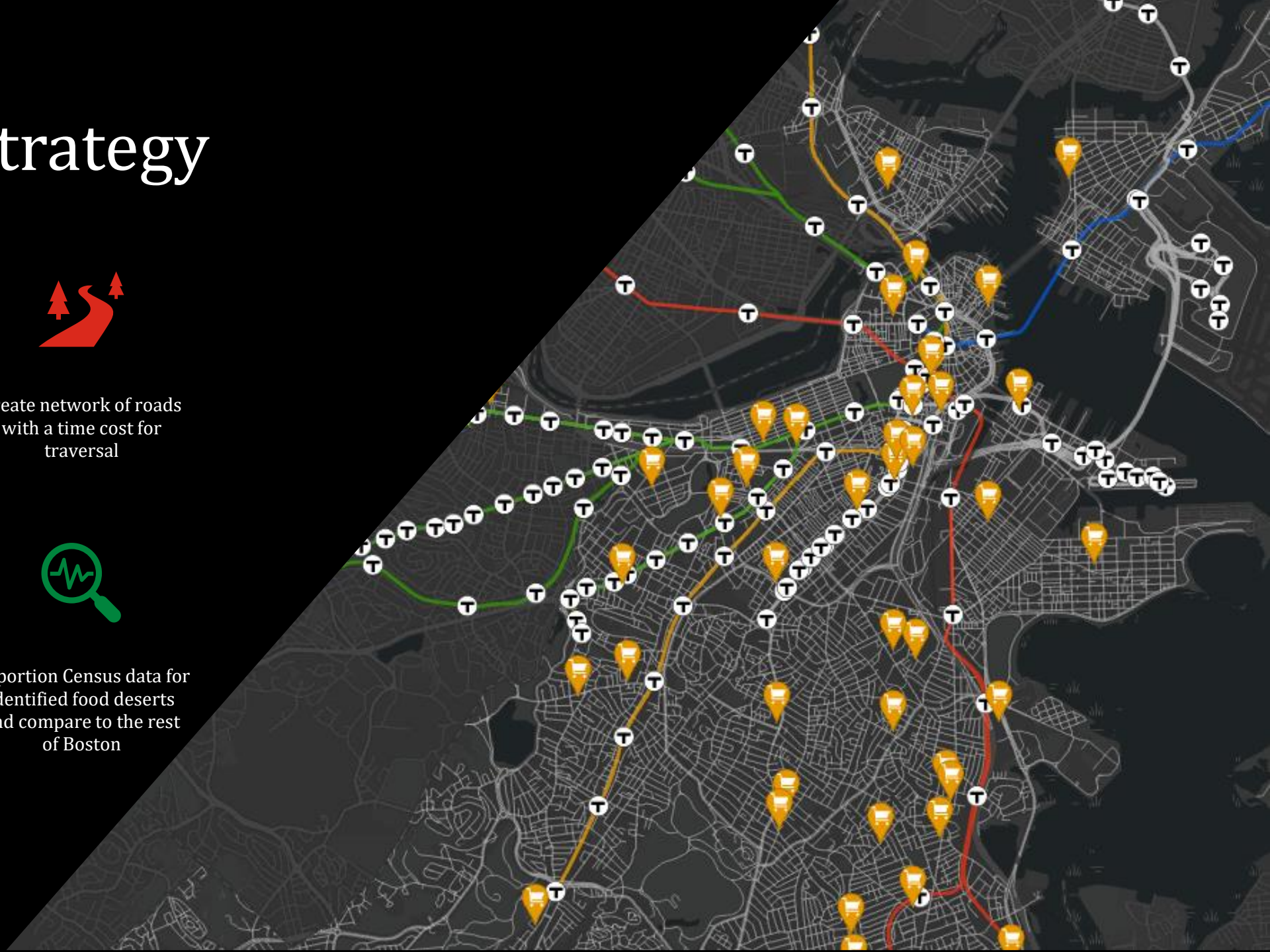
Create network of roads with a time cost for traversal



Use grocery stores and transit stations as facilities to create service areas



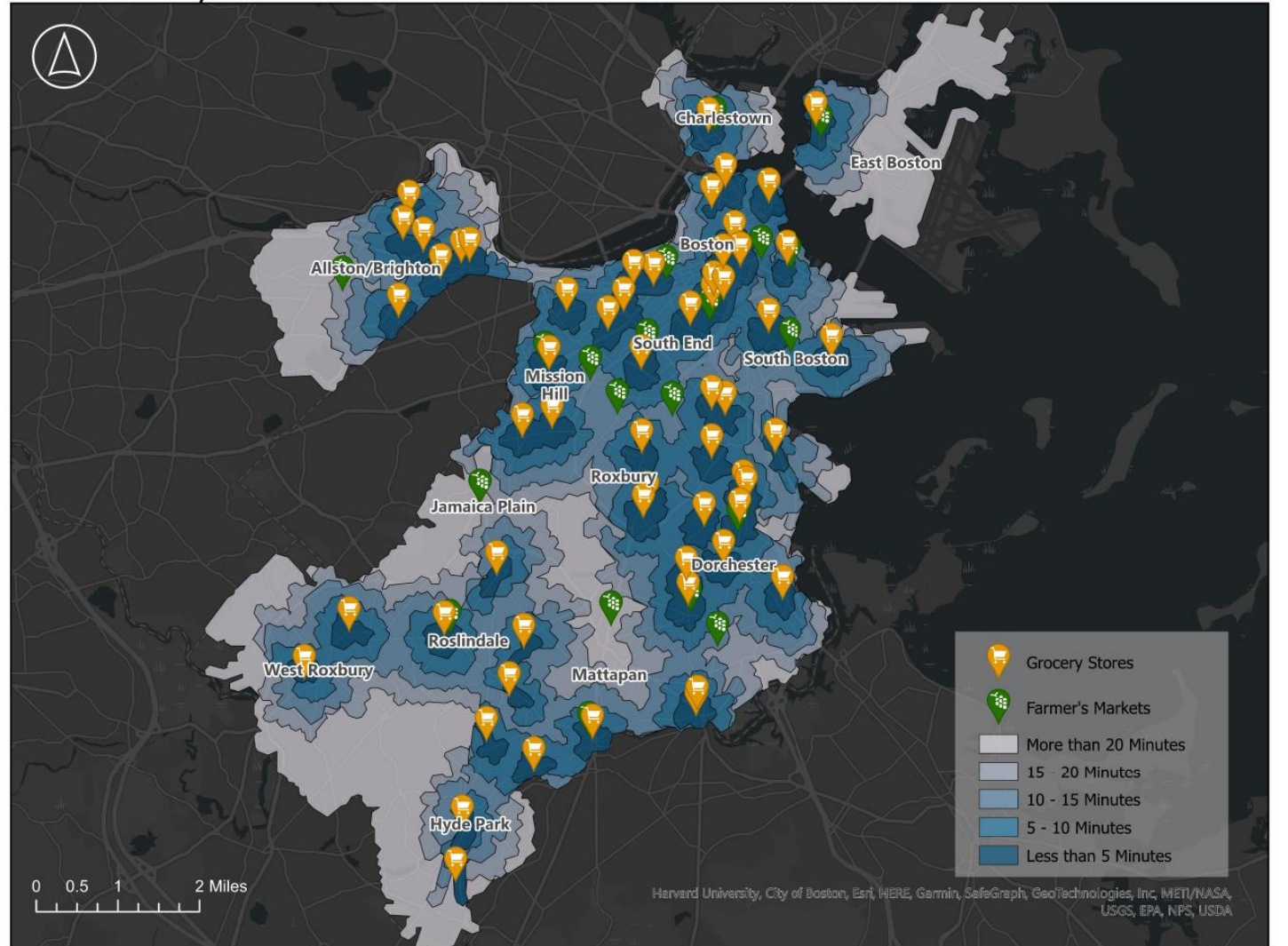
Apportion Census data for identified food deserts and compare to the rest of Boston



# Grocery Service Area Analysis

- Grocery store coverage very widespread with some gaps
- Farmer's Markets bridge some of the gaps between stores

Boston Grocery Service Area and Food Deserts

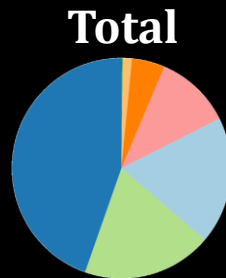


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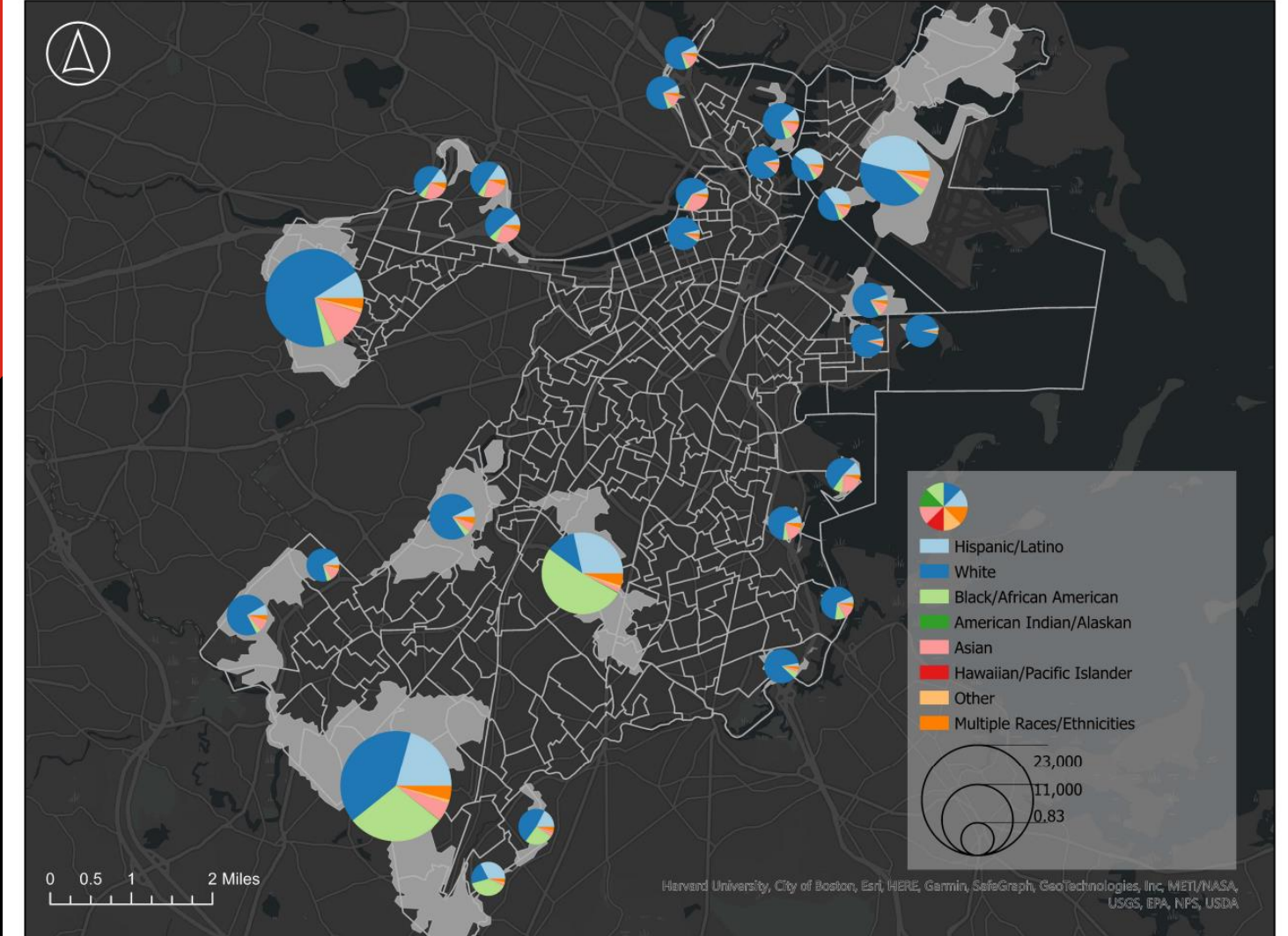


# Demographic Analysis of Food Deserts

- Used 2020 Census data to estimate the demographics and number of people living in food deserts
- Some of the largest deserts have overrepresented minority populations compared to the rest of Boston



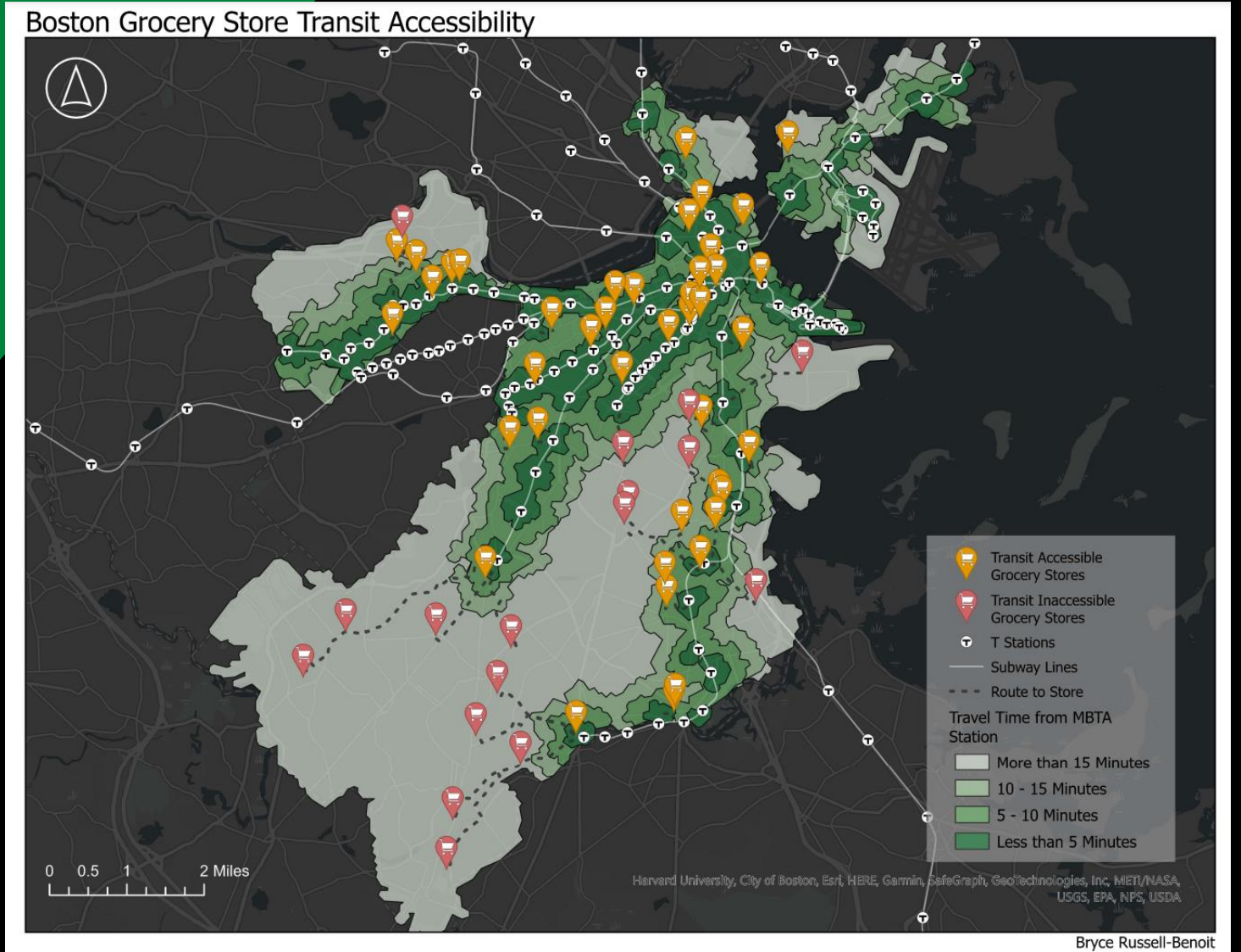
Racial and Ethnic Makeup of Boston Food Deserts



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# Grocery Transit Proximity

- Majority of grocery stores are within 15 minutes of a T station (72%)
- Busy transit lines provide great locations for grocery stores





# Conclusion

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Boston is doing quite well regarding eliminating food deserts

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Transit currently provides helpful additional options

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Potential for long-term adjustments and extensions for transit lines

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