SNAP and Local Supermarket Access

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Healthy Food Retail Policy Workgroup
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Outline

- Concepts
- Recent Research
- Healthy Incentive Pilot (HIP) Retail Access
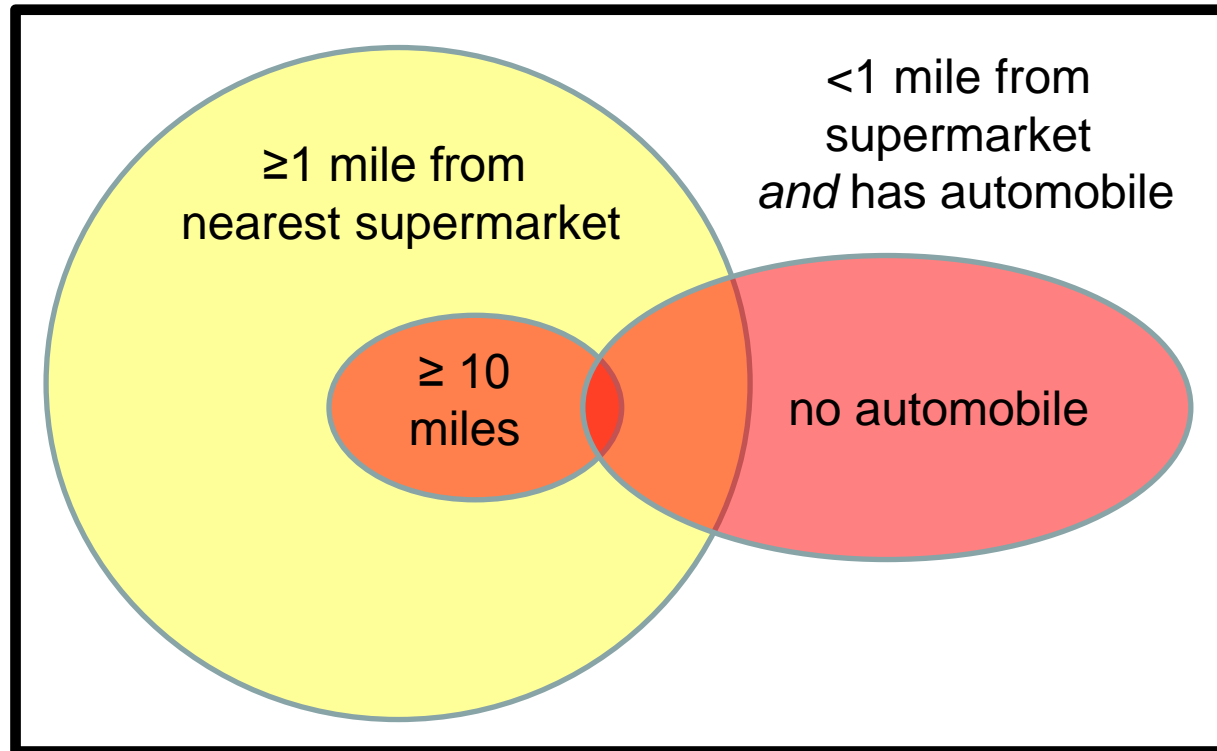- Food Acquisition and Purchase Survey (FoodAPS)
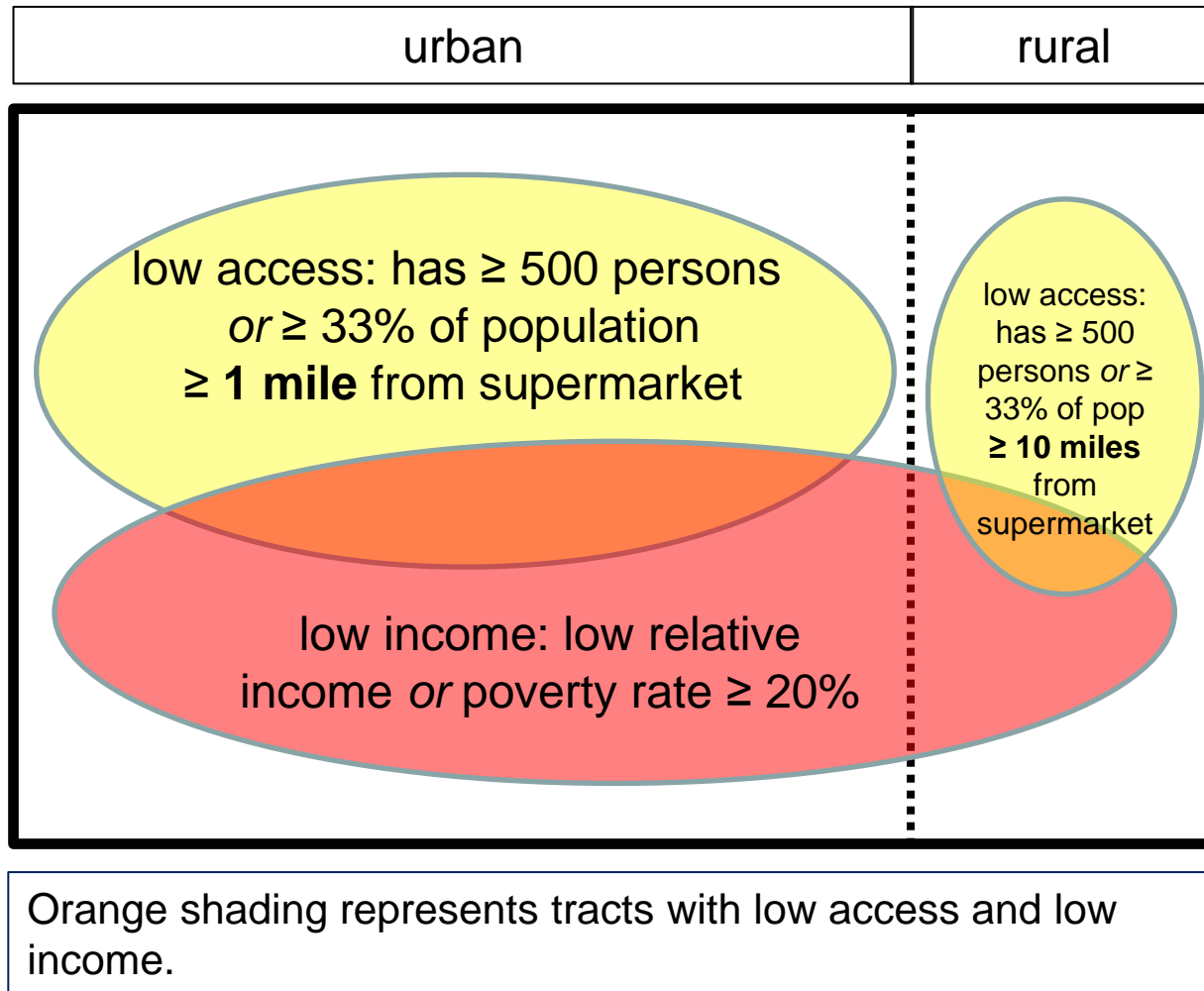
Access to Automobiles

Access to Automobiles

Low access and low income (1)

≥1 mile from nearest supermarket

<1 mile from supermarket *and* has automobile

≥ 10 miles

no automobile

Orange shading represents poor access to a supermarket.

Note: Analysis at the block group level.

Low access and low income (2)

urban	rural

low access: has ≥ 500 persons *or* ≥ 33% of population ≥ **1 mile** from supermarket

low access: has ≥ 500 persons *or* ≥ 33% of pop ≥ **10 miles** from supermarket

low income: low relative income *or* poverty rate ≥ 20%

Orange shading represents tracts with low access and low income.
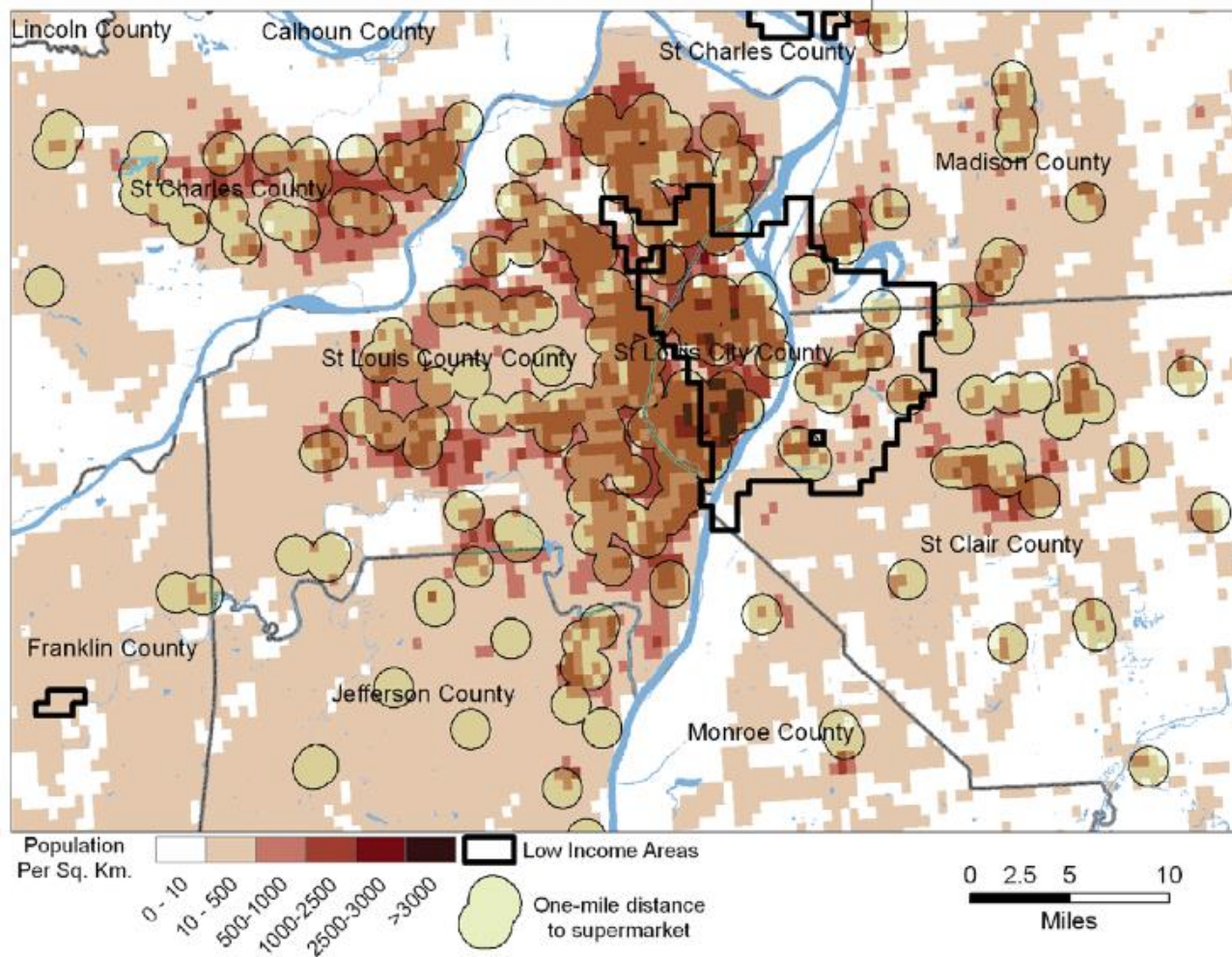
Note: Analysis at the census tract level.

Map of a hypothetical community food retail environment.
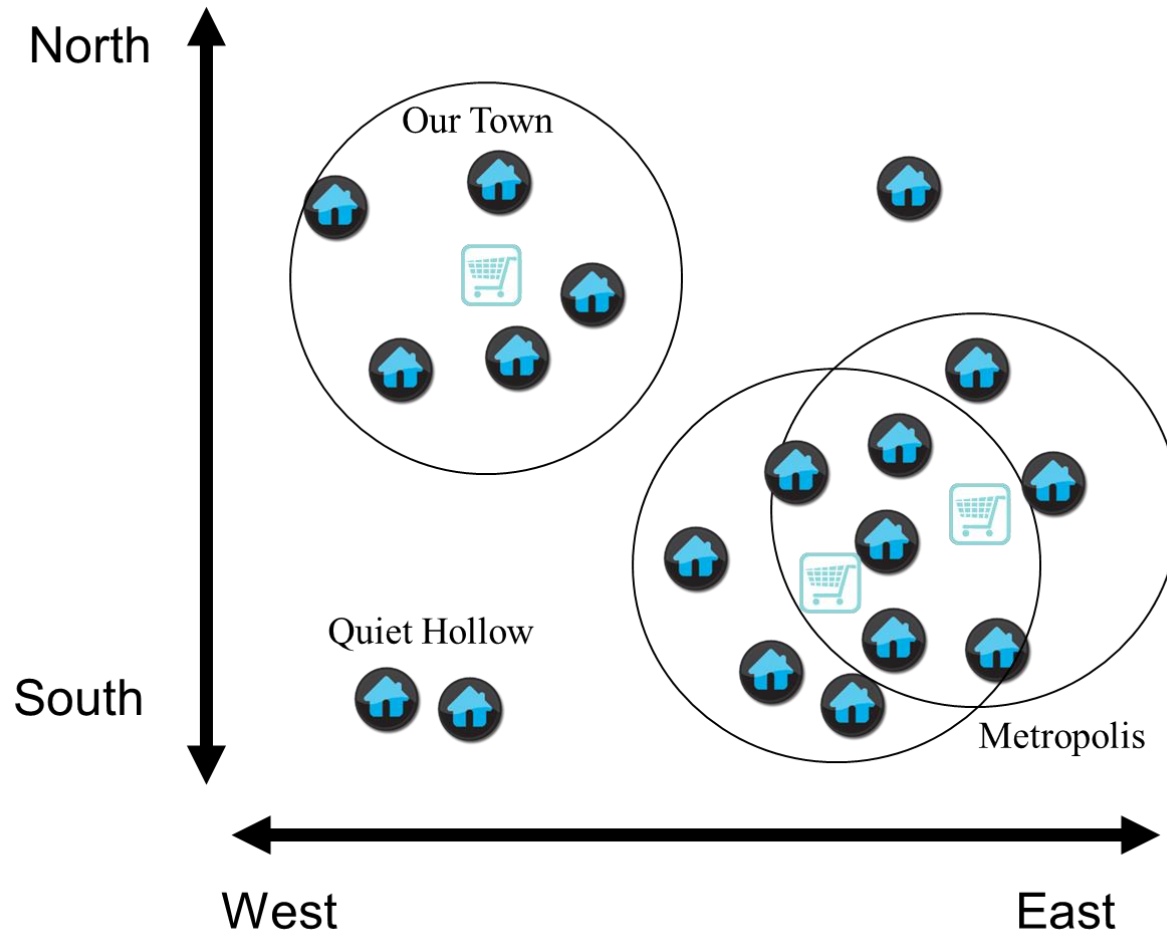
Note: The center of each circle represents a supermarket, and the circles represent neighborhoods lying less than one mile from a supermarket.

Map of the food retail environment in St. Louis

Source: Ver Ploeg et al., 2009. Note: the center of each circle represents a supermarket.

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Recent Research

- Cummins et al. (2014) and Dubowitz et al. (2015). *Health Affairs*.

- Handbury et al. (2015) and Allcott et al. (2015). Working papers.

Pittsburgh, 2011.

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Spatial Analysis

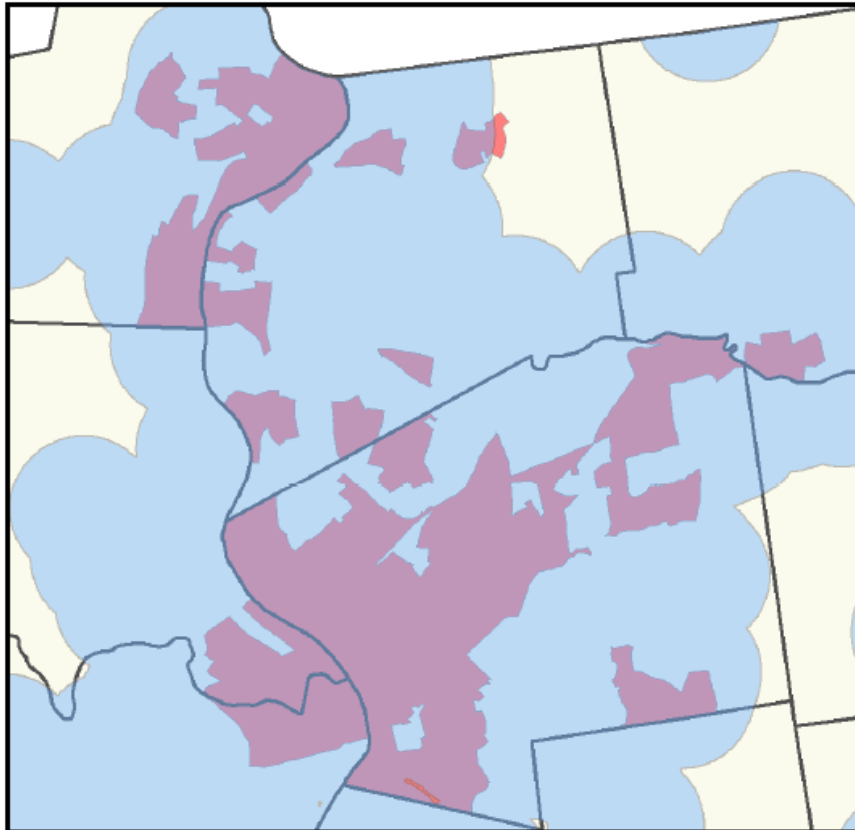# SNAP Participants & Poverty Were Concentrated in a Small Area of the County
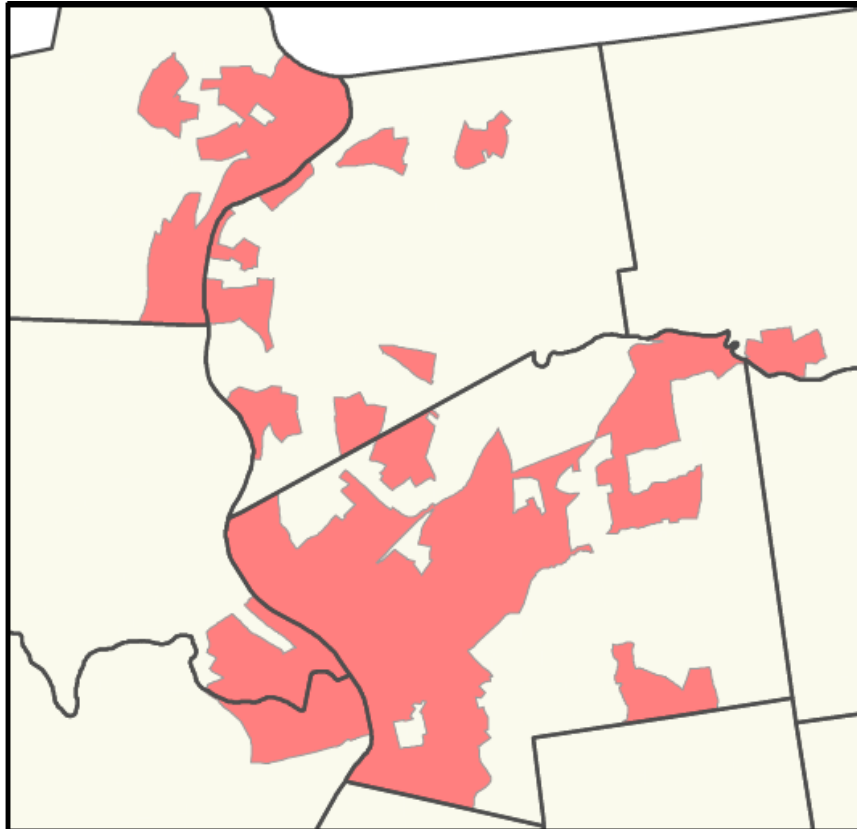
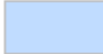Low-Income Area

* Low-income areas are defined as Census block groups in which at least 20% of the population is living under the federal poverty line.
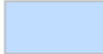
Coverage of Low-Income Areas by SNAP Retailers (of any type) Was High

Low-Income Area

Area within 1 mile of a SNAP Retailer

But Coverage by HIP-Participating Supermarkets Was Lower
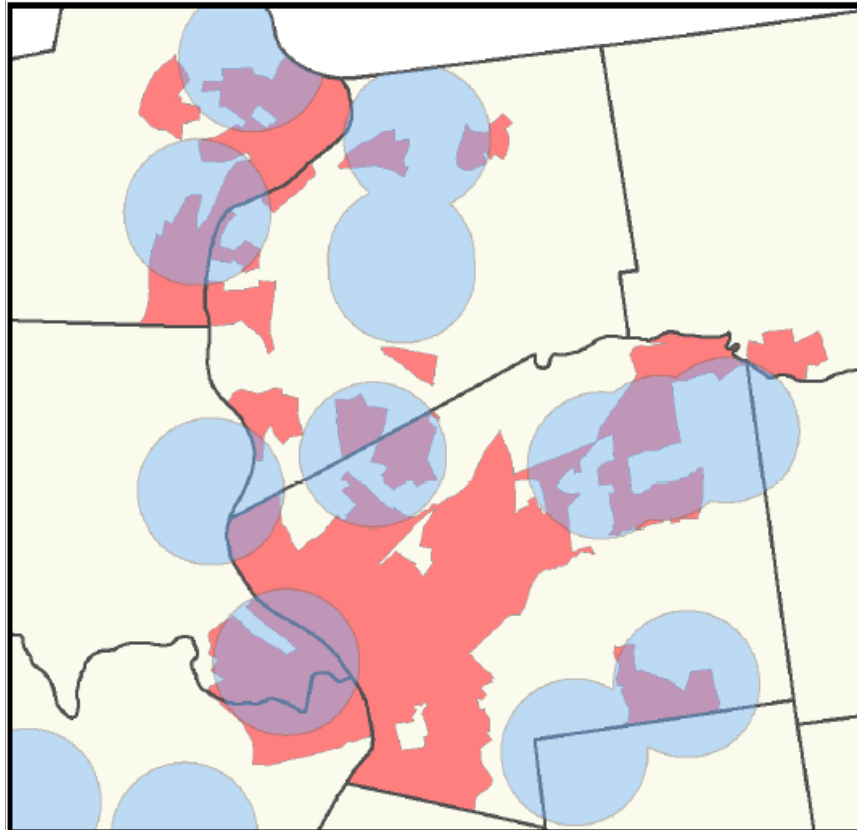
Low-Income Area

Area within 1 mile of a SNAP Retailer

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- **Food Acquisition and Purchase Survey (FoodAPS)**

Research Question

- What characteristics of the food retail environment are salient for low-income consumers' shopping choices?

- How are those characteristics associated with food security and dietary quality outcomes?

Conceptual Framework

Food Environment
- Nearest supermarket:
  - < 0.5 miles
  - 0.5 - 1 miles
  - 1 – 10 miles
  - > 10 miles

Household Resources
- Income
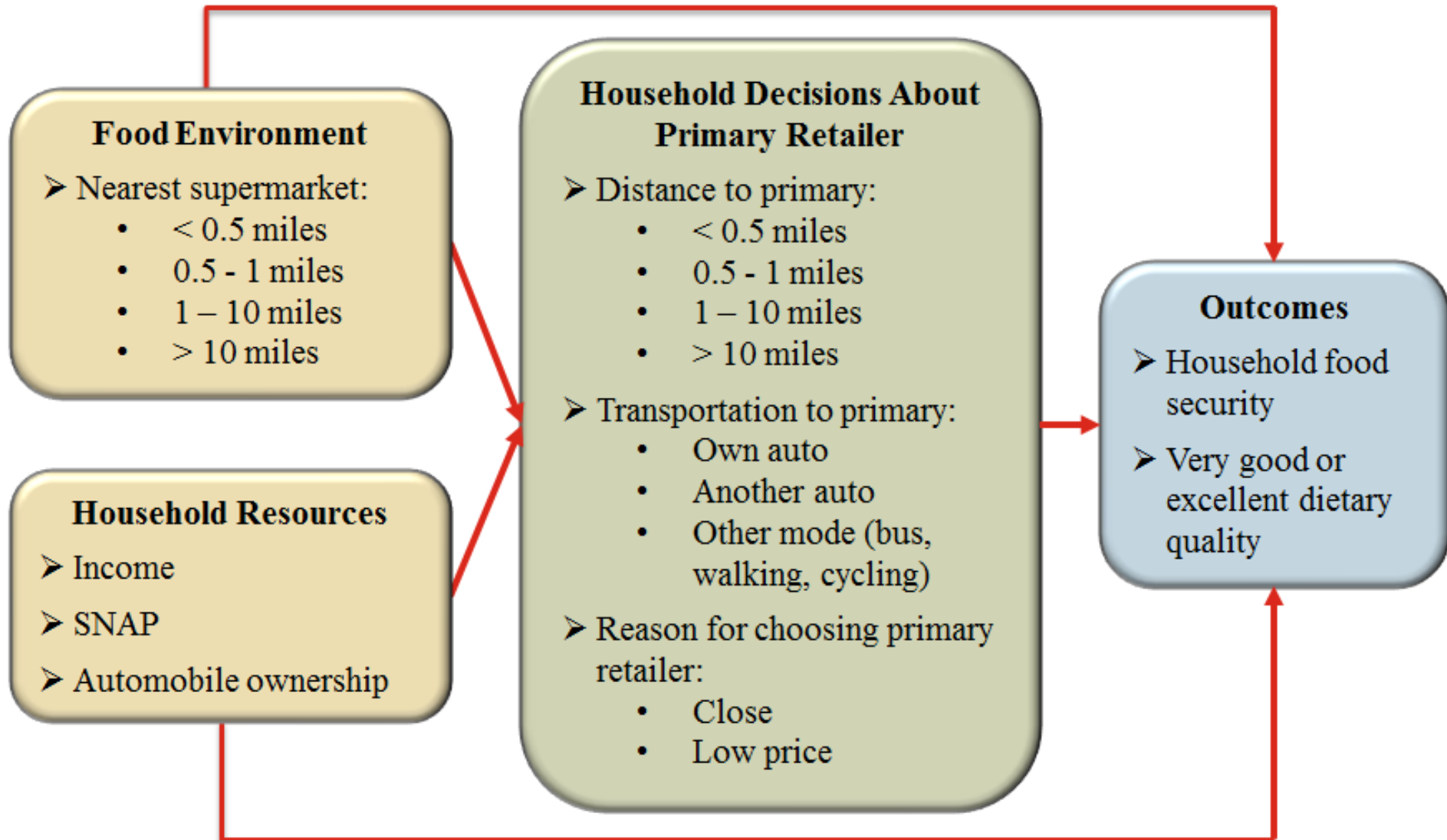- SNAP
- Automobile ownership

Household Decisions About Primary Retailer
- Distance to primary:
  - < 0.5 miles
  - 0.5 - 1 miles
  - 1 – 10 miles
  - > 10 miles
- Transportation to primary:
  - Own auto
  - Another auto
  - Other mode (bus, walking, cycling)
- Reason for choosing primary retailer:
  - Close
  - Low price

Outcomes
- Household food security
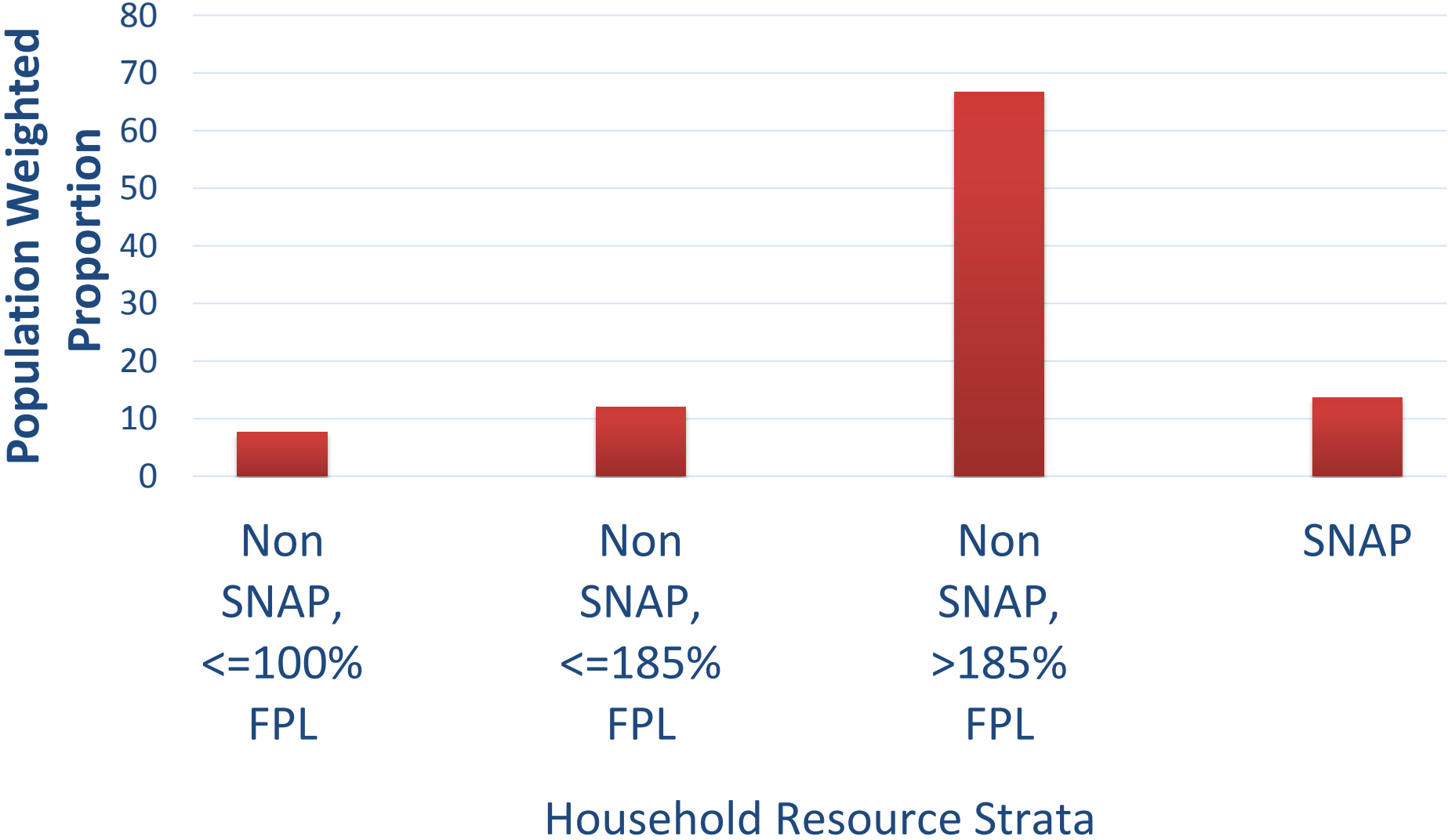- Very good or excellent dietary quality

Food Acquisition and Purchase Survey

The National Food Study
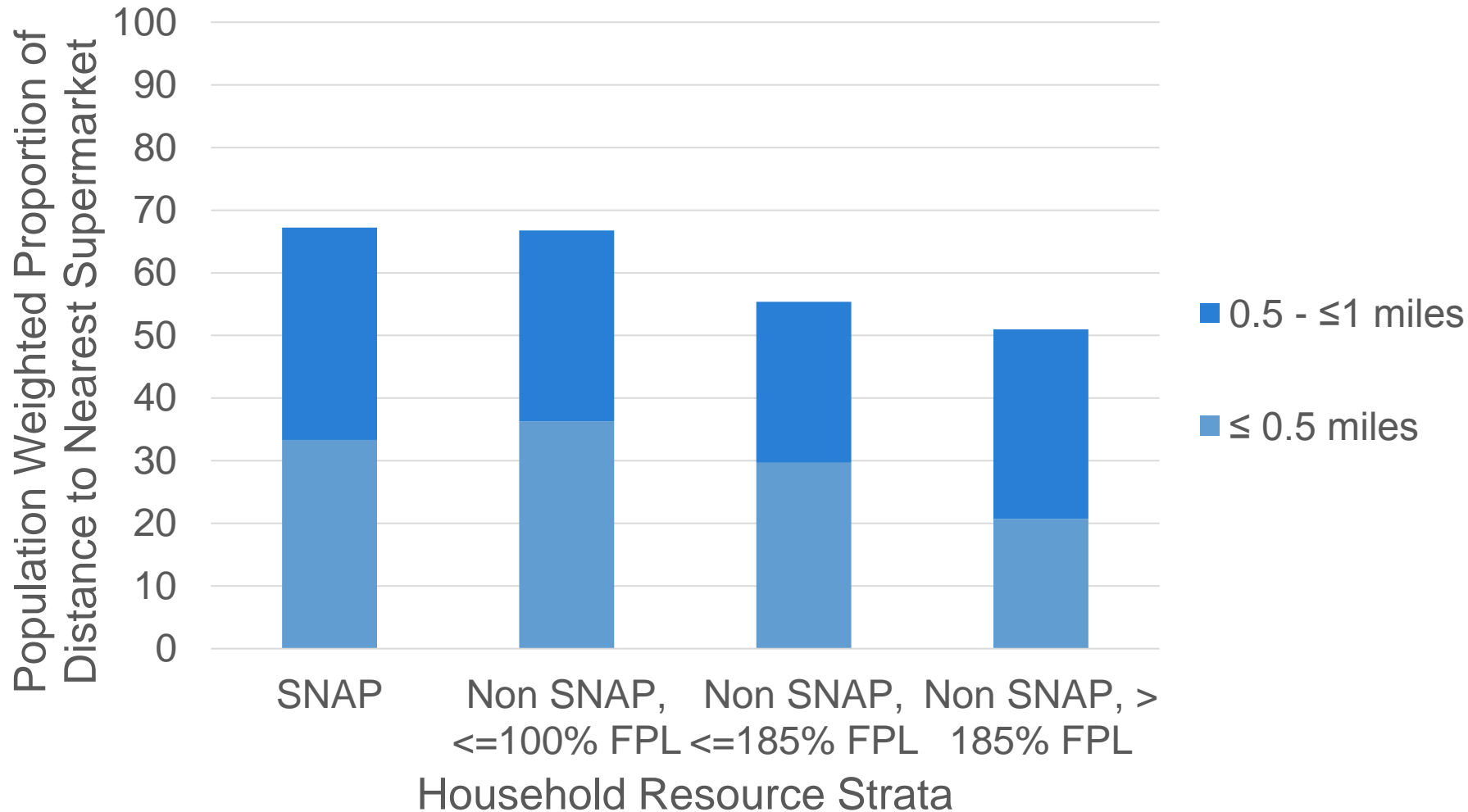Sponsored by the U.S. Department of Agriculture

- Data collected
  - Household characteristics
  - Food acquisition and purchases in 7-day period
  - Locations of purchases and distance to retailers
- 4286 households in 4 resource strata

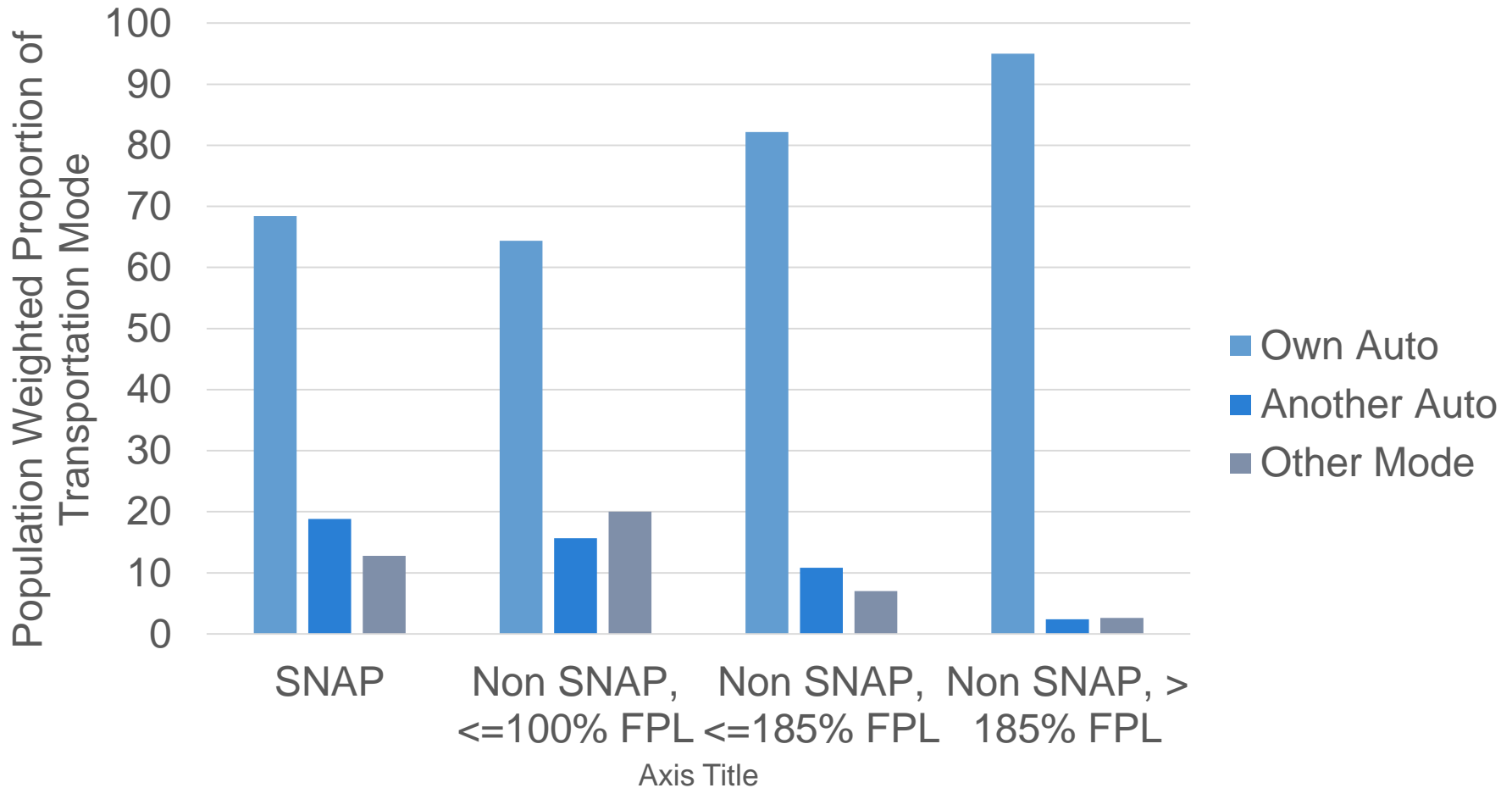Four Resource Strata

Results

Household Resource Strata by Distance to Nearest Supermarket

* The 1-10 and > 10 estimates were combined for non-disclosure purposes

Results

Household Resource Strata by Transportation Mode used for Food Purchasing

Results

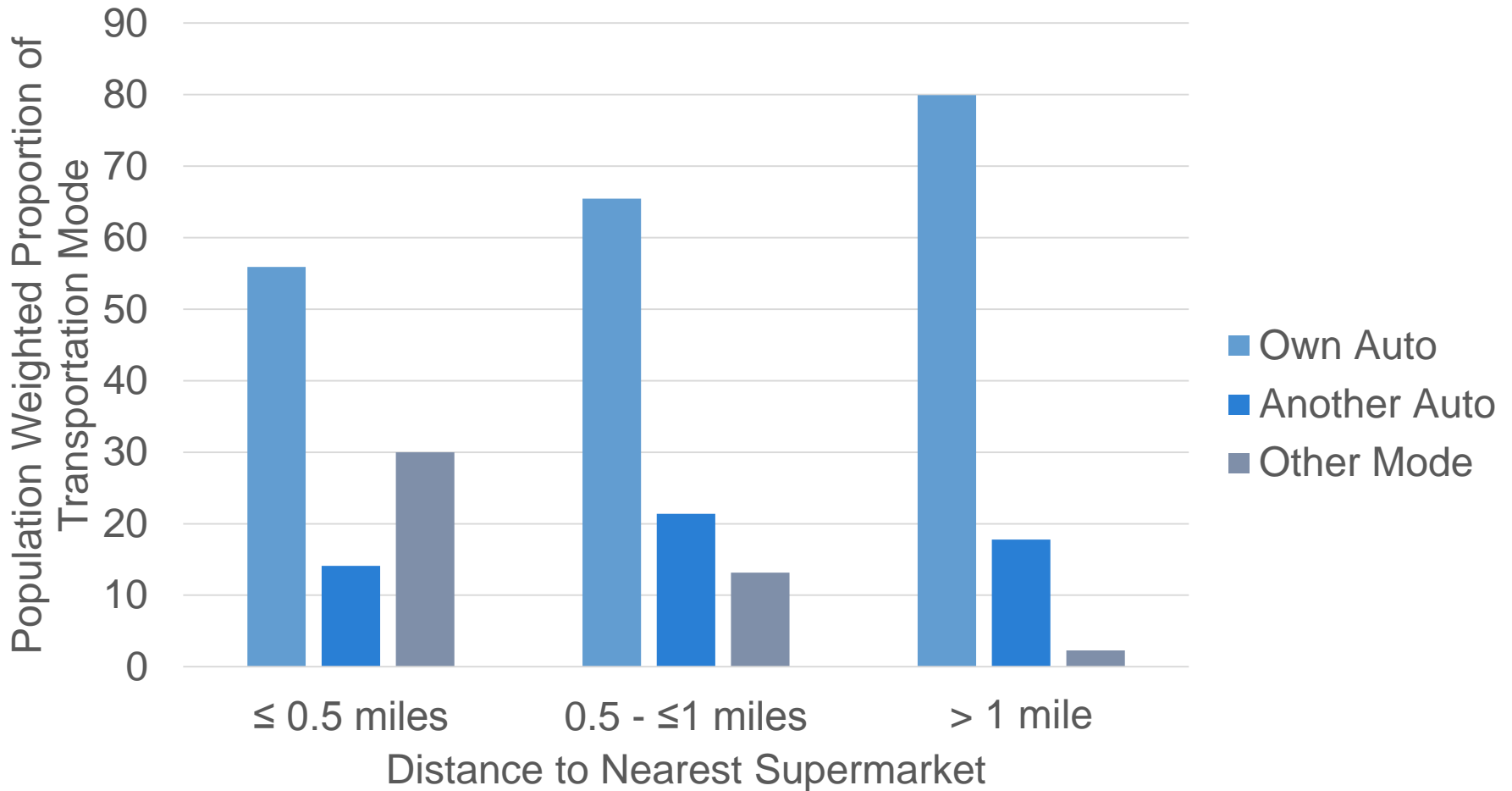Distance to Nearest Store by Transportation Mode used for Food Purchasing

Table 3: Food security and dietary quality for low-income sample (1 of 2)

Outcome:	Low-income groups			
	Food security		Dietary quality	
	OR	CI	OR	CI
Distance to Nearest Super				
< 0.5 miles	Reference			
0.5 - 1 miles	0.86	0.66, 1.11	1.32	0.81, 2.13
1 - 10 miles	0.83	0.54, 1.27	0.99	0.65, 1.51
> 10 miles	1.39	0.43, 4.49	1.71	0.60, 4.90

Table 3: Food security and dietary quality for low-income sample (1 of 2)

	Low-income groups			
Outcome:	Food security		Dietary quality	
	OR	CI	OR	CI
Transportation to Primary				
Own auto	*Reference*			
Another auto	0.59*	0.38, 0.90	0.49*	0.26,0.91
Other mode	0.32*	0.17,0.61	0.78	0.47,1.30

Discussion

- Distance to the nearest supermarket does not significantly predict food security self-reported household dietary quality.

- Even low-income Americans most commonly use automobiles to reach their primary food retailer.

Conclusion

- The most salient feature of the local food retail environment for low-income Americans may be the power to access to high-quality low-price supermarkets at reasonable driving distances.