



Measuring Neighborhood Food Retail in Philadelphia with GIS

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Get Healthy Philly Goals

Healthy
Eating



Physical
Activity



Tobacco Policy
and Control



Injury
Prevention



Agenda

- Background
- Methods
- Findings
- Online Resources

Background



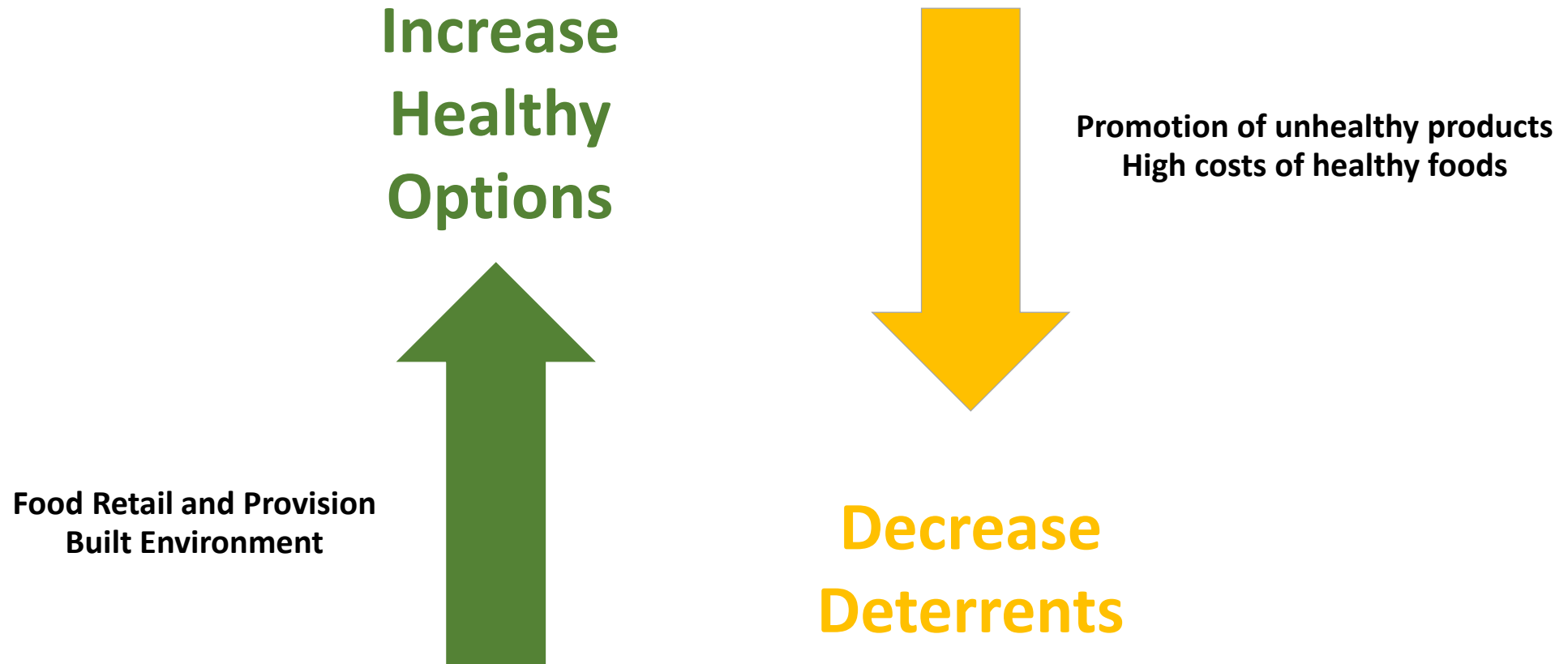
In Philadelphia...

CHRONIC HEALTH CONDITIONS			
	MOST RECENT ESTIMATE	POPULATIONS WITH POORER OUTCOMES	CHANGE IN RECENT YEARS
OBESITY IN CHILDREN (AGES 5 - 18)			
	21.9% ¹	Hispanic boys; Non-Hispanic black girls	<< WORSENING
OBESITY IN ADULTS			
	35.0% ²	Non-Hispanic blacks; Hispanics	<< WORSENING
HYPERTENSION IN ADULTS			
	33.0% ²	Non-Hispanic blacks	<< WORSENING
DIABETES IN ADULTS			
	12.0% ²	Non-Hispanic blacks	○ NO CHANGE

SOURCE: ¹ 2016 - 2017 School District of Philadelphia

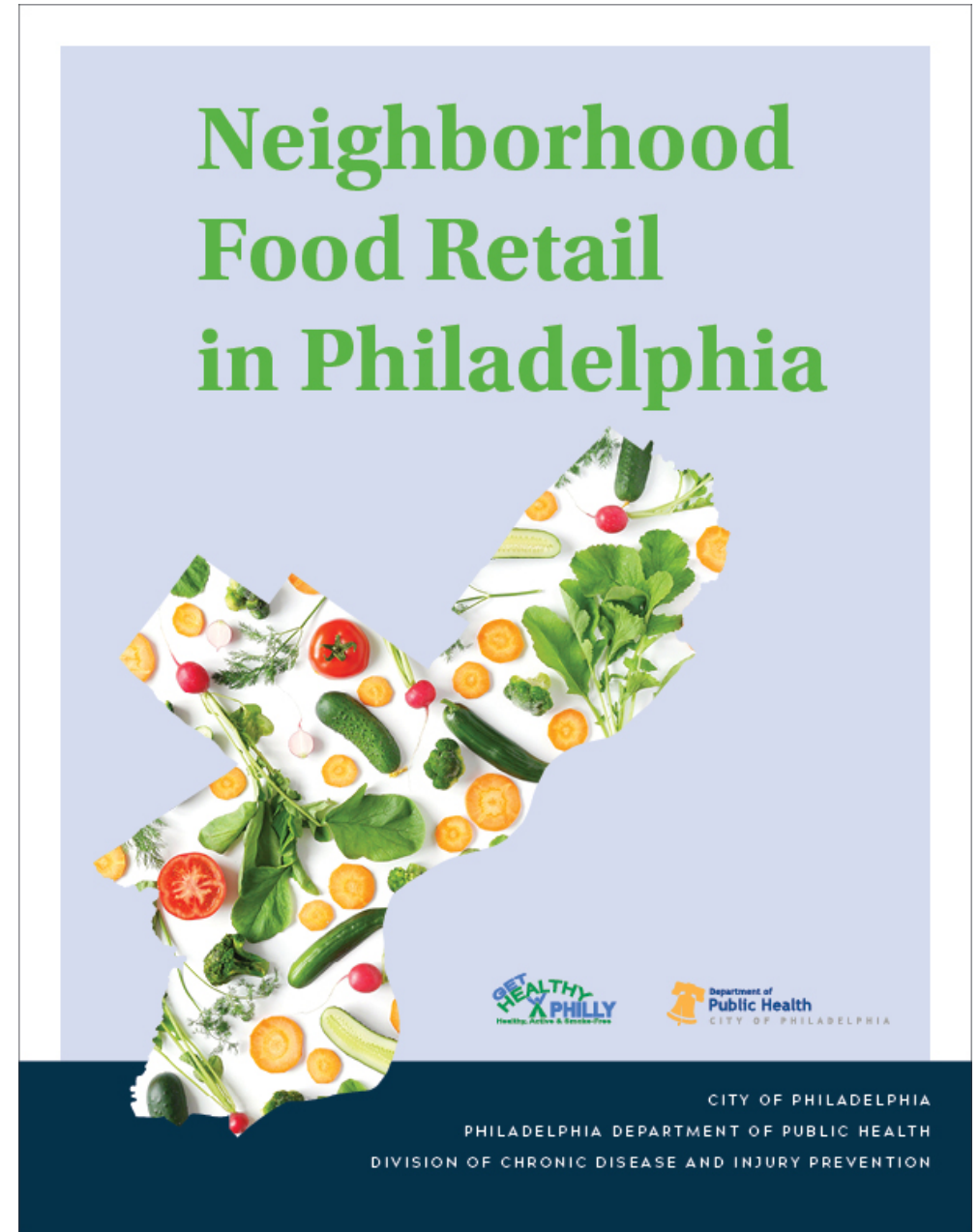
² 2017 PA Behavioral Risk Factor Surveillance System

Policy and Systems Change Interventions



Neighborhood Food Retail Report

- Measures citywide and neighborhood disparities in number and density of high product supply stores AND low produce supply stores
- Components
 - Report
 - Data Dashboards/Galleries
 - Story map
 - Planning district
 - Council district
 - Layers on Open Data Philly



Approach

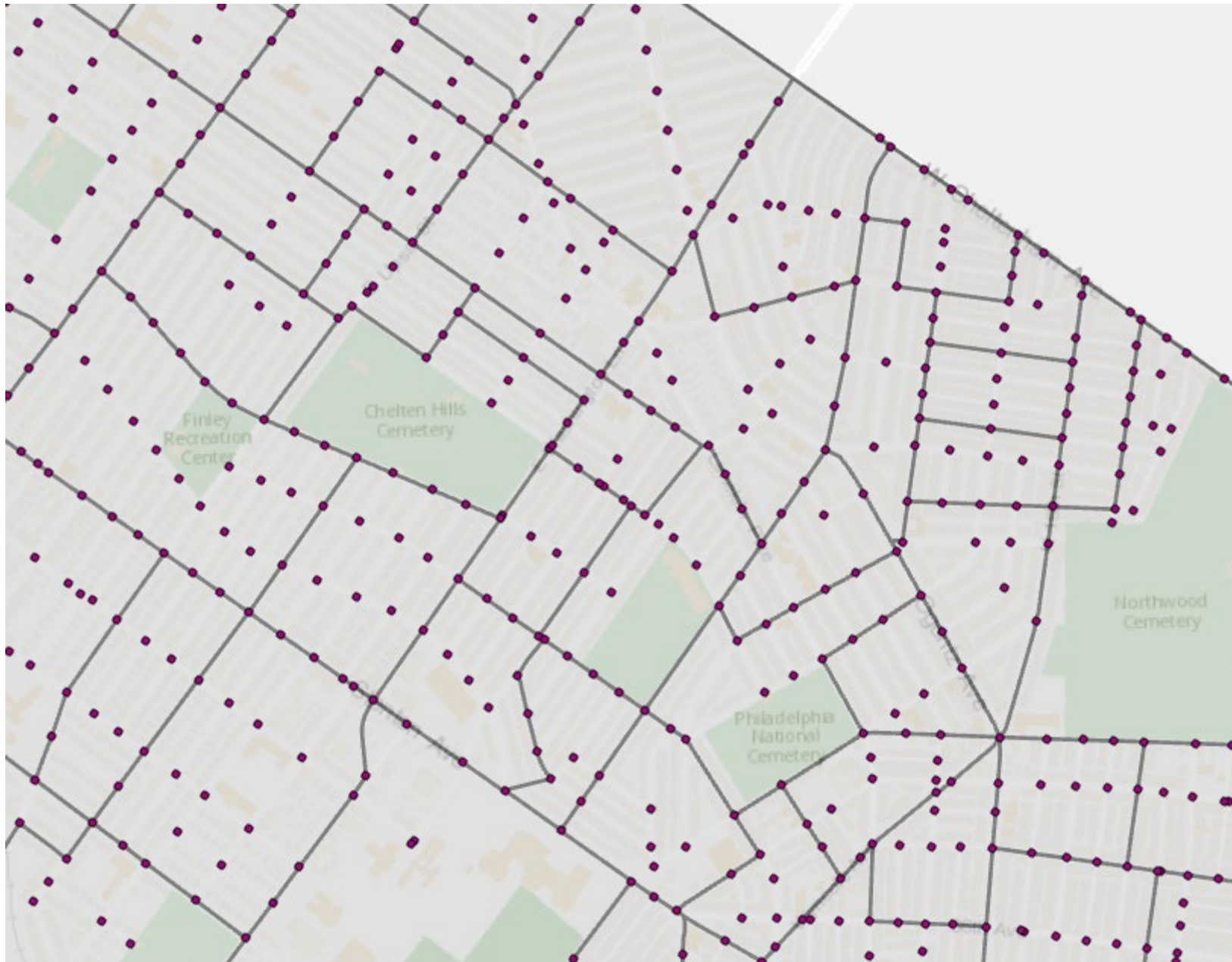
Density of stores within ½ mile walking distance by block group

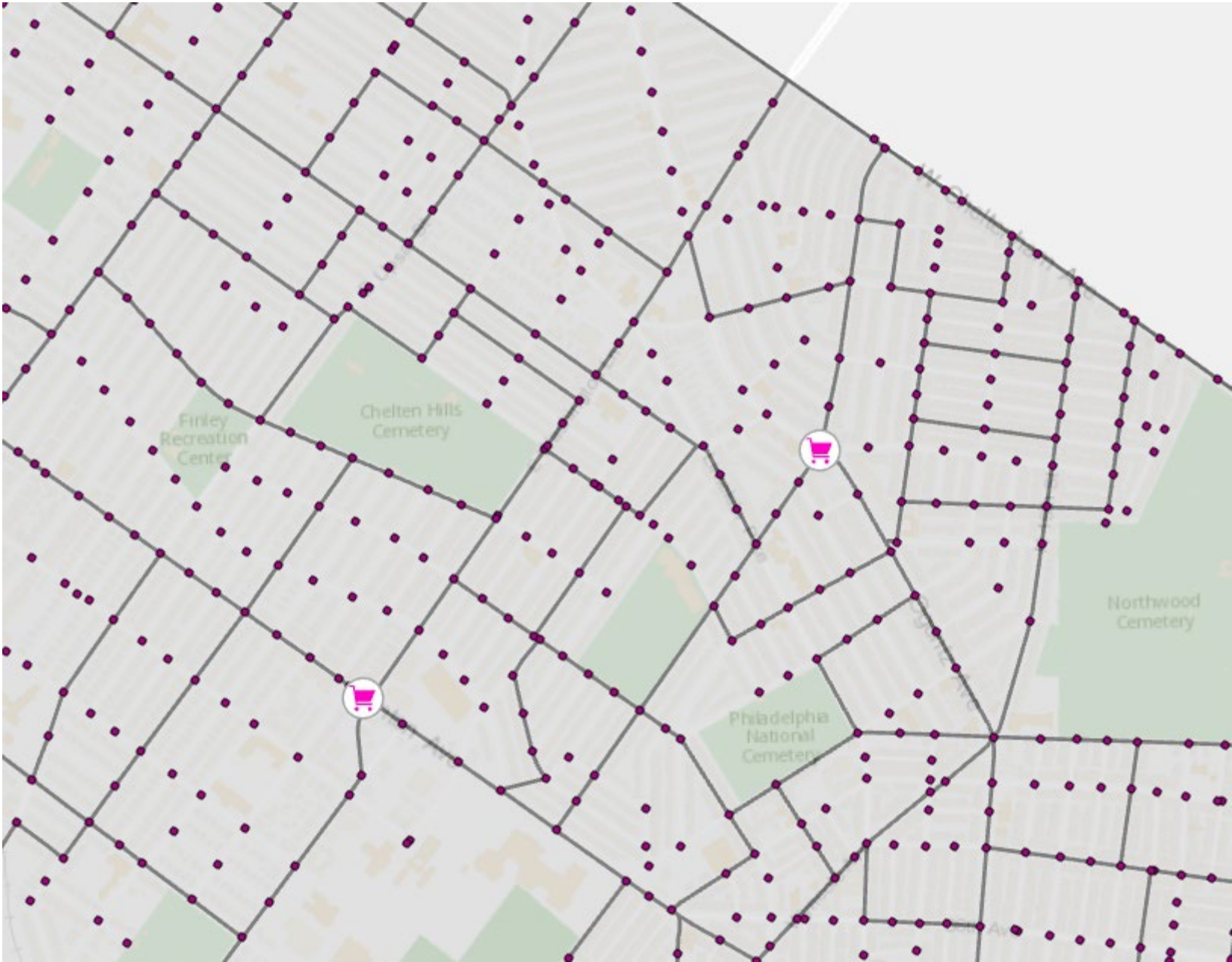
- “High-produce supply” stores - generally offer an abundant selection of fruits and vegetables
 - Supermarkets
 - Big box stores
 - Produce stores
 - Mobile produce vendors (counted as ¼)
 - Farmers markets (counted as ¼)
 - Buying clubs (counted as ¼)
 - CSAs (counted as ¼)
- “Low-produce supply” stores - offer either no fruits and vegetables or have a limited selection
 - Corner stores
 - Chain convenience stores
 - Dollar stores
 - Pharmacies
 - Gas stations
 - Newsstands

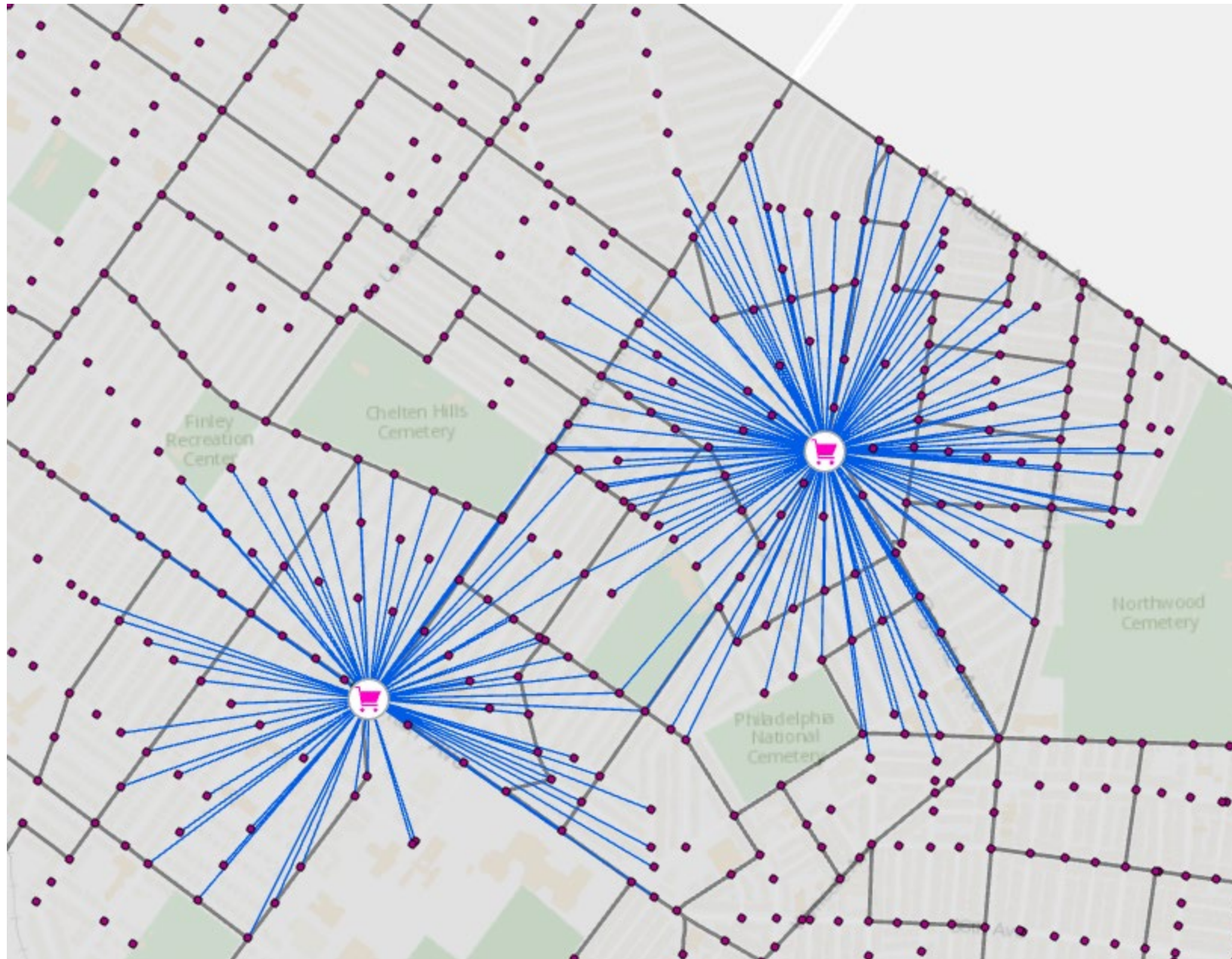
Methods

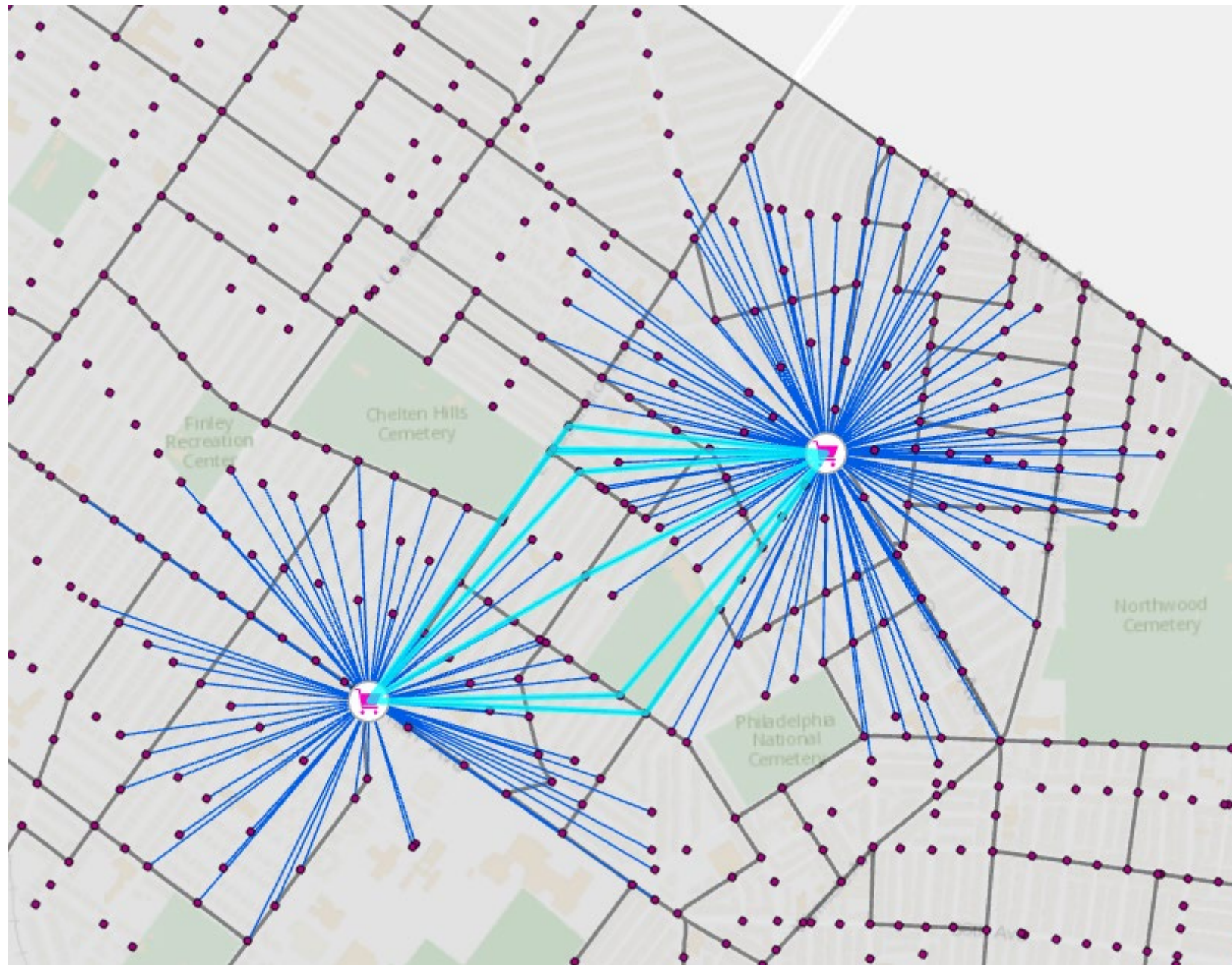


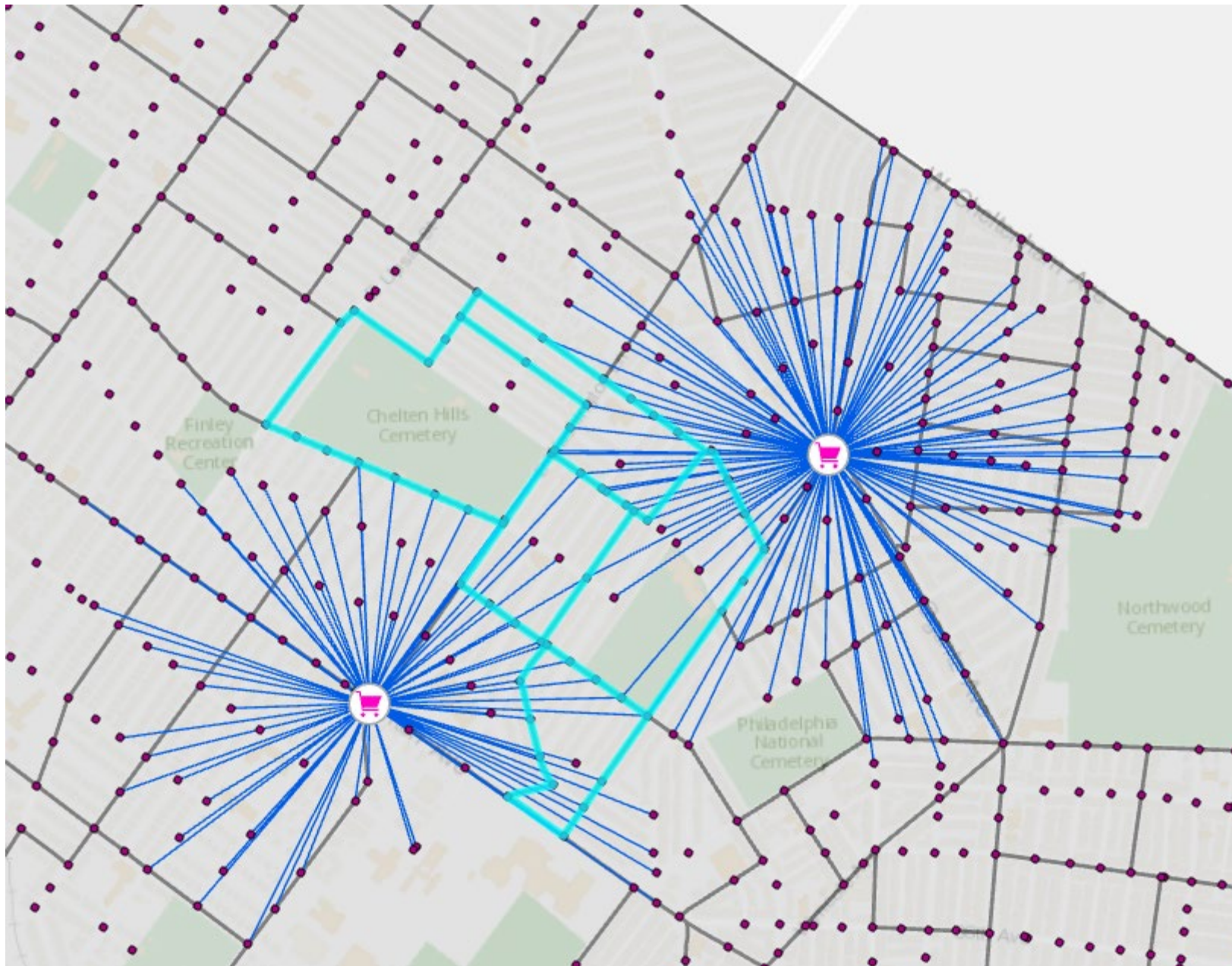






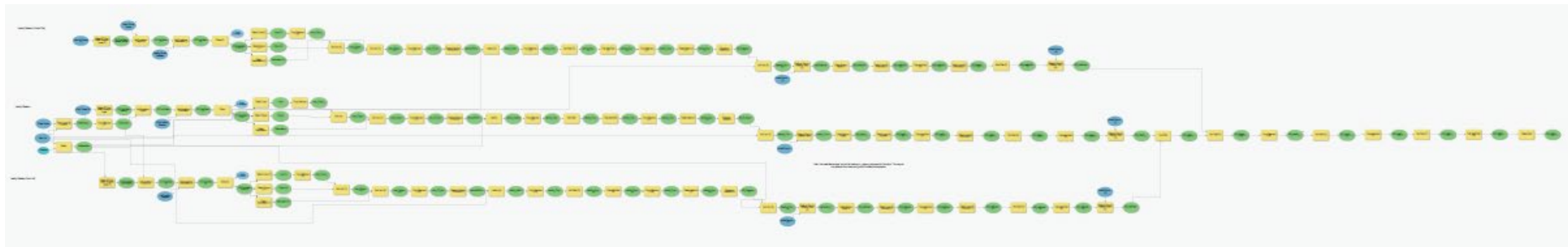






Brief Methods

- OD Cost Matrix – Stores (destinations) within a half mile walking distance of each street node (origins)
- Identify – Which street nodes belong to which block group(s)
- Delete Identical – Only count a store once per block group
- Summary Statistics – Total counts



Findings



Across Philadelphia, low-produce supply stores vastly outnumber high-produce supply stores.

Only **19%** of all retail food stores in the city generally have a high-produce supply.

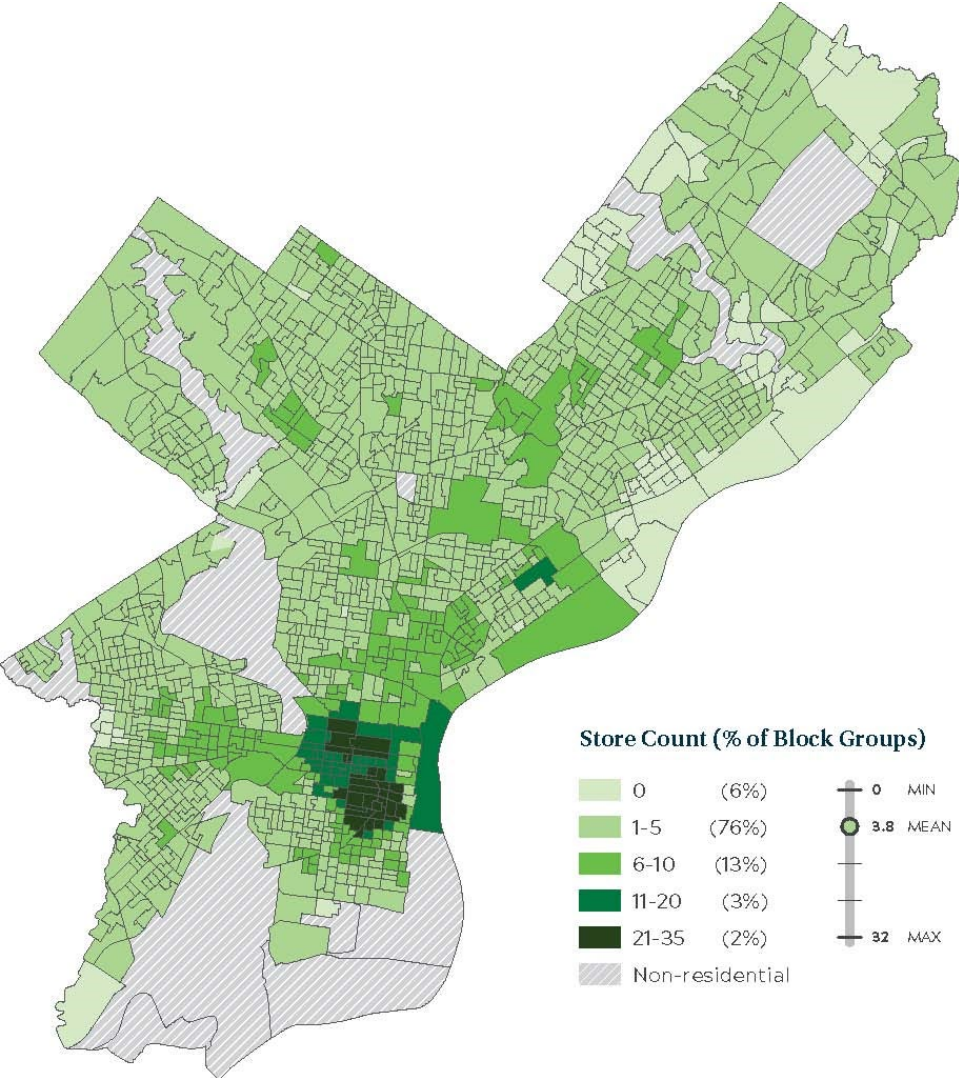
LOW PRODUCE **81%**

HIGH PRODUCE **19%**

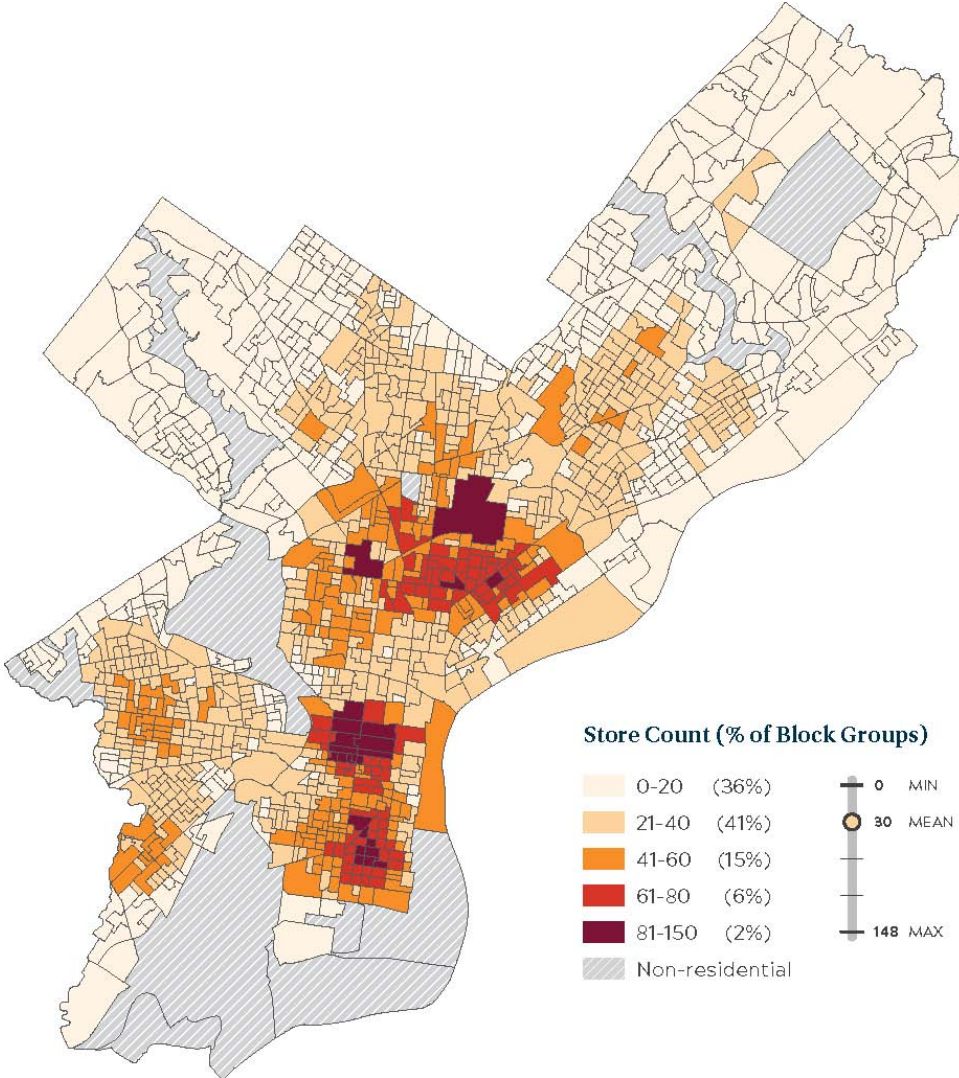
In the average Philadelphia neighborhood, **12%** of stores nearby are high-produce

68% of Philadelphians live within walking distance of 20+ low-produce supply stores

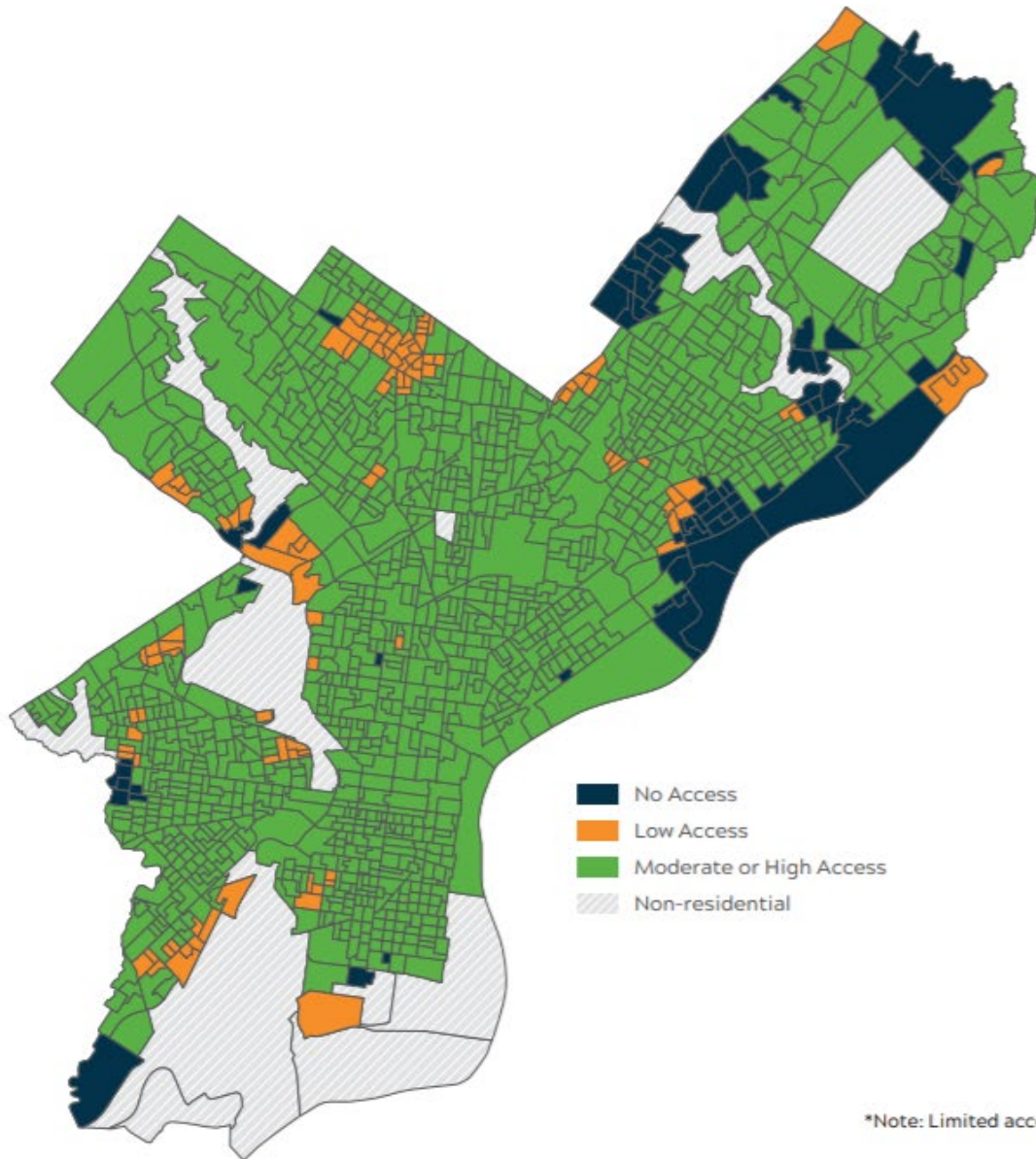
Number of high-produce supply stores within a half mile



Number of low-produce supply stores within a half mile



WALKABLE ACCESS TO STORES WITH HIGH-PRODUCE SUPPLY



NO ACCESS AREAS have 0 high-produce supply stores within walking distance.

LOW ACCESS AREAS have either:

- 1 big box store
- 1 produce store
- up to 4 limited access high-produce supply stores.

All remaining areas are **MODERATE OR HIGH ACCESS** and have either:

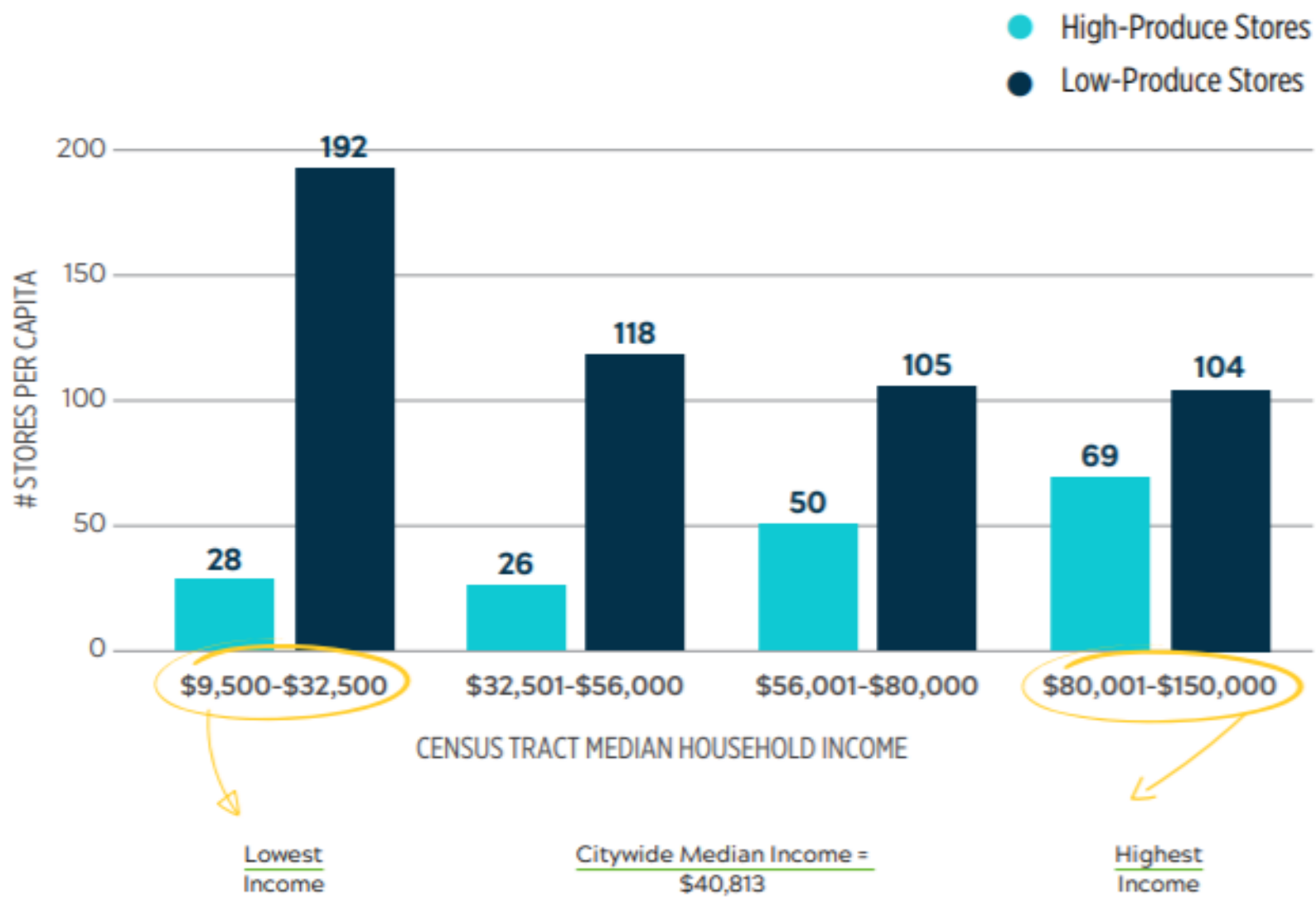
- 1 or more supermarkets within walking distance
- 2 or more high-produce supply stores. For example, an area with a big box store, and a produce store would have moderate to high access.
- 5 or more limited access high-produce supply stores
- A combination of high-produce and limited access high-produce stores > 1. For example, a big box store and a farmer's market.

*Note: Limited access high-produce supply stores were counted as ½ due to restricted hours.

Lower income neighborhoods have disproportionately high numbers of low-produce supply stores.

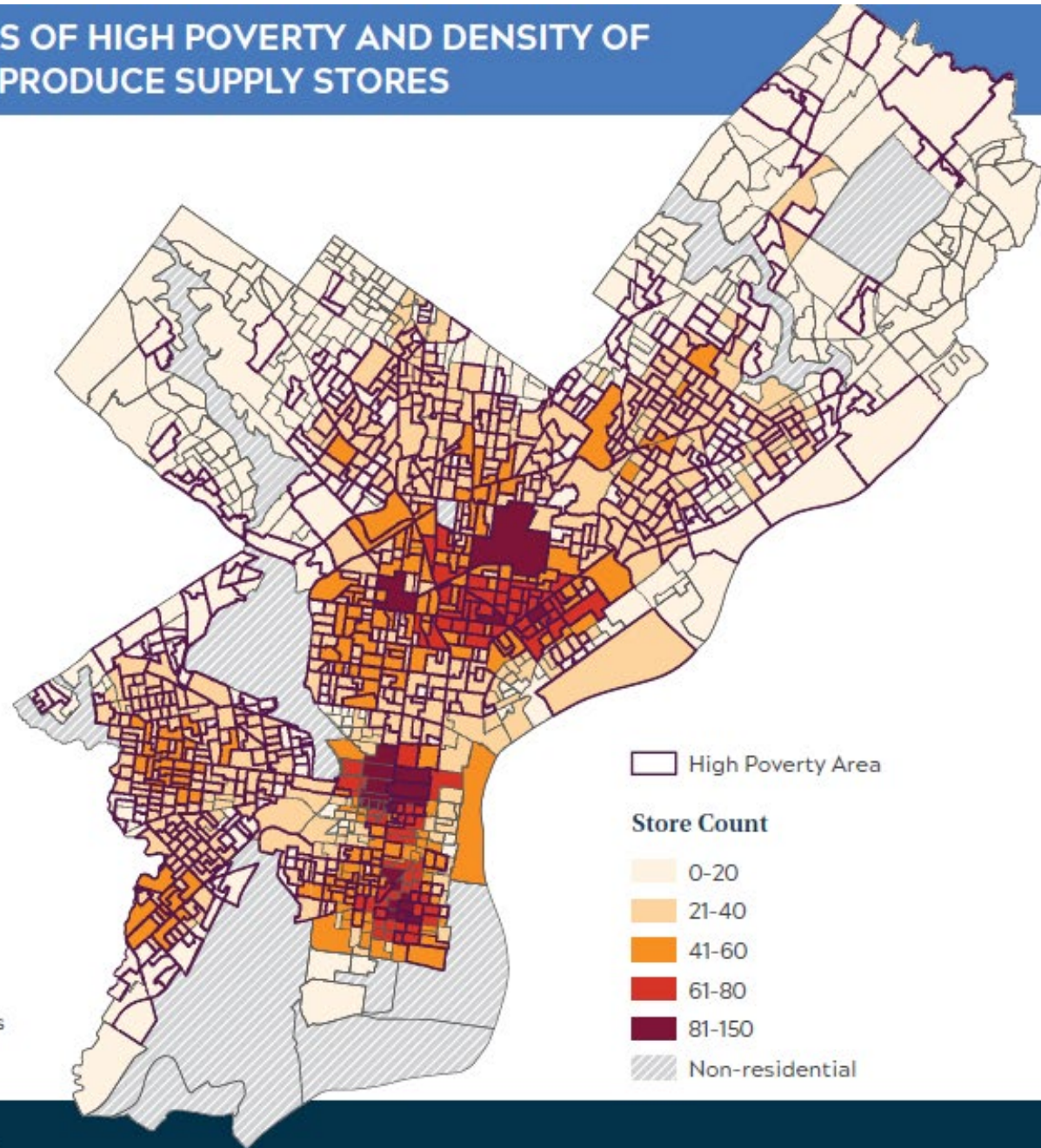
HIGH-PRODUCE SUPPLY AND LOW-PRODUCE SUPPLY STORES PER 100,000 PEOPLE BY CENSUS TRACT INCOME

by Census Tract Income





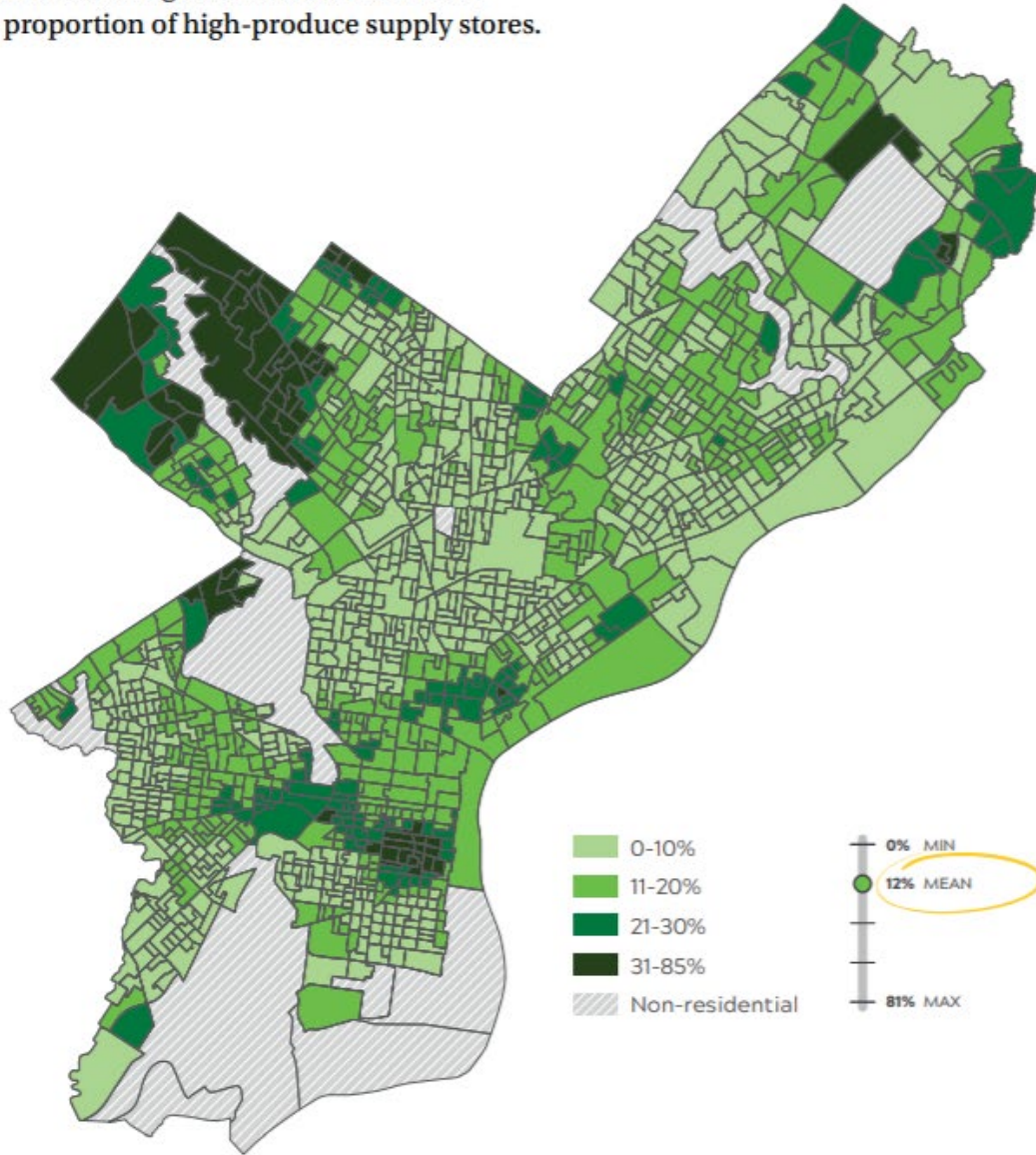
AREAS OF HIGH POVERTY AND DENSITY OF LOW-PRODUCE SUPPLY STORES



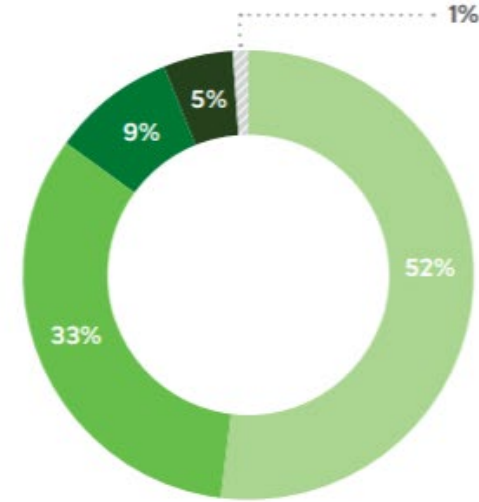
*Note: High poverty defined as 20% or more of the block group is below federal poverty level

PERCENTAGE OF ALL STORES THAT ARE HIGH-PRODUCE SUPPLY STORES

Areas with lighter colors have a lower proportion of high-produce supply stores.



PERCENT OF BLOCK GROUPS IN EACH MAP CATEGORY

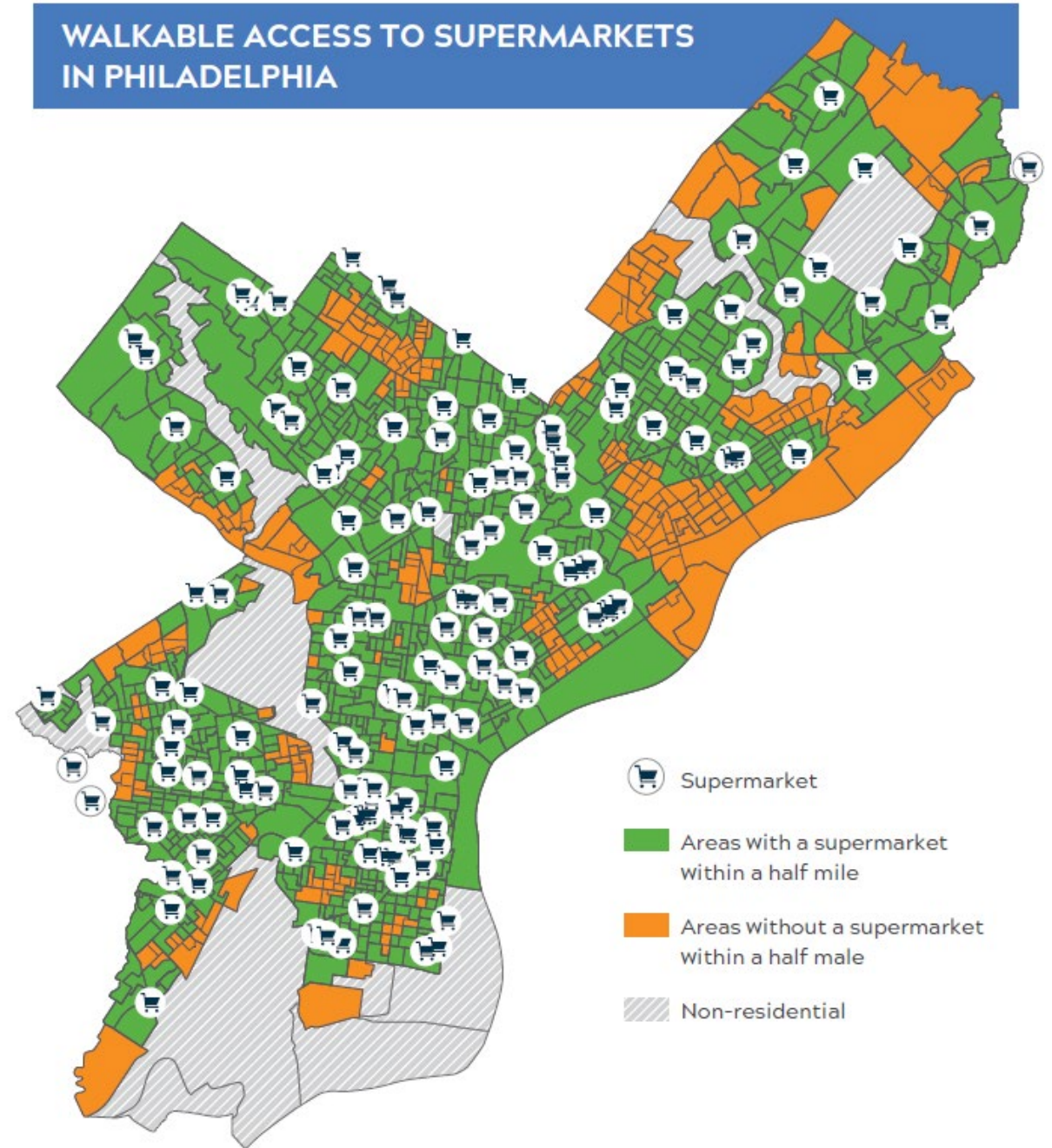


In the average Philadelphia neighborhood, only **12%** of stores nearby are high-produce. Philadelphia block groups have a range of 0-172 retail food stores within ½ mile.

Proximity to supermarkets
is only one part of
improving diet quality.

**23% of Philadelphians primarily shop at other
high-produce supply stores**

**72% of households have access to a car in areas
without a supermarket nearby**



Exploring the Data

- What about where I live?
- How does this factor into a district plan?
- What's going on in my council district?

[Food Environment Gallery](#)

Q&A





Thank you!

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Web Mapping Application

Neighborhood Food Retail in Philadelphia

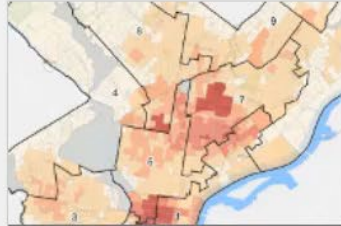
Use this story map to interact with the data and maps in the Neighborhood Food Retail in Philadelphi...



Dashboard

Dashboard - Planning District

Explore neighborhood food retail in Philadelphia by Planning District with this interactive dashboard...



Dashboard

Dashboard - Council District

Explore neighborhood food retail in Philadelphia by Council District with this interactive dashboard...