The New Jersey Childhood Obesity Study

Camden

Food Environment Maps

August 2010

Punam Ohri-Vachaspati, PhD
David Tulloch, PhD
Nirvana Petlick, BA
Diane Martinez, MPH
Michael Yedidia, PhD

For more information contact
 Email: ChildhoodObesity@ifh.rutgers.edu

RUTGERS
Center for State Health Policy

Table of Contents

About the Study

The New Jersey Childhood Obesity Study, funded by the Robert Wood Johnson Foundation, aims to provide vital information for planning, implementing and evaluating interventions aimed at preventing childhood obesity in five New Jersey municipalities: Camden, Newark, New Brunswick, Trenton, and Vineland. These five communities are being supported by RWJF's New Jersey Partnership for Healthy Kids program to plan and implement policy and environmental change strategies to prevent childhood obesity.

Effective interventions for addressing childhood obesity require community specific information on who is most at risk and on contributing factors that can be addressed through tailored interventions that meet the needs of the community.

Using a comprehensive research study, the Center for State Health Policy at Rutgers University is working collaboratively with the State Program Office for New Jersey Partnership for Healthy Kids and the five communities to address these information needs. The main components of the study include:

- A household survey of 1700 families with 3 -18 year old children
- De-identified heights and weights data from public school districts
- Assessment of the food and physical activity environments using objective data

Data books and maps based on the results of the study are being shared with the community coalitions in the five communities to help them plan their interventions.

In This Chartbook…

The maps in this chartbook describe the food environment in Camden in terms of access to supermarkets, smaller grocery stores, convenience stores, and limited service restaurants. Research shows that when residents have access to healthy food outlets, they tend to eat healthy.

•Food environment maps were created using geo-coded commercially available data of food outlets (InfoUSA, 2008 and Trade Dimensions, 2008) in Camden and in a 1 mile buffer area around Camden.

•Using the commercial data and additional investigation, food outlets were classified into different categories based on their likelihood of carrying healthy choices: supermarkets carry most healthy choices; smaller grocery stores carry fewer healthy choices; convenience stores and limited service restaurants are likely to carry mostly unhealthy choices.

•Access to different types of food outlets was computed at the census block group level based on concentration of stores / restaurants per unit area and is reported as food outlet densities.

•Food outlet density maps are compared with Census 2000 data to visualize accessibility of healthy food s in neighborhoods with different characteristics.

Data Sources: **InfoUSA food outlet 2008 data**
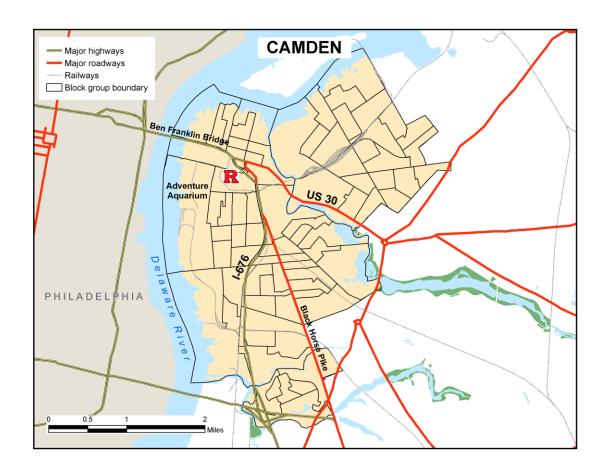   **Trade Dimensions food outlet 2008 data**
                           Census 2000 data
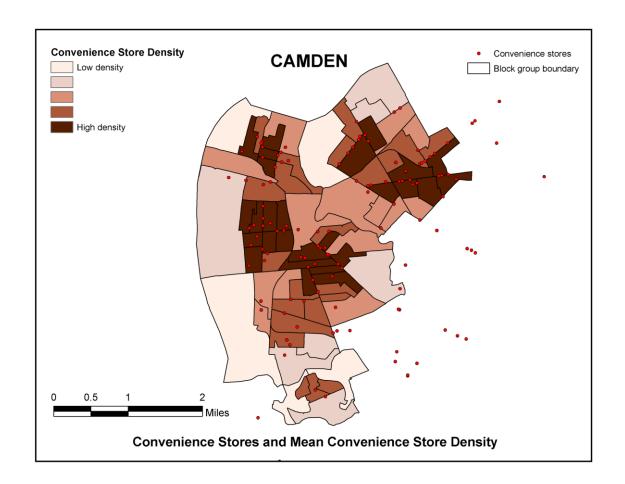   **New Jersey Department of Education 2008-2009 data**

CSHP Camden food outlet 2008 data (Updated August 2010)

City of Camden and major landmarks.

Food Outlet Densities at Block Group Level

Convenience Stores and Mean Convenience Store Density
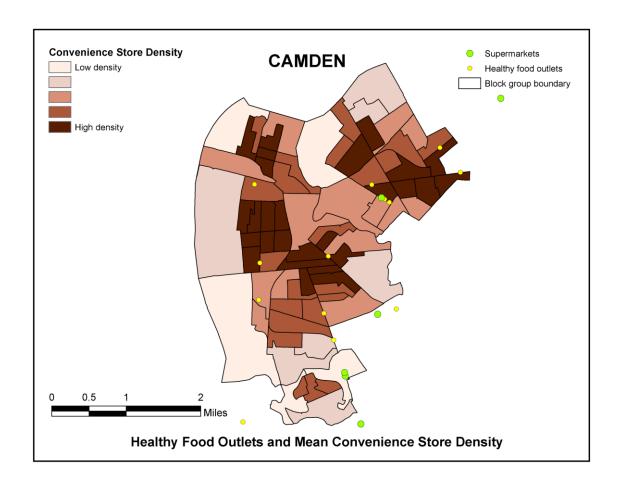
The map shows <u>convenience store densities</u> at the block group level. Convenience stores (red dots) in Camden and within a 1 mile buffer of city boundaries are mapped. Block groups with darker colors have higher access to convenience stores.

7

CAMDEN

Convenience Store Density
- Low density
- High density

Supermarkets
Block group boundary

0   0.5   1   2
Miles

Supermarkets and Mean Convenience Store Density
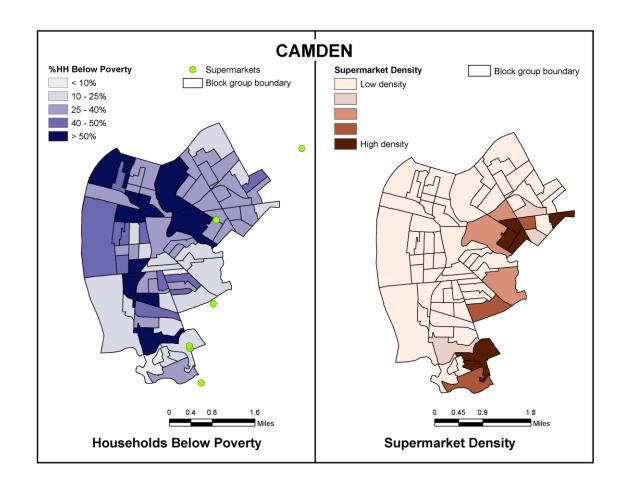
Supermarkets (green dots) in and around Camden overlaid on a map of <u>convenience store densities</u> at census block group level.   Block groups with darker shades represent areas with higher access to convenience stores.

Healthy Food Outlets and Mean Convenience Store Density

Convenience Store Density
- Low density
- High density

CAMDEN

- Supermarkets
- Healthy food outlets
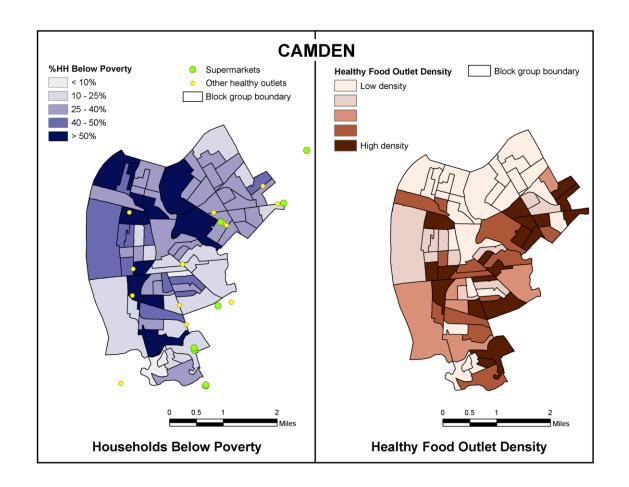- Block group boundary

0   0.5   1   2 Miles

Supermarkets (green dots) and other healthy food outlets (yellow dots) such as smaller grocery stores in and around Camden overlaid on a map of <u>convenience store densities</u> at census block group level. Block groups with darker shades represent areas with higher access to convenience stores.

% Households Below Poverty Level and Food Outlet Densities

CAMDEN

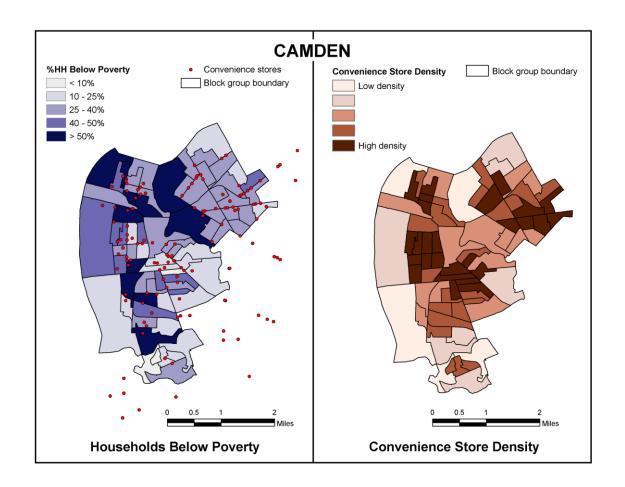Households Below Poverty — Supermarket Density

On the left, block groups in darker colors (blue) show higher percentage of <u>households below poverty level</u>. The green dots represent supermarket locations. <u>Supermarket densities</u> are shown on the right; the darker the shade of the block group, the higher the access to supermarkets.

CAMDEN

%HH Below Poverty
- < 10%
- 10 - 25%
- 25 - 40%
- 40 - 50%
- > 50%

○ Supermarkets
○ Other healthy outlets
☐ Block group boundary

Healthy Food Outlet Density
- Low density
- High density

☐ Block group boundary

Households Below Poverty

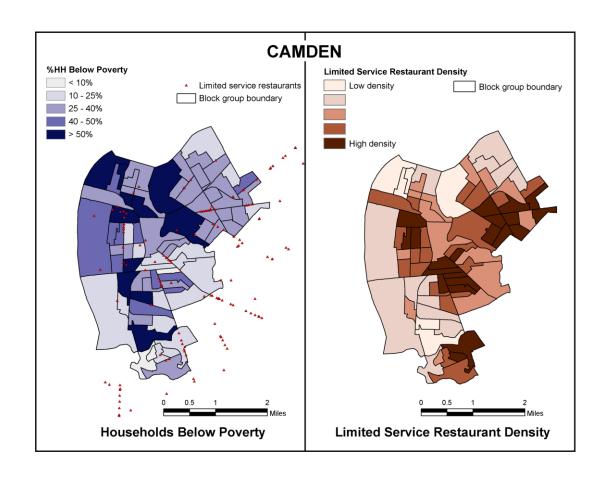**Healthy Food Outlet Density**

On the left, block groups in darker colors (blue) show higher percentage of <u>households below poverty level</u>. The green and yellow dots represent healthy food outlet (supermarket and smaller grocery store) locations. <u>Healthy food outlet densities</u> are shown on the right; the darker the shade of the block group, the higher the access to healthy food outlets .

CAMDEN

%HH Below Poverty
- < 10%
- 10 - 25%
- 25 - 40%
- 40 - 50%
- > 50%

• Convenience stores
▢ Block group boundary

Households Below Poverty

Convenience Store Density
- Low density
- High density

▢ Block group boundary
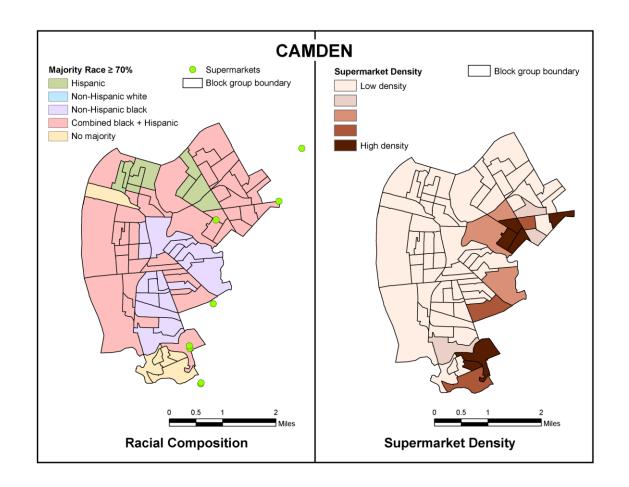
Convenience Store Density

On the left, block groups in darker colors (blue) show higher percentage of <u>households below poverty level</u>. The red dots represent convenience stores. <u>Convenience store densities</u> are shown on the right; the darker the shade of the block group, the higher the access to convenience stores.

CAMDEN

%HH Below Poverty
- < 10%
- 10 - 25%
- 25 - 40%
- 40 - 50%
- > 50%

▲ Limited service restaurants
☐ Block group boundary

Households Below Poverty

Limited Service Restaurant Density
- Low density
- High density

☐ Block group boundary

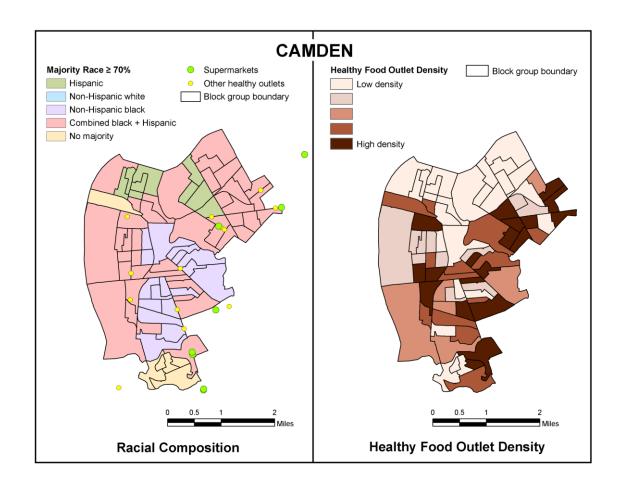**Limited Service Restaurant Density**

On the left, block groups in darker colors (blue) show higher percentage of <u>households below poverty level</u>. The red triangles represent limited service restaurants (fast food outlets). <u>Limited service restaurant densities </u>are shown on the right; the darker the shade of the block group, the higher the access to limited service restaurants.

14

Neighborhood Level Race / Ethnicity and Food Outlet Densities

CAMDEN

Racial Composition

Majority Race ≥ 70%
- Hispanic
- Non-Hispanic white
- Non-Hispanic black
- Combined black + Hispanic
- No majority

● Supermarkets
☐ Block group boundary

Supermarket Density
- Low density
- High density

☐ Block group boundary
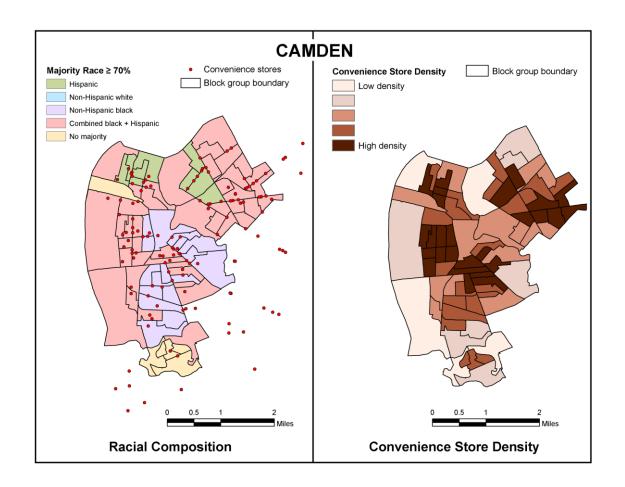
Supermarket Density

On the left, <u>majority racial composition</u> of block groups is depicted in different colors. The green dots represent supermarket locations. <u>Supermarket densities</u> are shown on the right; the darker the shade of the block group, the higher the access to supermarkets.

CAMDEN

Majority Race ≥ 70%
- Hispanic
- Non-Hispanic white
- Non-Hispanic black
- Combined black + Hispanic
- No majority

- ● Supermarkets
- ● Other healthy outlets
- ☐ Block group boundary

Healthy Food Outlet Density
- Low density
- High density
- ☐ Block group boundary

0   0.5   1   2
Miles

Racial Composition

0   0.5   1   2
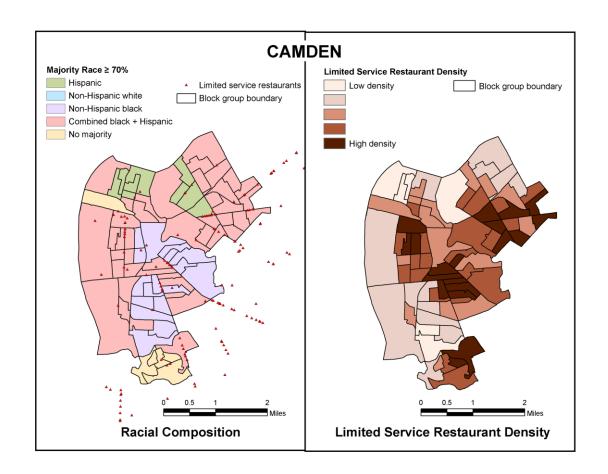Miles

Healthy Food Outlet Density

On the left, <u>majority racial composition</u> of block groups is depicted in different colors. The green and yellow dots represent healthy food outlet (supermarket and smaller grocery store) locations. <u>Healthy food outlet densities</u> are shown on the right; the darker the shade of the block group, the higher the access to healthy food outlets.

17

CAMDEN

Racial Composition

Convenience Store Density

RUTGERS
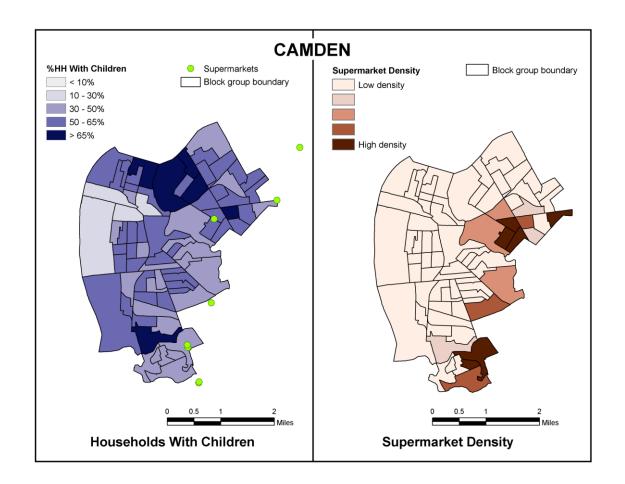Center for State Health Policy

On the left, <u>majority racial composition</u> of block groups is depicted in different colors. The red dots represent convenience stores. <u>Convenience store densities</u> are shown on the right; the darker the shade of the block group, the higher the access to convenience stores.

CAMDEN

Majority Race ≥ 70%
- Hispanic
- Non-Hispanic white
- Non-Hispanic black
- Combined black + Hispanic
- No majority

▲ Limited service restaurants
☐ Block group boundary

Racial Composition

Limited Service Restaurant Density
- Low density
- High density
- ☐ Block group boundary
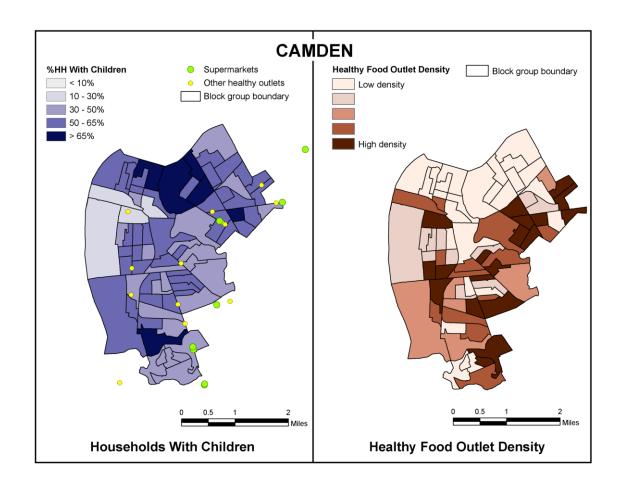
Limited Service Restaurant Density

On the left, <u>majority racial composition</u> of block groups is depicted in different colors. The red triangles represent limited service restaurants (fast food outlets). <u>Limited service restaurant densities</u> are shown on the right; the darker the shade of the block group, the higher the access to limited service restaurants.

% Households with Children and Food Outlet Densities

CAMDEN
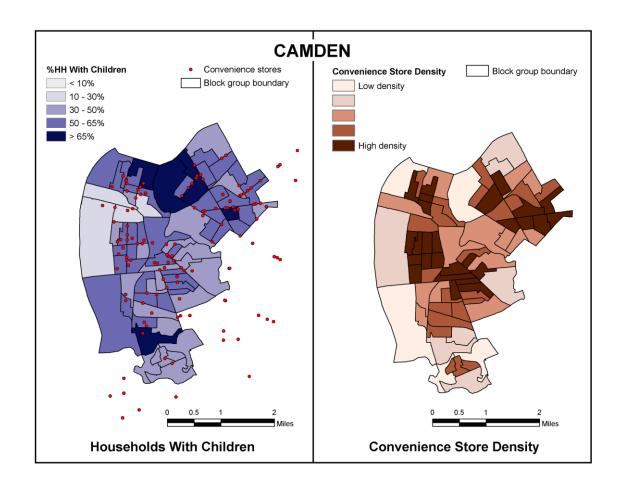
Households With Children

Supermarket Density

On the left, block groups in darker colors (blue) show higher percentage of <u>households with children</u>. The green dots represent supermarket locations. <u>Supermarket densities </u>are shown on the right; the darker the shade of the block group, the higher the access to supermarkets.

CAMDEN

Households With Children
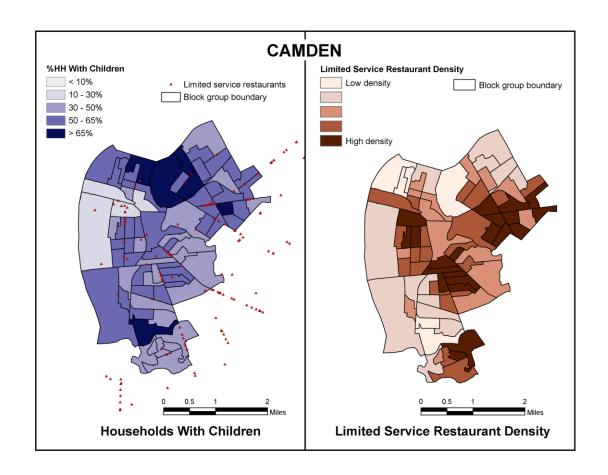
Healthy Food Outlet Density

On the left, block groups in darker colors (blue) show higher percentage of <u>households with children</u>. The green and yellow dots represent healthy food outlet (supermarket and smaller grocery store) locations. <u>Healthy food outlet densities</u> are shown on the right; the darker the shade of the block group, the higher the access to healthy food outlets.

CAMDEN

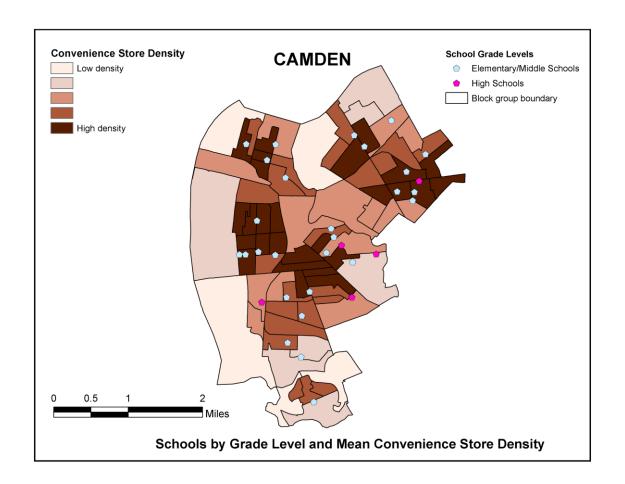Households With Children

Convenience Store Density

On the left, block groups in darker colors (blue) show higher percentage of <u>households with children</u>. The red dots represent convenience stores. <u>Convenience store densities </u>are shown on the right; the darker the shade of the block group, the higher the access to convenience stores.

CAMDEN

Households With Children

Limited Service Restaurant Density

%HH With Children
- < 10%
- 10 - 30%
- 30 - 50%
- 50 - 65%
- > 65%

▴ Limited service restaurants
▢ Block group boundary

Limited Service Restaurant Density
- Low density
- High density
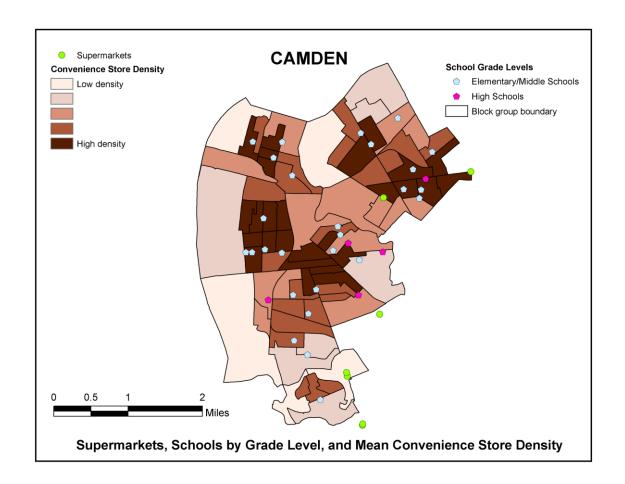- ▢ Block group boundary

On the left, block groups in darker colors (blue) show higher percentage of <u>households with children</u>. The red triangles represent limited service restaurants (fast food outlets). <u>Limited service restaurant densities </u>are shown on the right; the darker the shade of the block group, the higher the access to limited service restaurants.

Schools By Grade Level and Neighborhood Food Outlet Densities

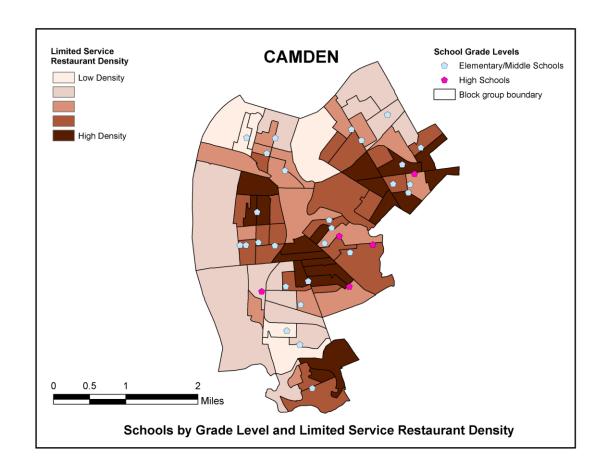Schools by Grade Level and Mean Convenience Store Density

Camden public schools by grade level overlaid on a map of convenience store densities at census block group level. Block groups with darker shades represent areas with higher access to convenience stores.

Supermarkets, Schools by Grade Level, and Mean Convenience Store Density

Camden <u>public schools by grade level</u> and supermarkets overlaid on a map of <u>convenience store densities</u> at census block group level. Block groups with darker shades represent areas with higher access to convenience stores.

Schools by Grade Level and Limited Service Restaurant Density

Camden public schools by grade level overlaid on a map of limited service restaurant (fast food) density at census block group level. Block groups with darker shades represent areas with higher access to limited service restaurants.

Next Steps

- As part of the New Jersey Childhood Obesity Study we have also conducted a household phone survey.

- The results from the survey related to children's BMI, health behaviors, parental perceptions of environments will be linked to the food environment data presented in the preceding maps.

- Using the survey and food environment data, we will be able to address questions such as:
  - ✓ What aspects of the food environment are associated with childhood obesity?

  - ✓ How are environmental characteristics associated with eating behaviors?

  - ✓ How important are perceptions of the environment as compared to actual neighborhood characteristics in contributing to childhood obesity? To eating behaviors?

  - ✓ How do these relationships differ among various socio-demographic groups (e.g., gender, race-ethnicity, social class)?