

# 2015 Food Access Research Atlas Documentation

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## Definitions

### Food access

Limited access to supermarkets, supercenters, grocery stores, or other sources of healthy and affordable food may make it harder for some Americans to eat a healthy diet. There are many ways to measure food store access for individuals and for neighborhoods, and many ways to define which areas are food deserts—neighborhoods that lack healthy food sources. Most measures and definitions take into account at least some of the following indicators of access:

- Accessibility to sources of healthy food, as measured by distance to a store or by the number of stores in an area.
- Individual-level resources that may affect accessibility, such as family income or vehicle availability.
- Neighborhood-level indicators of resources, such as the average income of the neighborhood and the availability of public transportation.

In the Food Access Research Atlas, several indicators are available to measure food access along these dimensions. For example, users can choose alternative distance markers to measure low access in a neighborhood, such as the number and share of people more than half a mile to a supermarket or 1 mile to a supermarket. Users can also view other census-tract-level characteristics that provide context on food access in neighborhoods, such as whether the tract has a high percentage of households far from supermarkets and without vehicles, individuals with low income, or people residing in group quarters.

### Low-income neighborhoods

The criteria for identifying a census tract as low income are from the Department of Treasury's New Markets Tax Credit (NMTC) program. This program defines a low-income census tract as any tract where:

- The tract's poverty rate is 20 percent or greater; or

- The tract's median family income is less than or equal to 80 percent of the State-wide median family income; or
- The tract is in a metropolitan area and has a median family income less than or equal to 80 percent of the metropolitan area's median family income.

### **Low-access census tracts**

In the Food Access Research Atlas, *low access* to healthy food is defined as being far from a supermarket, supercenter, or large grocery store ("supermarket" for short). A census tract is considered to have low access if a significant number or share of individuals in the tract is far from a supermarket.

Three measures of food access based on distance to a supermarket are provided in the Atlas:

- Low-income census tracts where a significant number (at least 500 people) or share (at least 33 percent) of the population is greater than ½ mile from the nearest supermarket, supercenter, or large grocery store for an urban area or greater than 10 miles for a rural area. Using this measure, an estimated 54.4 million people, or 17.7 percent of the U.S. population, live in tracts that are low-income and low access and are more than ½ mile or 10 miles from the nearest supermarket.
- Low-income census tracts where a significant number (at least 500 people) or share (at least 33 percent) of the population is greater than 1.0 mile from the nearest supermarket, supercenter, or large grocery store for an urban area or greater than 10 miles for a rural area. This measure shows that an estimated 19 million people, or 6.2 percent of the U.S. population, live in low-income and low access tracts and are more than 1 mile or 10 miles from a supermarket.
- Low-income census tracts where a significant number (at least 500 people) or share (at least 33 percent) of the population is greater than 1.0 mile from the nearest supermarket, supercenter, or large grocery store for an urban area or greater than 20 miles for a rural area. Under this measure, an estimated 17.3 million people, or 5.6 percent of the U.S. population, live in low-income and low access tracts and are more than 1 mile or 20 miles from a supermarket.

A fourth and slightly more complex measure incorporates vehicle access directly into the measure, delineating low-income tracts in which a significant number of households are located far from a supermarket and do not have access to a vehicle. This measure also includes census tracts with populations that are so remote, that, even with a vehicle, driving to a supermarket may be considered a burden due to the great distance.

Under this measure, a tract is considered low access if at least 100 households are more than ½ mile from the nearest supermarket and have no access to a vehicle; or at least 500 people or 33

percent of the population live more than 20 miles from the nearest supermarket, regardless of vehicle access. Using this measure, an estimated 2.1 million households, or 1.8 percent of all households, are in low-income and low access census tracts and are far from a supermarket and do not have a vehicle. An additional 0.3 million people are more than 20 miles from a supermarket.

Methods used to assess distance to the nearest supermarket are the same for each of these measures. First, the entire country is divided into ½-km square grids, and data on the population are aerially allocated to these grids (see *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015* in the link below). Then, distance to the nearest supermarket is measured for each grid cell by calculating the distance between the geographic center of the ½-km square grid that contains estimates of the population (number of people and other subgroup characteristics) and the center of the grid with the nearest supermarket.

### **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

Once distance to the nearest supermarket is calculated for each grid cell, the estimated number of people or housing units that are more than 1 mile from a supermarket in urban tracts, or 10 miles in rural census tracts, is aggregated at the census-tract level (and similarly for the alternative distance markers). A census tract is considered rural if the population-weighted centroid of that tract is located in an area with a population of less than 2,500; all other tracts are considered urban tracts.

## **Food deserts**

The Food Access Research Atlas maps census tracts that are both low income (li) and low access (la), as measured by the different distance demarcations. This tool provides researchers and other users multiple ways to understand the characteristics that can contribute to food deserts, including income level, distance to supermarkets, and vehicle access.

## **Additional tract-level indicators of access**

### **Vehicle availability**

Whether a vehicle is available to a household for private use is an important additional indicator of access to healthy and affordable food. For households living far from a supermarket or large grocery store, access to a private vehicle may make accessing these retailers easier than relying on public or alternative means of transportation.

A tract is identified as having low vehicle availability if **more than 100 households** in the tract report having no vehicle available and are more than 0.5 miles from the nearest supermarket. This corresponds closely to the 80<sup>th</sup> percentile of the distribution of the number of housing units in a census tract without vehicles at least 0.5 miles from a supermarket (the 80<sup>th</sup> percentile value was 108 housing units). This means that about 20 percent of all census tracts had more than 100 housing units that were 0.5 miles from a supermarket and without a vehicle. This indicator was applied to both urban and rural census tracts.

Overall, 9.2 percent of all housing units in the United States do not have a vehicle, and 4.2 percent of all housing units are at least 0.5 mile from a store and without a vehicle.

Vehicle availability is defined in the American Community Survey as the number of passenger cars, vans, or trucks with a capacity of 1-ton or less kept at the home and available for use by household members. The number of available vehicles includes those vehicles leased or rented for at least 1 month, as well as company, police, or government vehicles that are kept at home and available for non-business use.

### **Group quarters population**

Users may be interested in highlighting tracts with large shares of people living in group quarters. Group quarters are residential arrangements where an entity or organization owns and provides housing (and often services) for individuals residing in these buildings. This includes college dormitories, military quarters, correctional facilities, homeless shelters, residential treatment centers, and assisted living or skilled nursing facilities. These living arrangements frequently provide dining and food retail solely for their residents. While individuals living in these areas may appear to be far from a supermarket or grocery store, they may not truly experience difficulty accessing healthy and affordable food. Tracts in which **67 percent of individuals or more** live in group quarters are highlighted.

## **Definitions of indicators in mapping tool**

This section defines the indicators available to be mapped to each census tract. Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*. The indicators can meaningfully be grouped by:

- **General tract characteristics**
- **Low-income and low-access distance measures**,
- **Low-access and distance measures**,
- **Vehicle availability**,
- **Group quarters**,
- **Low-income and low-access measures**, and
- **Low access and population subgroups**.

### **General tract characteristics**

Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*.

## **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

### **Population, tract total**

*Definition:* Total number of individuals residing in a tract.

*Data sources:* Population data from the 2010 Census of Population and Housing, reported at the block level, are aggregated at the census tract level.

### **Low-income tract**

*Definition:* A tract with either a poverty rate of 20 percent or more, or a median family income less than 80 percent of the State-wide median family income; or a tract in a metropolitan area with a median family income less than 80 percent of the surrounding metropolitan area median family income.

*Data sources:* Income data are from the 2010-14 American Community Survey's census tract estimates.

### **Poverty rate**

*Definition:* The share of the tract population living with income at or below the Federal poverty thresholds by family size.

*Data sources:* Income data are from the 2010-14 American Community Survey's census tract estimates.

### **Median Income**

*Definition:* Median family income of a tract based on the distribution of family income, including families with no income.

*Data sources:* Income data are from the 2010-14 American Community Survey's census tract estimates.

### **Urban/rural status**

*Definition:* This variable indicates whether the population-weighted centroid of a census tract is in an urban or rural area. Urban and rural are defined in the Census Bureau's *urbanized area definitions*, where rural areas are sparsely populated areas with fewer than 2,500 people, and urban areas are areas with more than 2,500 people. A census tract is urban if the geographic centroid of the tract is in an area with more than 2,500 people; all other tracts are rural.

*Data sources:* Population data from the 2010 Census of Population and Housing, reported at the block level, were aerially allocated down to ½-kilometer-square grids across the United States.

### **Housing units, tract total**

*Definition:* Total number of housing units in the census tract.

*Data sources:* Block-level data on the number of housing units from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States.

## **Low-income and low-access distance measures**

Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*:

### **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

#### **Low-income and low-access tract measured at 1 mile and 10 miles**

*Definition:* A low-income tract with at least 500 people, or 33 percent of the population, living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept Supplemental Nutrition Assistance Program (SNAP) benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Population data are from the 2010 Census of Population and Housing. These data were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Income data are from the 2010-14 American Community Survey's tract estimates. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

#### **Low-income and low-access tract measured at ½ mile and 10 miles**

*Definition:* A low-income tract with at least 500 people, or 33 percent of the population, living more than ½ mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Population data are from the 2010 Census of Population and Housing. These data were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Income data are from the 2010-14 American Community Survey's tract estimates. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

#### **Low-income and low-access tract measured at 1 and 20 miles**

*Definition:* A low-income tract with at least 500 people, or 33 percent of the population, living more than 1 mile (urban areas) or more than 20 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Population data are from the 2010 Census of Population and Housing. These data were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Income data are from the 2010-14 American Community Survey's tract estimates. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

### **Low-income and low-access tract using vehicle access and at 20 miles**

*Definition:* A low-income tract in which at least one of the following is true: at least 100 households are located more than ½ mile from the nearest supermarket and have no vehicle access; or at least 500 people, or 33 percent of the population, live more than 20 miles from the nearest supermarket, regardless of vehicle availability.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Population data are from the 2010 Census of Population and Housing. These data were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Income data are from the 2010-14 American Community Survey's tract estimates. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

### **Low access and distance measures**

Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*:

#### **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

##### **Low-access tract at 1 and 10 miles**

*Definition:* A tract with at least 500 people, or 33 percent of the population, living more than 1 mile (urban areas) or 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

#### **Low-access tract at ½ and 10 miles**

*Definition:* A tract with at least 500 people, or 33 percent of the population, living more than ½ mile (urban areas) or 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

#### **Low-access tract at 1 and 20 miles**

*Definition:* A tract with at least 500 people, or 33 percent of the population, living more than 1 mile (urban areas) or 20 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

#### **Low-access tract using vehicle access and at 20 miles**

*Definition:* A tract in which at least 100 households are located more than ½ mile from the nearest supermarket and have no vehicle access; or at least 500 people, or 33 percent of the population, live more than 20 miles from the nearest supermarket, regardless of vehicle availability.

*Data sources:* Vehicle access data are from the 2010-14 American Community Survey block-group estimates. These data were aeri ally allocated down to ½-kilometer-square grids across the United States.

#### **Low-access tract at ½ mile**

*Definition:* An urban tract with at least 500 people, or 33 percent of the population, living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

#### **Low access, number of people at ½ mile**

*Definition:* Number of individuals living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

#### **Low access, share of people at ½ mile**

*Definition:* Percentage of tract population living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract that resided more than ½ mile from a supermarket.

### **Low-access tract at 1 mile**

*Definition:* An urban tract with at least 500 people, or 33 percent of the population, living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

### **Low access, number of people at 1 mile**

*Definition:* Number of individuals living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Low access, share of people at 1 mile**

*Definition:* Percentage of tract population living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract that resided more than 1 mile from a supermarket.

**Low-access tract at 10 miles**

*Definition:* A rural tract with at least 500 people, or 33 percent of the population, living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

**Low access, number of people at 10 miles**

*Definition:* Number of individuals living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid

cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **Low access, share of people at 10 miles**

*Definition:* Percentage of tract population living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract that resided more than 10 miles from a supermarket.

#### **Low-access tract at 20 miles**

*Definition:* A rural tract with at least 500 people, or 33 percent of the population, living more than 20 miles from the nearest supermarket, supercenter or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

#### **Low access, number of people at 20 miles**

*Definition:* Number of individuals living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **Low access, share of people at 20 miles**

*Definition:* Percentage of tract population living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract that resided more than 20 miles from a supermarket.

#### **Low access, number of people at 1 or 10 miles**

*Definition:* Number of individuals in a tract living more than 1 mile (urban areas) or 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 1 mile (urban areas) or 10 miles (rural areas) from a supermarket or large grocery store was aggregated to the tract level.

#### **Low access, number of people at ½ or 10 miles**

*Definition:* Number of individuals in a tract living more than ½ mile (urban areas) or 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than ½ mile (urban areas) or 10 miles (rural areas) from a supermarket or large grocery store was aggregated to the tract level.

### **Low access, number of people at 1 or 20 miles**

*Definition:* Number of individuals in a tract living more than 1 mile (urban areas) or 20 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*. Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals living more than 1 mile (urban areas) or 20 miles (rural areas) from a supermarket or large grocery store was aggregated to the tract level.

## **Vehicle availability**

Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015* and other sources. See:

### **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

#### **No vehicle, tract with high number of housing units at ½ mile**

*Definition:* A tract in which at least 100 households are located more than ½ mile from the nearest supermarket and have no vehicle access.

*Data sources:* Vehicle access data are from the 2010-14 American Community Survey block-group estimates. These data were aerially allocated down to ½-kilometer-square grids across the United States.

**No vehicle, low access, number of housing units at ½ mile**

*Definition:* Number of housing units located more than ½ mile from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aerially allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the share of housing units without access to a vehicle and located more than ½ mile from a supermarket or large grocery store was aggregated to the tract level. Tract estimates of the shares of housing units without vehicles and more than ½ mile from a store are multiplied by the 2010 count of housing units to obtain an estimate of the number of households without vehicles.

**No vehicle, low access, share of housing units at ½ mile**

*Definition:* Percentage of housing units located more than ½ mile from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aerially allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without

access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units without access to a vehicle and located more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of housing units in the tract.

**No vehicle, low access, number of housing units at 1 mile**

*Definition:* Number of housing units located more than 1 mile from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aeri ally allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the share of housing units without access to a vehicle and located more than 1 mile from a supermarket or large grocery store was aggregated to the tract level. Tract estimates of the shares of housing units without vehicles and more than 1 mile from a store are multiplied by the 2010 count of housing units to obtain an estimate of the number of households without vehicles.

**No vehicle, low access, share of housing units at 1 mile**

*Definition:* Percentage of housing units more than 1 mile from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aeri ally allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units without access to a vehicle and located more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of housing units in the tract.

**No vehicle, low access, number of housing units at 10 miles**

*Definition:* Number of housing units located more than 10 miles from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aeri ally allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the share of housing units without access to a vehicle and located more than 10 miles from a supermarket or large grocery store was aggregated to the tract level. Tract estimates of the shares of housing units without vehicles and more than 10 miles from a store are multiplied by the 2010 count of housing units in the tract to obtain an estimate of the number of households without vehicles.

**No vehicle, low access, share of housing units at 10 miles**

*Definition:* Percentage of housing units located more than 10 miles from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aeri ally allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units without access to a vehicle and located more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of housing units in the tract.

**No vehicle, low access, number of housing units at 20 miles**

*Definition:* Number of housing units located more than 20 miles from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aeri ally allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the share of housing units without access to a vehicle and located more than 20 miles from a supermarket or large grocery store was aggregated to the tract level. Tract estimates of the shares of housing units without vehicles and more than 20 miles from a store are multiplied by the 2010 count of housing units in the tract to obtain an estimate of the number of households without vehicles.

### **No vehicle, low access, share of housing units at 20 miles**

*Definition:* Percentage of housing units located more than 20 miles from the nearest supermarket, supercenter, or large grocery store without access to a vehicle.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Data on the share of housing units without access to a vehicle are from the 2010-14 American Community Survey block-group estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less. Block-level housing unit counts from the 2010 census were aeri ally allocated down to ½-kilometer-square grids across the United States. These housing unit counts were multiplied by the vehicle access share data to get an estimate of housing units without access to a vehicle at each ½ kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units without access to a vehicle and located more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of housing units in the tract.

### **Total number of housing units without a vehicle**

*Definition:* Number of housing units without access to a vehicle in a tract.

*Data sources:* Data on the number of housing units without access to a vehicle are from the 2010-14 American Community Survey census tract estimates. Vehicle access was measured from a question in the American Community Survey about whether the household has access to a car, truck, or van of 1-ton capacity or less.

## **Group quarters**

### **Group quarters, tract with high percentage of population**

*Definition:* A tract in which at least 67 percent of the population live in group quarters such as dormitories, military bases, assisted living or skilled nursing facilities, and other large institutions.

*Data sources:* Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*. Population data are reported at the tract level from the 2010 Census of Population and Housing.

## **Low-income and low-access measures**

Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*.

### **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

#### **Low income, low access, number of people at 1 or 10 miles**

*Definition:* Number of low-income individuals living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store in a tract. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 1 mile (urban areas) or 10 miles (rural areas) from a supermarket or large grocery store was aggregated to the tract level.

#### **Low income, low access, number of people at ½ or 10 miles**

*Definition:* Number of low-income individuals living more than ½ mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store in a tract. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than ½ mile (urban areas) or 10 miles (rural areas) from a supermarket or large grocery store was aggregated to the tract level.

**Low income, low access, number of people at 1 or 20 miles**

*Definition:* Number of low-income individuals living more than 1 mile (urban areas) or more than 20 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket. Rural or urban status is designated by the Census Bureau's 2010 *urban area definition*.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 1 mile (urban areas) or 20 miles (rural areas) from a supermarket or large grocery store was aggregated to the tract level.

**Low income, low access, number of people at ½ mile**

*Definition:* Number of low-income individuals living more than ½ mile from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**Low income, low access, share of people at ½ mile**

*Definition:* Percentage of tract population that has low income and lives more than ½ mile from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract with low income that resided more than ½ mile from a supermarket.

**Low income, low access, number of people at 1 mile**

*Definition:* Number of low-income individuals living more than 1 mile from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Low income, low access, share of people at 1 mile**

*Definition:* Percentage of tract population that has low income and lives more than 1 mile from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract with low income that resided more than 1 mile from a supermarket.

#### **Low income, low access, number of people at 10 miles**

*Definition:* Number of low-income individuals living more than 10 miles from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **Low income, low access, share of people at 10 miles**

*Definition:* Percentage of tract population that has low income and lives more than 10 miles from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract with low income that resided more than 10 miles from a supermarket.

#### **Low income, low access, number of people at 20 miles**

*Definition:* Number of low-income individuals living more than 20 miles from the nearest supermarket, supercenter, or large grocery store. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **Low income, low access, share of people at 20 miles**

*Definition:* Percentage of tract population that has low income and lives more than 20 miles from the nearest supermarket, supercenter, or large grocery store in an urban tract. Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for family size.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the

2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract with low income that resided more than 20 miles from a supermarket.

### **Low income number of people**

*Definition:* Number of low-income individuals living in a tract.

*Data sources:* Data on the number of individuals with incomes at or below 200 percent of Federal poverty guidelines for family size are from the 2010-14 American Community Survey census tract estimates.

### **Low access and population subgroups**

Data are from the 2017 report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*:

#### **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

##### **Children, low access, number at ½ mile**

*Definition:* Number of individuals who are age 0-17 living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**Children, low access, share at ½ mile**

*Definition:* Percentage of tract population who are age 0-17 living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 0-17 in the tract located more than ½ mile from a supermarket.

**Seniors, low access, number at ½ mile**

*Definition:* Number of individuals who are age 65 or older living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 65 or older living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**Seniors, low access, share at ½ mile**

*Definition:* Percentage of tract population who are age 65 or older living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the

2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals age 65 or older living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 65 or older in the tract located more than ½ mile from a supermarket.

**White, low access, number at ½ mile**

*Definition:* Number of individuals who are White living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**White, low access, share at ½ mile**

*Definition:* Percentage of tract population who are White living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are White in the tract located more than ½ mile from a supermarket.

**Black, low access, number at ½ mile**

*Definition:* Number of individuals who are Black or African American living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**Black, low access, share at ½ mile**

*Definition:* Percentage of tract population who are Black or African American living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Black or African American in the tract located more than ½ mile from a supermarket.

**Asian, low access, number at ½ mile**

*Definition:* Number of individuals who are Asian living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In this report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

#### **Asian, low access, share at ½ mile**

*Definition:* Percentage of tract population who are Asian living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Asian in the tract located more than ½ mile from a supermarket.

#### **Native Hawaiian or Other Pacific Islander, low access, number at ½ mile**

*Definition:* Number of individuals who are Native Hawaiian or Other Pacific Islander living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**Native Hawaiian or Other Pacific Islander, low access, share at ½ mile**

*Definition:* Percentage of tract population who are Native Hawaiian or Other Pacific Islander living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Native Hawaiian or Other Pacific Islander in the tract located more than ½ mile from a supermarket.

**American Indian or Alaska Native, low access, number at ½ mile**

*Definition:* Number of individuals who are American Indian or Alaska Native living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**American Indian or Alaska Native, low access, share at ½ mile**

*Definition:* Percentage of tract population who are American Indian or Alaska Native living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are American Indian or Alaska Native in the tract located more than ½ mile from a supermarket.

**Other/multiple race, low access, number at ½ mile**

*Definition:* Number of individuals who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**Other/multiple race, low access, share at ½ mile**

*Definition:* Percentage of tract population who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population other/multiple race in the tract located more than ½ mile from a supermarket.

**Hispanic or Latino, low access, number at ½ mile**

*Definition:* Number of Hispanic or Latino individuals living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals of Hispanic or Latino ethnicity living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**Hispanic or Latino, low access, share at ½ mile**

*Definition:* Percentage of tract population who are Hispanic or Latino living more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals of Hispanic or Latino ethnicity living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Hispanic or Latino in the tract located more than ½ mile from a supermarket.

**SNAP housing units, low access, number at ½ mile**

*Definition:* Number of housing units receiving SNAP benefits located more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aerially allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than ½ mile from a supermarket or large grocery store was aggregated to the tract level.

**SNAP housing units, low access, share at least ½ mile**

*Definition:* Percentage of housing units receiving SNAP benefits located more than ½ mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aerially allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of number housing units in the tract.

### **Children, low access, number at 1 mile**

*Definition:* Number of individuals who are age 0-17 living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

### **Children, low access, share at 1 mile**

*Definition:* Percentage of tract population who are age 0-17 living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 0-17 in the tract located more than 1 mile from a supermarket.

**Seniors, low access, number at 1 mile**

*Definition:* Number of individuals who are age 65 or older living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 65 or older living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Seniors, low access, share at 1 mile**

*Definition:* Percentage of tract population who are age 65 or older living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 65 or older living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 65 or older in the tract located more than 1 mile from a supermarket.

**White, low access, number at 1 mile**

*Definition:* Number of individuals who are White living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

#### **White, low access, share at 1 mile**

*Definition:* Percentage of tract population who are White living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are White in the tract located more than 1 mile from a supermarket.

#### **Black, low access, number at 1 mile**

*Definition:* Number of individuals who are Black or African American living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Black, low access, share at 1 mile**

*Definition:* Percentage of tract population who are Black or African American living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Black or African American in the tract located more than 1 mile from a supermarket.

**Asian, low access, number at 1 mile**

*Definition:* Number of individuals who are Asian living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Asian, low access, share at 1 mile**

*Definition:* Percentage of tract population who are Asian living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Asian in the tract located more than 1 mile from a supermarket.

**Native Hawaiian or Other Pacific Islander, low access, number at 1 mile**

*Definition:* Number of individuals who are Native Hawaiian or Other Pacific Islander living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Native Hawaiian or Other Pacific Islander, low access, share at 1 mile**

*Definition:* Percentage of tract population who are Native Hawaiian or Other Pacific Islander living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Native Hawaiian or Other Pacific Islander in the tract located more than 1 mile from a supermarket.

**American Indian or Alaska Native, low access, number at 1 mile**

*Definition:* Number of individuals who are American Indian or Alaska Native living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**American Indian or Alaska Native, low access, share at 1 mile**

*Definition:* Percentage of tract population who are American Indian or Alaska Native living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are American Indian or Alaska Native in the tract located more than 1 mile from a supermarket.

**Other/multiple race, low access, number at 1 mile**

*Definition:* Number of individuals who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Other/Multiple race, low access, share at 1 mile**

*Definition:* Percentage of tract population who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-

square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are other/multiple race in the tract located more than 1 mile from a supermarket.

**Hispanic or Latino, low access, number at 1 mile**

*Definition:* Number of Hispanic or Latino individuals living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are of Hispanic or Latino ethnicity living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**Hispanic or Latino, low access, share at 1 mile**

*Definition:* Percentage of tract population who are Hispanic or Latino living more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are of Hispanic or Latino ethnicity living more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by

the total number of individuals in the tract to obtain the percentage of the total population who are Hispanic or Latino in the tract located more than 1 mile from a supermarket.

**SNAP housing units, low access, number at 1 mile**

*Definition:* Number of housing units receiving SNAP benefits located more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aerially allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than 1 mile from a supermarket or large grocery store was aggregated to the tract level.

**SNAP housing units, low access, share at 1 mile**

*Definition:* Percentage of housing units receiving SNAP benefits located more than 1 mile from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aerially allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than 1 mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of number housing units in the tract.

**Children, low access, number at 10 miles**

*Definition:* Number of individuals who are age 0-17 living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

**Children, low access, share at 10 miles**

*Definition:* Percentage of tract population who are age 0-17 living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 0-17 in the tract located more than 10 miles from a supermarket.

**Seniors, low access, number at 10 miles**

*Definition:* Number of individuals who are age 65 or older living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the

2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 65 or older living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

### **Seniors, low access, share at 10 mile**

*Definition:* Percentage of tract population who are age 65 or older living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals age 65 or older living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 65 or older in the tract located more than 10 miles from a supermarket.

### **White, low access, number at 10 miles**

*Definition:* Number of individuals who are White living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

**White, low access, share at 10 miles**

*Definition:* Percentage of tract population who are White living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are White in the tract located more than 10 mile from a supermarket.

**Black, low access, number at 10 miles**

*Definition:* Number of individuals who are Black or African American living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

**Black, low access, share at 10 miles**

*Definition:* Percentage of tract population who are Black or African American living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Black or African American in the tract located more than 10 miles from a supermarket.

#### **Asian, low access, number at 10 miles**

*Definition:* Number of individuals who are Asian living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **Asian, low access, share at 10 miles**

*Definition:* Percentage of tract population who are Asian living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-

square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Asian in the tract located more than 10 miles from a supermarket.

#### **Native Hawaiian or Other Pacific Islander, low access, number at 10 miles**

*Definition:* Number of individuals who are Native Hawaiian or Other Pacific Islander living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **Native Hawaiian or Other Pacific Islander, low access, share at 10 miles**

*Definition:* Percentage of tract population who are Native Hawaiian or Other Pacific Islander living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total

population who are Native Hawaiian or Other Pacific Islander in the tract located more than 10 miles from a supermarket.

**American Indian or Alaska Native, low access, number at 10 miles**

*Definition:* Number of individuals who are American Indian or Alaska Native living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

**American Indian or Alaska Native, low access, share at 10 miles**

*Definition:* Percentage of tract population who are American Indian or Alaska Native living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are American Indian or Alaska Native in the tract located more than 10 miles from a supermarket.

**Other/multiple race, low access, number at 10 miles**

*Definition:* Number of individuals who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race

categories or who identify as more than one race living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **Other/multiple race, low access, share at 10 miles**

*Definition:* Percentage of tract population who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population other/multiple race in the tract located more than 10 miles from a supermarket.

#### **Hispanic or Latino, low access, number at 10 miles**

*Definition:* Number of Hispanic or Latino individuals living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the

2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are of Hispanic or Latino ethnicity living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

**Hispanic or Latino, low access, share at 10 miles**

*Definition:* Percentage of tract population who are Hispanic or Latino living more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data are from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are of Hispanic or Latino ethnicity living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Hispanic or Latino in the tract located more than 10 miles from a supermarket.

**SNAP housing units, low access, number at 10 miles**

*Definition:* Number of housing units receiving SNAP benefits located more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aeri-ally allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-

kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than 10 miles from a supermarket or large grocery store was aggregated to the tract level.

### **SNAP housing units, low access, share at least 10 miles**

*Definition:* Percentage of housing units receiving SNAP benefits located more than 10 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aerielly allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of number housing units in the tract.

### **Children, low access, number at 20 miles**

*Definition:* Number of individuals who are age 0-17 living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerielly allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**Children, low access, share at 20 miles**

*Definition:* Percentage of tract population who are age 0-17 living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 0-17 living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 0-17 in the tract located more than 20 miles from a supermarket.

**Seniors, low access, number at 20 miles**

*Definition:* Number of individuals who are age 65 or older living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are age 65 or older living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**Seniors, low access, share at 20 miles**

*Definition:* Percentage of tract population who are age 65 or older living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals age 65 or older living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are age 65 or older in the tract located more than 20 miles from a supermarket.

#### **White, low access, number at 20 miles**

*Definition:* Number of individuals who are White living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **White, low access, share at 20 miles**

*Definition:* Percentage of tract population who are White living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-

square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are White living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are White in the tract located more than 20 miles from a supermarket.

**Black, low access, number at 20 miles**

*Definition:* Number of individuals who are Black or African American living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**Black, low access, share at 20 miles**

*Definition:* Percentage of tract population who are Black or African American living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Black or African American living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by

the total number of individuals in the tract to obtain the percentage of the total population who are Black or African American in the tract located more than 20 miles from a supermarket.

**Asian, low access, number at 20 miles**

*Definition:* Number of individuals who are Asian living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**Asian, low access, share at 20 miles**

*Definition:* Percentage of tract population who are Asian living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Asian living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Asian in the tract located more than 20 miles from a supermarket.

**Native Hawaiian or Other Pacific Islander, low access, number at 20 miles**

*Definition:* Number of individuals who are Native Hawaiian or Other Pacific Islander living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**Native Hawaiian or Other Pacific Islander, low access, share at 20 miles**

*Definition:* Percentage of tract population who are Native Hawaiian or Other Pacific Islander living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri-ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are Native Hawaiian or Other Pacific Islander living more than 10 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Native Hawaiian or Other Pacific Islander in the tract located more than 20 miles from a supermarket.

**American Indian or Alaska Native, low access, number at 20 miles**

*Definition:* Number of individuals who are American Indian or Alaska Native living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerielly allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**American Indian or Alaska Native, low access, share at 20 miles**

*Definition:* Percentage of tract population who are American Indian or Alaska Native living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerielly allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are American Indian or Alaska Native living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are American Indian and Alaska Native in the tract located more than 20 miles from a supermarket.

**Other/multiple race, low access, number at 20 miles**

*Definition:* Number of individuals who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerielly allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**Other/multiple race, low access, share at 20 miles**

*Definition:* Percentage of tract population who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are other/multiple race living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are other/multiple race in the tract located more than 20 miles from a supermarket.

**Hispanic or Latino, low access, number at 20 miles**

*Definition:* Number of Hispanic or Latino individuals living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aeri ally allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are of Hispanic or Latino ethnicity living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

**Hispanic or Latino, low access, share at 20 miles**

*Definition:* Percentage of tract population who are Hispanic or Latino living more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of individuals who are of Hispanic or Latino ethnicity living more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population who are Hispanic or Latino in the tract located more than 20 miles from a supermarket.

#### **SNAP housing units, low access, number at 20 miles**

*Definition:* Number of housing units receiving SNAP benefits located more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aerially allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than 20 miles from a supermarket or large grocery store was aggregated to the tract level.

#### **SNAP housing units, low access, share at least 20 miles**

*Definition:* Percentage of housing units receiving SNAP benefits located more than 20 miles from the nearest supermarket, supercenter, or large grocery store.

*Data sources:* In the 2017 report, a directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level data on the number of housing units from the 2010 Census of Population and Housing and tract level data on housing-unit SNAP participation were aerially allocated down to ½-kilometer-square grids across the United States. The share of households receiving SNAP benefits, taken from the 2010-2014 American Community Survey, was multiplied by the ½-kilometer household estimate to get an estimate of households receiving SNAP benefits at each ½-kilometer grid cell. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of housing units receiving SNAP benefits located more than 20 miles from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of number housing units in the tract.

### **Total child population**

*Definition:* Number of individuals who are age 0-17 living in a tract.

*Data sources:* Data on the number of children age 0-17 are from the 2010 Census of Population and Housing tract-level counts.

### **Total senior population**

*Definition:* Number of individuals who are age 65 or older living in a tract.

*Data sources:* Data on the number of seniors age 65 or older are from the 2010 Census of Population and Housing tract-level counts.

### **Total White population**

*Definition:* Number of individuals who are White living in a tract.

*Data sources:* Data on the number of individuals identifying their race as White are from the 2010 Census of Population and Housing tract-level counts.

### **Total Black population**

*Definition:* Number of individuals who are Black or African American living in a tract.

*Data sources:* Data on the number of individuals identifying their race as Black or African American are from the 2010 Census of Population and Housing tract-level counts.

### **Total Asian population**

*Definition:* Number of individuals who are Asian living in a tract.

*Data sources:* Data on the number of individuals identifying their race as Asian are from the 2010 Census of Population and Housing tract-level counts.

### **Total Native Hawaiian or Other Pacific Islander population**

*Definition:* Number of individuals who are Native Hawaiian or Other Pacific Islander living in a tract.

*Data sources:* Data on the number of individuals identifying their race as Native Hawaiian or Other Pacific Islander are from the 2010 Census Population and Housing tract-level counts.

### **Total American Indian or Alaska Native population**

*Definition:* Number of individuals who are American Indian or Alaska Native living in a tract.

*Data sources:* Data on the number of individuals identifying their race as American Indian or Alaska Native are from the 2010 Census of Population and Housing tract-level counts.

### **Total other/multiple race population**

*Definition:* Number of individuals who are not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories or who identify as more than one race living in a tract.

*Data sources:* Data on the number of individuals identifying their race as other or identifying multiple races are from the 2010 Census of Population and Housing tract-level counts.

### **Total Hispanic or Latino population**

*Definition:* Number of Hispanic or Latino individuals living in a tract.

*Data sources:* Data on the number of individuals identifying ethnicity as Hispanic or Latino are from the 2010 Census of Population and Housing tract-level counts.

### **Total SNAP housing units**

*Definition:* Number of housing units receiving SNAP benefits in a tract.

*Data sources:* The number of households receiving SNAP benefits is from the 2010-2014 American Community Survey tract estimates.

## **Data sources**

Population data, including age, race, Hispanic ethnicity, and residence in group quarters, are from the 2010 Census of the Population and downloaded at the census-block level before being allocated to ½-kilometer-square grid cells. Urban or rural designation was also provided by the 2010 Census at the block level. Data on income, vehicle availability, and SNAP participation are from the 2010-14 American Community Survey and were downloaded at the block-group level (income and vehicle availability) and tract level (SNAP participation) for assignment to ½-kilometer-square grid cells.

Two 2015 lists of supermarkets, supercenters, and large grocery stores were combined to produce a comprehensive list of stores that represent sources of affordable and nutritious food. One store list contains stores authorized to receive SNAP benefits. The second list is from Trade Dimensions TDLinX (a Nielsen company), a proprietary source of individual supermarket store listings. Details on these data sources can be found in the report, *Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015*.

### **Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015**

## **Changes in methods between 2010 and 2015**

Methods used to estimate low-income and low-access census tracts in 2015 are largely the same as methods used in previous estimates. There are, however, a few notable differences.

Spatial analysis, string matching, and manual review methods were used to merge the SNAP and TDLinX data sets to construct a combined store directory. This combined directory encompasses all the supercenters, supermarkets, and large grocery stores from each data set; duplicate entries were eliminated as much as possible to avoid double counting. This matching process identified SNAP and TDLinX stores that were within a 1/3-mile radius of one another, or within the same ZIP Code. An automated string matching algorithm was used to identify exact or similar store name/address matches, which were then manually verified. Supermarkets from either the SNAP or TDLinX systems without a match in the other system were included in the final combined directory.

For vehicle access and SNAP participation, tract-level 2010-2014 estimates of the share of housing units without vehicles and the share of housing units participating in SNAP are multiplied by the 2010 count of housing units to obtain an estimate of the number of households without vehicles and the number of households participating in SNAP. For income, tract-level 2010-2014 estimates of the share of individuals below 200 percent of poverty are multiplied by the 2010 count of the population to obtain an estimate of the number of people with income at or below 200 percent of poverty. These numbers and shares are then similarly aerially allocated down to the ½-kilometer-square grid level. In previous updates, direct estimates of income and vehicle access were used, instead of relying on the 2010 population counts to estimate.

## **Comparisons of 2010 and 2015 food-desert census tract estimates**

Because census tract boundaries have not changed since 2010, the Food Access Research Atlas can directly compare the number of census tracts that are low-income, low-access, both low-income/low-access, and other indicators in 2015 with similar estimates from 2010.

Comparisons of census tract boundaries were not available earlier because the previous analysis used 2010 census-tract geography, while the original Food Desert Locator used 2000 census-tract geography.

To see how the number of food deserts has changed, ERS used 2010 census data and 2010 and 2015 store data to estimate and compare the number of low-access, low-income, food-desert tracts based on 2010 census-tract boundaries and the definition of food deserts used in the

previous atlas and report. By using the same geography and the same definitions, this analysis estimates the differences in the effect of income and store access on the number and percentage of food-desert census tracts between 2010 and 2015.