### What is a food desert?

The first official use of the term “food desert” appeared in a 1995 document from the United Kingdom’s Nutrition Task Force. Since then, the term has become popular among researchers, politicians, and activists (Cummins & Macintyre, 2002). The 2008 Farm Bill defined a food desert as an “area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower income neighborhoods and communities” (USDA, 2009). In other words, food deserts are poor neighborhoods where residents cannot purchase healthy food.

### Are food deserts a major problem?

About 2.3 million U.S. households, roughly 2.2 percent of households, do not have access to a vehicle and reside at least one mile from the nearest supermarket (USDA, 2009). Similarly, 11.5 million people (4.1 of the population) live in low-income areas that are more than a mile away from the closest supermarket. Another 3.4 million households (3.2 percent) live between 0.5 and 1.0 mile from the closest supermarket and do not have access to a vehicle (USDA, 2009). On average, individuals in low-income areas spend 19.5 minutes traveling to supermarkets, 4.5 minutes more than the national average (USDA, 2009). In short, millions of low-income Americans struggle to reach a grocery store.

### Impact of Supermarkets

Supermarkets are not the only way to obtain healthy foods. Research, however, shows that living near a supermarket provides numerous benefits. Some of these benefits are mentioned below:

**Weight**

Individuals who live near a supermarket are less likely to be obese or overweight (Morland et al., 2006).

**Prices**

Caspi et al. (2017) note that prices of every staple food (except white bread) cost anywhere from 10-54% less in grocery stores than in corner stores or convenience stores.

**Variety**

Supermarkets offer a wider variety of fruits and vegetables than do convenience stores (Hendrickson et al., 2006).

**Advertising**

Ghost-Dastida et al. (2014) note that grocery stores market healthier foods than convenience stores.

**Health**

Giang et al. (2008) note that access to a grocery store reduces the risk of a variety of ailments including heart disease, diabetes, and cancer.
Food Deserts

Potential Food Desert Consequences

Obesity

Howlett et al. (2015) studied the role of food environment on low-income, preschool children. They found that children who live near more convenience stores have higher obesity rates than those who do not. In addition, the authors found that increases in the quantity of grocery stores reduced incidences of obesity. Finally, they noted that the presence of grocery stores offsets some of the increases in obesity associated with higher Supplemental Nutrition Assistant Program (SNAP) participation.

Asthma

Preston et al. (2016) studied over 2,000 children between the ages of 6 and 18. They noted that children who lived more than a mile from the nearest grocery store were 53 percent more likely to develop asthma than those that did not. The authors, however, do not argue for causal link between food deserts and asthma.

Academic Achievement

Food deserts can also effect academic performance. Frndak (2014) examined the effect of food deserts on 4th grade test scores in the state of New York. He found that the prevalence of food deserts in a school district was associated with decreased academic performance in both urban and suburban settings.
Are food deserts a problem in Nevada?

To answer this question, one needs to understand how the USDA defines a food desert. The USDA offers a few definitions of food deserts, but the maps below utilize the only definition that accounts for vehicle ownership. For this definition, a tract is a food desert if it is both low income and low access.

A census tract is low income if it meets at least one of the following criteria:
- A poverty rate about 20 percent,
- A median family income below 80 percent of the statewide median family income, or
- A median family income below 80 percent of the MSA’s median family income.

A census tract is low access if it meets one of the following criteria:
- At least 100 households live more than a mile away from a grocery store and lack access to a personal vehicle, or
- At least 33 percent of households live more than a mile away from a grocery store and lack access to a personal vehicle.

Under this definition, 92 of Nevada’s 687 census tracts are food deserts. The maps below illustrate the distribution of food deserts among Nevada counties. The left map shows the number of food deserts in each county, whereas the right map shows the percentage of census tracts that are food deserts in each county.
Access in Nevada

According to the USDA definition, roughly 13.4 percent of Nevada census tracts are food deserts. This compares favorably to Oregon and Arizona, where 13.7 and 16.6 percent of census tracts are food deserts, respectively. Washington, California, Idaho, and Utah see relatively fewer food deserts, with less than 10 percent of census tracts being food deserts in each of those states (USDA, 2017).

Figure 3 shows 92 food deserts in Nevada. This amounts to almost 370,000 individuals living in food deserts.

Recall, however, that the definition of food desert requires 100 households to lack access to a vehicle and live more than a mile away from a grocery store. As such, many households may live in a food desert but have access to a grocery store, or vice-versa. In total, over 10,000 households in Nevada live more than a mile away from a grocery store without access to a personal vehicle. Hence, many of the 370,000 individuals living in a food desert may not actually struggle to reach a grocery store.

Demographics of Nevada Food Deserts

Figure 4 compares tracts that are food deserts and tracts that are not food deserts in Nevada. On average, Nevada food deserts have lower incomes, higher poverty rates, higher black and Hispanic populations, and a higher proportion of people on SNAP. This is similar to the national average. Walker et al. (2010) reviewed various food desert papers published between 1995 and 2010. They noted that, throughout the United States, racial minorities and low-income individuals had less access to supermarkets.

<table>
<thead>
<tr>
<th></th>
<th>Income</th>
<th>Poverty Rate</th>
<th>Percent Black</th>
<th>Percent Hispanic</th>
<th>Percent SNAP</th>
</tr>
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<tr>
<td>Food Desert</td>
<td>$37,838.53</td>
<td>29.9%</td>
<td>11.7%</td>
<td>37.5%</td>
<td>22.7%</td>
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<td>13.8%</td>
<td>7.1%</td>
<td>24.0%</td>
<td>10.0%</td>
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References


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Maps made with Tableau Public


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