Food and Physical Activity Deserts in Cincinnati: Myths and Realities

Dr. Chris Auffrey
Mr. Sagar Shah

School of Planning
University of Cincinnati

Data! Fostering Health Information in Kentucky and Ohio
Changing the Context Panel
November 19, 2013
During 2010-2012, faculty and PhD students from the UC School of Planning worked with Hamilton County Public Health as part of the Communities Putting Prevention to Work project to create a geospatial database that can be used to collect, analyze and display a variety of different kinds of information about access to healthy food and physical activity in Hamilton County.
Geographic Information Systems (GIS) software has been used to organize information about the places and their characteristics.

http://www.hopkinsvilleky.us/agencies/planning-commission/gis-and-mapping
People (aggregated by census tract and residential parcels) –
• How many, age, race, ethnicity, income, poverty status, car ownership

Places (in Hamilton County) –
• Residential parcel (with building footprints)
• Census tracts
• Cities (w/ Cincinnati neighborhoods), villages and townships
• School districts

Other Important Factors –
• Bus routes with stops (all)
• Bus routes with stops near supermarkets
• Sidewalks
• Bike routes

Food Sources –
• Supermarkets, corner, specialty and convenience stores
• Full-service restaurants, fast food restaurants
• Institutions w/ food service (schools, social services, churches, healthcare)
• Farmers markets
• Community gardens
Food Access Research Atlas

Overview

Go to the Atlas
Why Introduce a New Mapping Tool?
About the Atlas
Download the Data
Documentation

Related Topics
Diet Quality & Nutrition
Food & Nutrition Assistance Research
Food Access
Food Security in the U.S.
Local Foods
Obesity
Poverty & Income Volatility
Retailing & Wholesaling

Overview

The Food Access Research Atlas:
- Presents a spatial overview of food access indicators for low-income and other census tracts using different measures of supermarket accessibility.
- Provides food access data for populations within census tracts; and
- Offers census-tract-level data on food access that can be downloaded for community planning or research purposes.

What can you do with the Atlas?
- Create maps showing food access indicators by census tract using different measures and indicators of supermarket accessibility;
- View indicators of food access for selected subpopulations; and
- Download census-tract-level data on food access measures.

Enter the Map

The Food Environment Atlas provides a wider set of statistics on food choices, health and well-being, and community characteristics for all communities in the United States than the Food Access Research Atlas.

Last updated: Wednesday, May 08, 2013

For more information contact: Michele Var Ploeg and Vince Breneman

Share or Save this Page

Source: http://www.ers.usda.gov/data-products/food-access-research-atlas.aspx#.Unpv4RDAwRm
Definition of a Food Desert

While there are many ways to define a food desert, the Healthy Food Financing Initiative (HFFI) Working Group considers a food desert as a low-income census tract where a substantial number (500) or share (33%+) of residents have low access (1+ mile) to a supermarket or large grocery store. To qualify as low-income, census tracts must meet the Treasury Department’s New Market Tax Credit (NMTC) program eligibility criteria. Furthermore, to qualify as a food desert tract, at least 33 percent of the tract’s residents must lack access to a supermarket or large grocery store.

The NMTC program defines a low-income census tract as one where (1) the poverty rate for that tract is at least 30 percent, or (2) for tracts not located within a metropolitan area, the median family income for the tract does not exceed 80 percent of the greater of statewide median family income or of the metropolitan area median family income.

Low-income census tracts are defined as those with a poverty rate of 30% or more. Census tracts not located within a metropolitan area are considered low-income if the median family income is 80% or less of the greater of the statewide or metropolitan area median family income.

Low access to supermarkets is defined as 1+ mile from a supermarket or large grocery store in rural areas. The distance to supermarkets and large grocery stores is measured by the distance between the geographic center of the 1-km square grid that contains estimates of the population (number of people and other subgroup characteristics) and the nearest supermarket or large grocery store. Once the distance to the nearest supermarket or large grocery store is calculated for each grid cell, the estimated number of people or housing units more than one mile from a supermarket or large grocery store in urban tracts (or 10 miles for rural census tracts) is aggregated to the census tract level. If the aggregate number of people in the census tract with low access is at least 500 or the percentage of people in the census tract with low access is at least 33 percent, then the census tract is considered a food desert.

Source: http://www.ers.usda.gov/data/fooddesert/about.html
USDA Food Deserts in Hamilton County, OH

<table>
<thead>
<tr>
<th>Census tract</th>
<th>Neighborhood/Community</th>
<th>Total Pop</th>
<th>% People (Low Access)</th>
<th>% People (Low Y + Low Access)</th>
<th>% Pop (Low Y + Low Access)</th>
<th>% Pop (No Veh + Low Access)</th>
<th>% HUs (No Veh + Low Access)</th>
<th>% Kids</th>
<th># Kids</th>
<th>% Seniors</th>
<th># Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Queensgate</td>
<td>641</td>
<td>92.7</td>
<td>594</td>
<td>91.3</td>
<td>29</td>
<td>0</td>
<td>5.9</td>
<td>38</td>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>West End</td>
<td>1335</td>
<td>100</td>
<td>1335</td>
<td>42.4</td>
<td>540</td>
<td>60.7</td>
<td>369</td>
<td>30.3</td>
<td>12.2</td>
<td>163</td>
</tr>
<tr>
<td>28</td>
<td>Camp Washington</td>
<td>1506</td>
<td>72.5</td>
<td>1091</td>
<td>26.8</td>
<td>359</td>
<td>20.2</td>
<td>108</td>
<td>22.1</td>
<td>6.3</td>
<td>95</td>
</tr>
<tr>
<td>38</td>
<td>Evanston</td>
<td>2943</td>
<td>100</td>
<td>2943</td>
<td>39</td>
<td><strong>1138</strong></td>
<td>35.9</td>
<td>408</td>
<td>32.6</td>
<td>14.8</td>
<td>435</td>
</tr>
<tr>
<td>44</td>
<td>East End</td>
<td>1262</td>
<td>100</td>
<td>1262</td>
<td>17.9</td>
<td>229</td>
<td>12.9</td>
<td>69</td>
<td>25.8</td>
<td>9.7</td>
<td>123</td>
</tr>
<tr>
<td>47.02</td>
<td>Linwood/East End</td>
<td>1042</td>
<td>83.6</td>
<td>871</td>
<td>23.2</td>
<td>251</td>
<td>15.1</td>
<td>62</td>
<td>21</td>
<td>7.4</td>
<td>77</td>
</tr>
<tr>
<td>55</td>
<td>Madisonville</td>
<td>3982</td>
<td>64.5</td>
<td>2567</td>
<td>10.8</td>
<td>425</td>
<td>12.6</td>
<td>230</td>
<td>18.4</td>
<td>73.5</td>
<td>491</td>
</tr>
<tr>
<td>56</td>
<td>Madisonville</td>
<td>6577</td>
<td>100</td>
<td>6577</td>
<td>10.7</td>
<td>704</td>
<td>9.9</td>
<td>267</td>
<td>26.3</td>
<td>11.3</td>
<td>741</td>
</tr>
<tr>
<td>61</td>
<td>Carthage</td>
<td>2412</td>
<td>30.9</td>
<td>745</td>
<td>5.1</td>
<td>122</td>
<td>5.2</td>
<td>56</td>
<td>7.9</td>
<td>2.9</td>
<td>71</td>
</tr>
<tr>
<td>64</td>
<td>Bond Hill</td>
<td>3689</td>
<td>46.9</td>
<td>1730</td>
<td>8.1</td>
<td>293</td>
<td>11.8</td>
<td>188</td>
<td>10.2</td>
<td>7.7</td>
<td>285</td>
</tr>
<tr>
<td>80</td>
<td>Winton Hills</td>
<td>5375</td>
<td>32.5</td>
<td>1748</td>
<td>20.5</td>
<td><strong>1096</strong></td>
<td>17.5</td>
<td><strong>356</strong></td>
<td>14.7</td>
<td>78.9</td>
<td>3.2</td>
</tr>
<tr>
<td>82.02</td>
<td>College Hill</td>
<td>3652</td>
<td>100</td>
<td>3652</td>
<td>15.6</td>
<td>538</td>
<td>25</td>
<td><strong>432</strong></td>
<td>23.3</td>
<td>21.1</td>
<td>769</td>
</tr>
<tr>
<td>85.01</td>
<td>Mount Airy</td>
<td>4136</td>
<td>100</td>
<td>4136</td>
<td>24.5</td>
<td><strong>1014</strong></td>
<td>14</td>
<td>227</td>
<td>38</td>
<td>1573</td>
<td>4.8</td>
</tr>
<tr>
<td>86.01</td>
<td>North Fairmount</td>
<td>4510</td>
<td>18.5</td>
<td>836</td>
<td>10.2</td>
<td>462</td>
<td>4.4</td>
<td>77</td>
<td>6.3</td>
<td>283</td>
<td>1.4</td>
</tr>
<tr>
<td>87</td>
<td>South Fairmount</td>
<td>1071</td>
<td>100</td>
<td>1071</td>
<td>31.3</td>
<td>364</td>
<td>37.4</td>
<td>148</td>
<td>38.9</td>
<td>417</td>
<td>5.6</td>
</tr>
<tr>
<td>89</td>
<td>South Fairmount</td>
<td>2180</td>
<td>47.3</td>
<td>1031</td>
<td>19.5</td>
<td>411</td>
<td>24.3</td>
<td>216</td>
<td>15.2</td>
<td>332</td>
<td>5.2</td>
</tr>
<tr>
<td>91</td>
<td>Lower Price Hill</td>
<td>1309</td>
<td>100</td>
<td>1309</td>
<td>54</td>
<td>618</td>
<td>46.7</td>
<td>201</td>
<td>36.3</td>
<td>475</td>
<td>5.8</td>
</tr>
<tr>
<td>92</td>
<td>E. Price Hill/S. Fairmount</td>
<td>4791</td>
<td>38.4</td>
<td>1838</td>
<td>9.1</td>
<td>437</td>
<td>10.3</td>
<td>195</td>
<td>10.8</td>
<td>519</td>
<td>3</td>
</tr>
<tr>
<td>96</td>
<td>East Price Hill</td>
<td>4865</td>
<td>22.9</td>
<td>1115</td>
<td>3.3</td>
<td>158</td>
<td>2.1</td>
<td>43</td>
<td>6.3</td>
<td>306</td>
<td>2.2</td>
</tr>
<tr>
<td>103</td>
<td>Sedamsville</td>
<td>2223</td>
<td>75.5</td>
<td>1678</td>
<td>15.2</td>
<td>302</td>
<td>14.8</td>
<td>110</td>
<td>24.1</td>
<td>536</td>
<td>10.7</td>
</tr>
<tr>
<td>104</td>
<td>Riverside</td>
<td>1451</td>
<td>100</td>
<td>1451</td>
<td>21.5</td>
<td>327</td>
<td>8.9</td>
<td>57</td>
<td>23.9</td>
<td>347</td>
<td>11.3</td>
</tr>
<tr>
<td>108</td>
<td>Madisonville</td>
<td>796</td>
<td>100</td>
<td>796</td>
<td>7.5</td>
<td>58</td>
<td>11.8</td>
<td>47</td>
<td>21.5</td>
<td>171</td>
<td>7.3</td>
</tr>
<tr>
<td>223.01</td>
<td>Springdale</td>
<td>5594</td>
<td>59.4</td>
<td>3326</td>
<td>10.1</td>
<td>535</td>
<td>8.4</td>
<td>202</td>
<td>18.1</td>
<td>1011</td>
<td>9.9</td>
</tr>
<tr>
<td>227</td>
<td>Lincoln Heights</td>
<td>4113</td>
<td>100</td>
<td>4113</td>
<td>29.9</td>
<td><strong>1214</strong></td>
<td>24</td>
<td><strong>383</strong></td>
<td>34.2</td>
<td>1408</td>
<td>12.6</td>
</tr>
<tr>
<td>249.01</td>
<td>Newtown</td>
<td>1206</td>
<td>89.9</td>
<td>1084</td>
<td>12.7</td>
<td>152</td>
<td>6.4</td>
<td>31</td>
<td>22.2</td>
<td>267</td>
<td>9.9</td>
</tr>
<tr>
<td>257</td>
<td>Elmwood Place</td>
<td>2681</td>
<td>100</td>
<td>2681</td>
<td>19</td>
<td>507</td>
<td>19.3</td>
<td>205</td>
<td>29.2</td>
<td>783</td>
<td>10.1</td>
</tr>
</tbody>
</table>

|      | Persons                        | 75342     | **51580**            | **12283**                    | **4687**                   | 15383                      | 6105                       |
|      | Highest Percent                | 100%      | 91.3%                | 60.7%                        | 38.9%                       | 21.1%                       |                            |
|      | Lowest Percent                 | 18.5%     | 3.3%                 | 0%                           | 5.9%                        | 0.1%                        |                            |
USDA Food Deserts in Hamilton County, OH
Key Issues Related to Food Access

- Land use (Agricultural, Residential, Commercial, Industrial, Public and Others)
- Automobile ownership
- Public transit
- Distance
- Food license locations
  - Full-line food retail (grocery stores, supermarkets, supercenters)
  - Fringe food retail (convenience stores, corner stores, mini marts)
  - Community gardens
  - Farmers markets
- Restaurants
- Fast food
- SNAP/WIC
- Food banks/pantries
Areas with Low Access

Legend
- CTs > 1 mile (Avg)
- Cities And Townships
- Cincinnati Neighborhoods
- Hamilton County
Areas with Low Vehicle Ownership

Legend
- CTs > 20% No Vehicles
- Cities And Townships
- Cincinnati Neighborhoods
- Hamilton County
Areas with low vehicle ownership and low access = **125,198**
Poverty = Low Vehicle Ownership

Areas with High Poverty and Low Access

Areas with Low Vehicle Ownership and Low Access
Other factors that should be considered

**Impediments**
- Corner stores, convenience stores
- Fast food outlets

**Supports**
- Corner stores, convenience stores
- Bus Service
- Community gardens
- Farmers markets
- “Enhanced” corner stores
Areas with Most Corner/C-Stores per 1,000 Residents
Areas with Most Fast Food per 1,000 Residents

Legend

- Grocery Stores
- Corner/Convenience Stores
- Fast Food Restaurants
Areas w/ most Corner/C-Stores & F-Food per 1,000 Residents
Conclusions

- USDA “food deserts” understate the seriousness of the food access problem in Hamilton County
- Potential for using corner / convenience stores as a resource for providing healthy food
- Potential of improved bus transit
- Strategic placement of community gardens, farmers markets, urban agriculture, and new grocery stores
- Use information to focus on areas of greatest need

<table>
<thead>
<tr>
<th>Estimate of Population with high poverty and low access</th>
<th>USDA</th>
<th>UC SOP Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12,283</td>
<td>127,245</td>
</tr>
<tr>
<td>Estimate of Population with low vehicle ownership and low access</td>
<td>-</td>
<td>125,198</td>
</tr>
</tbody>
</table>
QUESTIONS?

Thank You