

Appendix 1. List of social determinant variables downloaded from the US census and United States Department of Agriculture (USDA) websites, detailed in the data source and mapping method

| Num | Social Determinants | SD Levels | Variable Type | Mapping Method | Data Source |
|-----|-----------------------------|---|---------------|----------------|---|
| 1 | Racial Demographics | Four levels: White; Black/African American; American Indian; Asian | % | ZIP code | US Census ACS (American Community Survey) |
| 2 | Urban or Rural | Two levels: Urban ratio; Rural ratio | % | ZIP code | |
| 3 | Nativity and Citizenship | | % | ZIP code | |
| 4 | Education level | Four levels: Less than High school; High School; College associate bachelor; Graduate degree. | % | ZIP code | |
| 5 | English proficiency | | % | ZIP code | |
| 6 | Health insurance status [6] | Six levels: Public: Medicare; Medicaid; VA health care. Private: Employ-based; Direct-purchase; Tricare/military. | % | ZIP code | |
| 7 | Poverty or Household income | | US \$ | ZIP code | |
| 8 | Unemployment rate | | % | ZIP code | |

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|----|--|--|-------|--------------|---|
| 9 | Respiratory Hazard Index | | [0,+] | County level | US Environmental Protection Agency (EPA) |
| 10 | Percentage of population living within half mile to park | | % | County level | Centers for Disease Control and Prevention, Community Health Status Indicators (CDC CHSI) |
| 11 | GINI inequality index | | [0,1] | ZIP code | US Census (ACS) |
| 12 | Social Vulnerability Index | | [0,1] | County level | CDC or Agency for Toxic Substances and Disease Registry (ATSDR) |
| 13 | Low income & low access to store | | % | County level | USDA (Food Environment Atlas) |
| 14 | Grocery stores/1000 pop | | [0,+] | County level | |
| 15 | Convenience stores/1000 pop | | [0,+] | County level | |
| 16 | Farmers' markets selling fruit and vegetables | | % | County level | |

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|----|--|--|--------------|--------------|
| 17 | Farmers' markets selling animal products | | % | County level |
| 18 | Seniors, low access to store | | % | County level |
| 19 | SNAP-authorized stores/1000 pop | | [0,+] | County level |
| 20 | Fast-food restaurants/1000 pop | | [0,+] | County level |
| 21 | Full-service restaurants/1000 pop | | [0,+] | County level |
| 22 | SNAP benefits per capita | | US \$/capita | County level |
| 23 | Direct farm sales per capita | | \$ | County level |
| 24 | Farmers' markets/1000 pop | | [0,+] | County level |
| 25 | Farmers' markets that report accepting SNAP | | % | County level |
| 26 | Farmers' markets that report accepting SFMNP | | % | County level |
| 27 | Adult diabetes rate | | % | County level |
| 28 | Adult obesity rate | | % | County level |
| 29 | Recreation and fitness facilities/1000 pop | | [0,+] | County level |
| 30 | Recreation and fitness facilities/1000 pop | | % change | County level |
| 31 | ERS natural amenity index | | 0 or 1 | County level |

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|----|--------------|--|---|-----------------|--|
| 32 | Poverty rate | | % | County level | |
|----|--------------|--|---|-----------------|--|