METHODOLOGY

AZ Health Zone Community Fact Sheets

The aim of this project was to synthesize data from an array of publicly available sources into one, easily accessible and actionable document on access to healthy food and opportunities for physical activity at the community level. Communities were defined using zip codes. census tracts, and school district boundaries in coordination with SNAP-Ed Contractors. Data for this project were drawn from the sources detailed below.

(1) Community by age

The proportion of the community population falling within certain age groups. Data on community populations by age were drawn from the 2010 U.S. Decennial Census, Summary File 1, Table P14 accessed on American FactFinder (https://factfinder.census.gov/) in June 2017 for rural areas and Oct 2017 for urban areas.

(2) Low-income population

The proportion of the total population and child population (0-17) living in households with incomes at or below 185 percent of the federal poverty level. Data on low-income populations were drawn from the 2011-2015 American Community Survey 5-Year Estimates, Table B17024, accessed on American FactFinder in June 2017 for rural areas and Oct 2017 for urban areas. Data were normalized to community geographies using population-based apportioning when necessary, such as when a community contained part, but not all of a zip code or census tract. School district data required no apportioning.

(3) Hunger & food insecurity

The proportion of the total population and child population (0-17) who are food insecure. Food insecurity refers to a measurement by the United States Department of Agriculture (USDA) of access to food; food insecure populations have limited or uncertain access to sufficient food for all members of their household. Food insecurity estimates were drawn from the 2015 Map the Meal Gap project by Feeding America, accessed at http://map.feedingamerica.org/ in June 2017.

(4) Early childhood weight

The weight status of children ages 2 to 4 who were enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in calendar year 2016. WIC Early Childhood Weight data was provided by community and county by the Arizona Department of Health Services WIC Program. In communities where there were too few children enrolled in WIC to provide a reliable estimate of weight status, weight status at the county level is provided instead. In La Paz County and the San Carlos Apache Tribe, data on early childhood weight status of children enrolled in ITCA WIC programs were available from the 2018 First Things First Needs and Assets reports in advance of publication of these reports.

(5) Adult weight

The weight status of adults by county in Arizona. Data on adult weight status were obtained from a combined weighted sample of 2013-2015 Arizona Behavioral Risk Factor Surveillance System (BRFSS) data. Three years of survey data were combined to provide more reliable estimates for all counties in Arizona. Data were provided by the Arizona Department of Health Services.

(6) Fruit and vegetable consumption

The proportion of adults by county who are meeting the dietary recommendation of two servings of fruit and three servings of vegetables per day in Arizona. Data on adult fruit and vegetable consumption were obtained from a combined weighted sample of 2013 and 2015 Arizona Behavioral Risk Factor Surveillance System (BRFSS) data. Two years of survey data were combined to provide more reliable estimates for all counties in Arizona. Data were provided by the Arizona Department of Health Services.

(7) Physical activity

The share of adults by county who are meeting the aerobic and strengthening physical activity guidelines in Arizona. Data on physical activity were obtained from a combined weighted sample of 2013 and 2015 Arizona Behavioral Risk Factor Surveillance System (BRFSS) data. Two years of survey data were combined to provide more reliable estimates for all counties in Arizona. Data were provided by the Arizona Department of Health Services.

(8) Stores per 100,000 people

The number of food retail stores per 100,000 people living in a given community. This metric shows the relative availability of food retail opportunities compared to the population; larger numbers represent higher availability relative to the population. The per capita measure was calculated by dividing the count of retailers of a certain type located within a community's boundaries by the total population of the community and multiplying the result by 100,000.

The locations of SNAP retailers were obtained from the USDA SNAP Retailer Locator, accessed at https://www.fns.usda.gov/snap/retailerlocator in May 2017. These retailers were coded as convenience stores, grocery stores, or other retailers by matching the USDA retailer dataset with data drawn from ReferenceUSA that includes information on North American Industry Classification System (NAICS) codes and location sales volumes. Following definitions used in the USDA Food Environment Atlas (https://www.ers.usda.gov/data-products/food-environment-atlas), convenience stores were defined as those with NAICS codes 44520 and 447110. Grocery stores were defined as large supermarkets with NAICS code 445110 or superstores with NAICS code 452910 with annual sales volume of two million dollars or more. Stores for whom NAICS codes or sales volume could not be found were coded based on store name and data available online and cross-validated by a second coder to identify full-service grocery stores.

The locations of WIC retailers were obtained from the ADHS WIC Vendor List, accessed at http://azdhs.gov/prevention/azwic/families/index.php#vendors in July 2017, as well as the Inter Tribal Council of Arizona WIC Program Find a Store tool, accessed at http://itcaonline.com/?page_id=1064 in July 2017.

The locations of fast food restaurants were obtained from ReferenceUSA by querying all businesses with the NAICS code 722211.

The location of Farmer's Markets were compiled from multiple sources, including the USDA National Farmers Market Directory (https://www.ams.usda.gov/local-food-directories/farmersmarkets); the Local First Arizona Good Food Finder Tool (http://goodfoodfinderaz.com/); Farmers Markets listed as SNAP Retailers in the SNAP Retailer dataset; and the Arizona Department of Agriculture's list of Farmers Markets by County. These datasets were accessed in June 2017 and cross-referenced to obtain a list of unduplicated farmers markets and farm stands. Farmers Markets were counted as accepting food assistance benefits if they accepted one of the following: WIC; WICcash; Senior's Farmers Market Nutrition Program; Farmers Market Nutrition Program (FMNP); Double-up Bucks; or SNAP. Information on what kind of benefits were accepted by each market were obtained from the USDA National Farmers Market Directory, the Local First Arizona Good Food Finder, and market websites and Facebook pages. In the case of mobile markets, the market was only counted once toward the per capita count, even though a market might have multiple locations on different dates and times in the community.

Given the unreliable nature of certain retailer datasets, particularly in rural areas, all locations were mapped and checked for accuracy against satellite imagery. Locations were corrected where needed.

(9) Percent of population living within walking or driving distance of food retail and physical activity opportunities

The proportion of the total population living within walking distance (a half mile) or driving distance (ten miles) of a given kind of retailer or physical activity opportunity. Walking and driving distances follow distance measures used in the USDA Food Access Research Atlas (https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx). The proportion of the population living within these distance thresholds was calculated by using ESRI Network Analyst to generate service areas and identifying census blocks with mean centers within these service areas.

Food retail locations were identified and mapped using the methods listed above in (8) *Stores per 100,000 people*. In the case of mobile markets, all locations of the market were considered when defining service areas.

Locations of public parks were obtained by combining data on local and regional parks from the ESRI USA Parks dataset, accessed at http://www.arcgis.com in June 2017, and the Central Arizona Project parks dataset accessed at https://azgeo.az.gov/ in June 2017. Given the poor coverage by these sources of parks in certain areas of the state, public parks in La Paz County, Greenlee County, and the Navajo Nation were digitized from satellite imagery on Google Maps. In Pima and Maricopa Counties, public park data were obtained from the Pima County Geographic Information System, Maricopa County Parks, Trails, and Amenities Map, City of Buckeye Parks & Recreation Department, City of Phoenix Open Data Portal, City of Mesa Open Data Portal, City of Scottsdale Open Data Portal, and City of Tempe Open Data Portal. These data were accessed in Oct 2017.

Recreation areas were defined as National Park and National Monument lands, U.S. Forest Service Land, and public recreation sites such as picnic areas and campgrounds. These locations were obtained from the ESRI USA Parks dataset and the U.S. Forest

Service Recreation Facility dataset, accessed at https://data.fs.usda.gov/geodata/ in June 2017.

Trails were obtained from the Arizona Trail shapefile and BLM Routes datastets, accessed at https://azgeo.az.gov/ in June 2017; the National Forest Service Trails, Transport, and Motor Vehicle Use shapefiles, accessed at https://data.fs.usda.gov/geodata/; and trails in the National Parks identified in the National Park Service Data Store https://irma.nps.gov/DataStore/. Trailheads from the US Forest Service Recreation Facility data set were also integrated into the trail dataset used in this project. In Pima and Maricopa Counties, trail data were obtained from the Pima County Geographic Information System, Maricopa County Parks, Trails, and Amenities Map, City of Buckeye Parks & Recreation Department, City of Phoenix Open Data Portal, and City of Scottsdale Open Data Portal. These data were accessed in Oct 2017. For the purposes of this project, trails were defined as paths or trails for pedestrian or cycling use separated from traffic. Bicycle lanes that were not separated from vehicular traffic were not counted as bike trails.

All polygon features, such as parks and recreation areas, and line features, such as trails, were converted to points for the creation of service areas. Points were set along boundaries in order to most accurately represent accessibility.

(10) Free or reduced price lunches served

The average number of free and reduced price lunches served on a given day during the school year compared to in the summer. Data on meals served through the Free and Reduced Price Lunch (FRPL) program in the 2015-2016 School Year and the Summer Food Service Program (SFSP) in the summer of 2015 were obtained from the Arizona Department of Education. To obtain community level estimates, all FRPL and SFSP sites were mapped and assigned to the community in which they were located. The total number of sites, meals served, and days of meal service were then summarized by community. The average number of meals served in a day were determined by dividing the total number of meals served in the community by the average days of meal service in that same community.

(11) Households with no available vehicle

The proportion of households that have no available vehicles. Data vehicle availability were drawn from the 2011-2015 American Community Survey 5-Year Estimates, Table B25044, accessed on American FactFinder in June 2017 for rural areas and Oct 2017 for urban areas.. Data were normalized to community geographies using population-based apportioning when necessary such as when a community contained part, but not all of a zip code or census tract. School district data required no apportioning.