

Rural Community Food and Physical Activity Environment

Bonanza Audit Results Maps 2013-2016



The information contained in this report can be used to drive decisions about land use and siting for new resources, to secure funding to improve the community food system, parks and recreation resources, and transportation planning. It can also be used by community members to seek out locally available and affordable healthy food and physical activity options.

This report was generated by Patty Case and Janet Rojina (Klamath County Extension Family and Community Health), in partnership with the GROW HKC project campus team: Winfield, T., John, D., and Gunter, K.

GROW Healthy Kids & Communities Background Information

GROW HKC partners with rural people, organizations, and communities to generate local options to support weight healthy lifestyles – healthy eating and physical activity every day - for all children and families.

GROW engages people in the communities we serve in assessing the conditions that most affect them where they live, learn, work and play. We do this to identify what changes will best support weight healthy behaviors for children and families and improve food and physical activity resources in the community.

HEAL MAPPS, one of the GROW programs, helped residents to tell their story of life in the community, their personal experiences or encounters with food and physical activity resources as either supporting or hindering weight healthy choices and habits.

People's lived experiences are very important for understanding how and why healthy habits develop.

In order to have the most complete picture of the food and physical activity environment, we need to know about all of the available resources: who makes food and physical activity available, what types of food and physical activity are available, where are they located, and is there a cost?

The **Rural Community Food and Physical Activity Environment Audit** is a participatory survey of all of the food and physical activity resources in the community. The auditors use camera-enabled GPS units and photomapping methods to document and survey resource availability and location. These surveys were done twice: first in 2013 and then again in 2016.

OSU faculty integrate community data with other geographic information systems (GIS) data to provide a visual report of the relationship between the location and types of food and physical activity assets and where most people live in the community.

GPS-Assisted Observational Survey Tool

GROW HKC

Community Food Environment Audit

Please use the provided Garmin (GPS) unit, in conjunction with this survey, to map, photograph, and log information about all the food environment and resources in your community. If you do not have access to a Garmin unit, you may use any other GPS mapping device, such as a QStarz or GPS app on your smartphone, along with a camera. For each photograph that you take, please take care not to include people in your photographs.

Specifically, you will map, photograph and log information about all possible food resources in your community. Once you complete the audit of your sector, please check off all of the food resource categories that you encountered in your sector.

- A. Grocery Stores
- B. Convenience Stores
- C. Roadside or Dockside Retailers
- D. Restaurants
- E. Vending Machines (in public spaces)
- F. Food Banks and Food Pantries
 - Food Assistance Programs, including:
 - G. Meals on Wheels
 - H. Gleaners
 - I. Free Meal Sites
 - J. Summer Meal Service Programs
- K. Farm Stands / U-Pick Operations
- L. Farmers Markets
- M. Community Gardens
- N. Hunting, Fishing and Foraging Supports
- O. Home-Based Food Retailers
- P. Other Community Food Resources

A. Grocery Stores

Name of Store: _____

A *grocery store* is a retailer where people buy most of their food for meals and snacks.

Photographs and Logs: Please photograph and log (with the Garmin unit) each grocery store you come across in your sector.

Take a photo of the front of the grocery store. Take a single photo, if you can capture the entire store and the sign with the store's name in a single shot. If you need to take more than one photo to capture the entire store and the sign, take the shot looking straight ahead, and as needed, 1-2 shot(s) looking to the left and to the right. Record your photo code(s), below.

- looking straight ahead DSC _____ .JPG
- looking to the left (as needed) DSC _____ .JPG
- looking to the right (as needed) DSC _____ .JPG

Take additional photographs that describe the access to this store. Examples of photographs to take are listed below. For each feature that is present, please take no more than one photo.

- Bike rack at the store DSC _____ .JPG
- Bus stop adjacent to the store DSC _____ .JPG
- Parking at the store. Also, note the type of parking, below. DSC _____ .JPG
 - Streetside
 - Parking lot
- Handicapped parking spaces at the store DSC _____ .JPG
- Ramps / curb cuts that promote handicap accessibility DSC _____ .JPG
- Evidence of walking access to the store
 - Sidewalk leading to store DSC _____ .JPG
 - Crosswalks DSC _____ .JPG
- Sign or poster that states the store hours DSC _____ .JPG
- Sign or poster that states that the store takes SNAP, EBT or Oregon Trail DSC _____ .JPG
- Sign or poster that states that the retailer is a WIC-authorized vendor DSC _____ .JPG
- Other access feature (Describe: _____) DSC _____ .JPG

Food Retailer Description: Please categorize this food retailer, by answering the questions below to the best of your knowledge.

Is a membership required to shop in this store (e.g., Bi-Mart, Costco, Sam's Club)?
 Yes No I don't know

Can you purchase products in bulk in this store?

Community Audit activities yield rich attribute data that can be associated with resource photos and tracks. Community members collect this information while mapping by using a survey that integrates two research-based measures: the rural active living assessment and the community food security assessment. OSU researchers included additional items known to be influential in the rural food and physical activity systems, such as hunting, fishing, and foraging supports.

Rurality and Weight Health



Many risk factors have been associated with childhood obesity, including rural residency

- Overweight/obesity prevalence is higher among children living in rural (36%) compared to urban (30%) areas
- Weight health and habits carry over into adulthood
- Rural communities face unique environmental challenges that can impact residents' healthy eating and physical activity lifestyle patterns
- Environmental strategies found to prevent obesity have focused on more urban areas

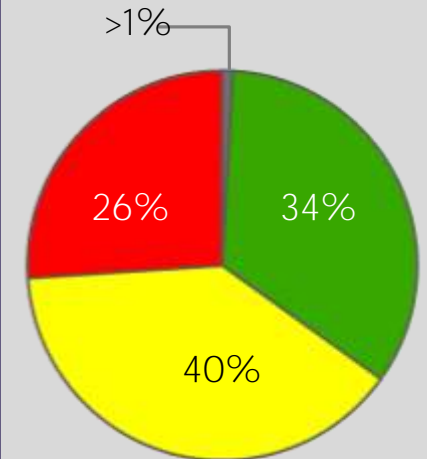
Bonanza Community - Adult Weight Health (BMI)

Visualizing weight health in Bonanza was enabled by the *Oregon Environmental Public Health Tracking Program

Mean BMI at Census Block Group Level

Mean % BMI at School District Level

- Underweight
- Healthy
- Overweight
- Obese
- City Limits
- School District Boundary



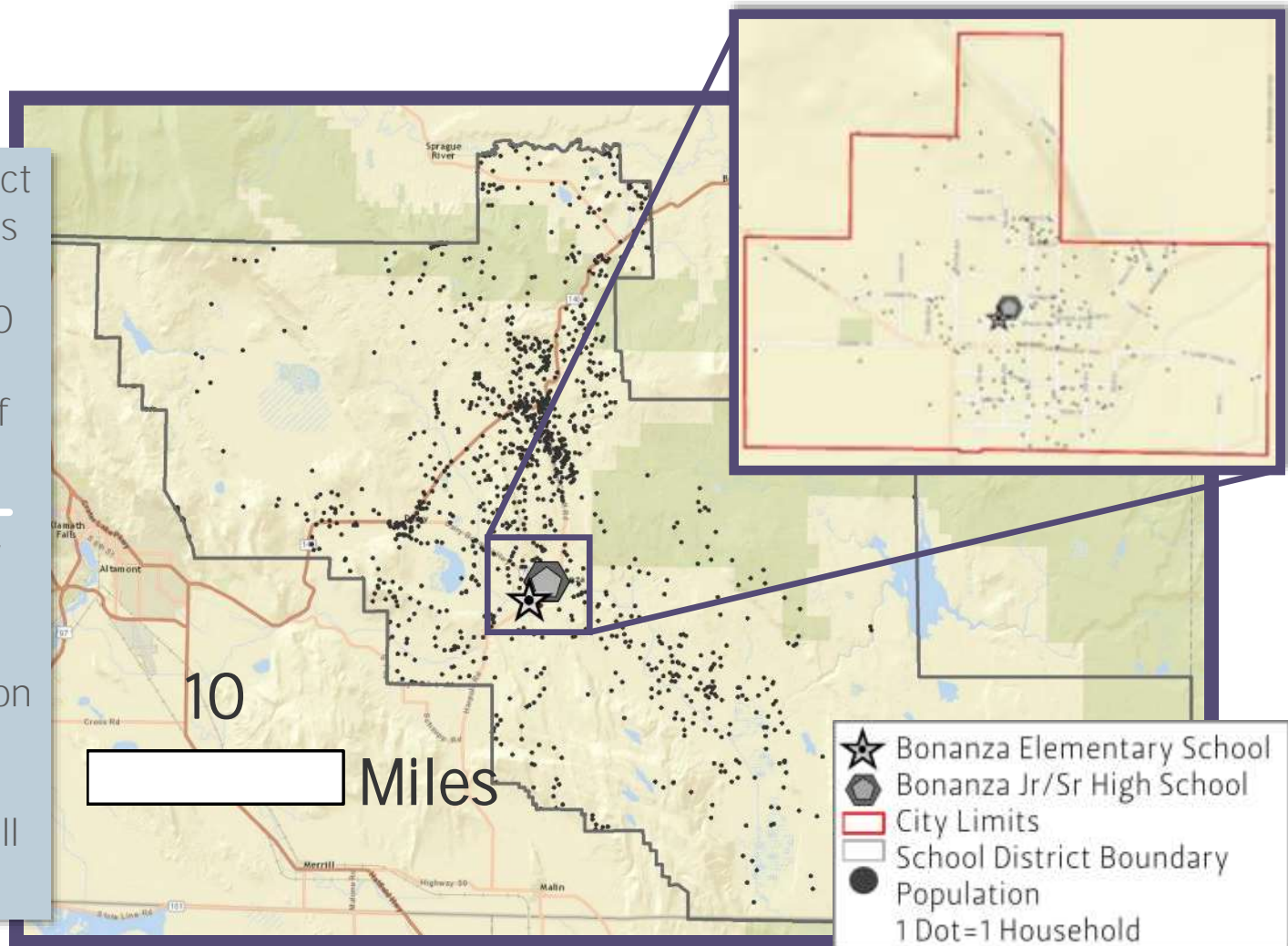
*2014 DMV records used to calculate BMI reliably illustrate the BMI distribution despite underestimation

Where People Live Matters for Easy Access to Resources

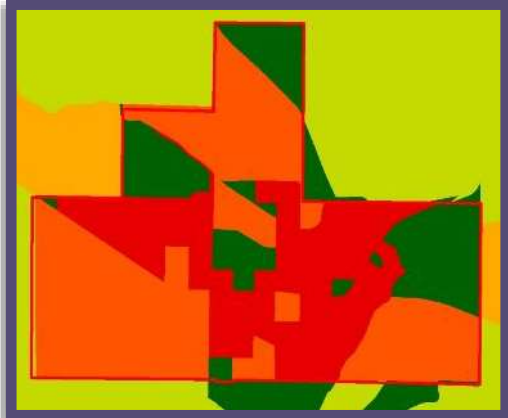
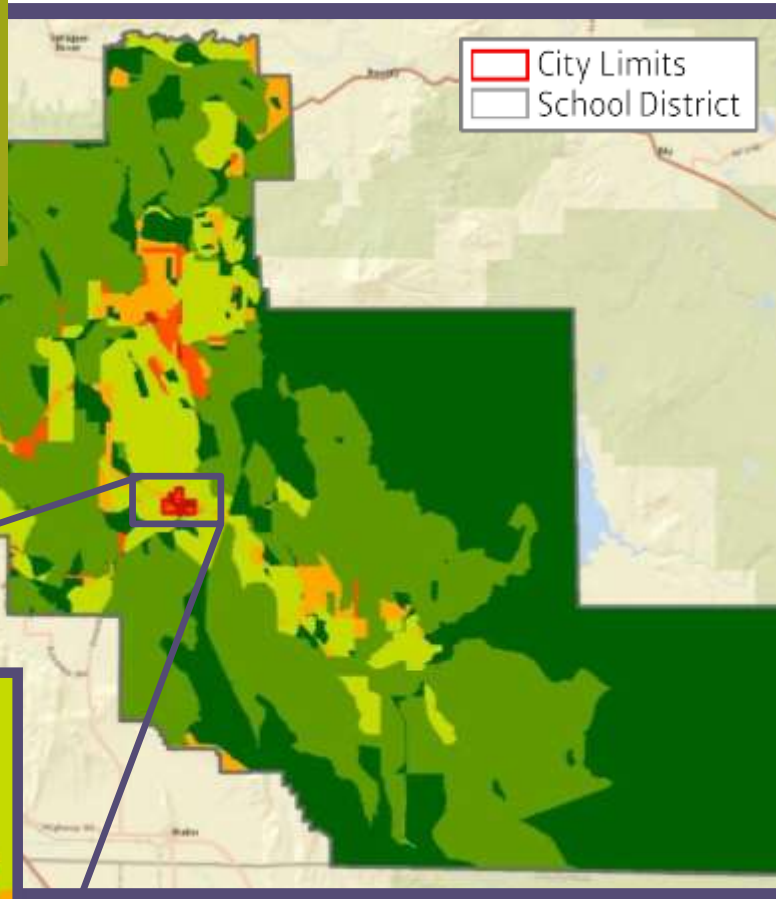
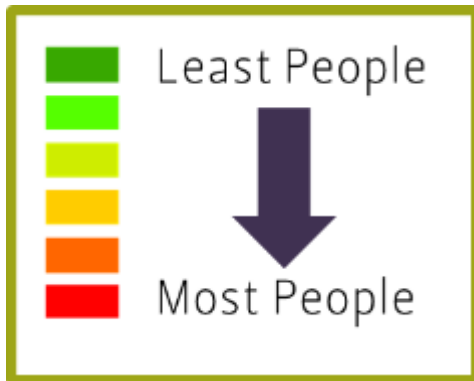
Community Boundaries Include the Approximate School District Catchment Area (“School District Boundary”) for Two Schools and Bonanza City Limits

Within the School District Boundary, Bonanza has 3048 people living in 1456 households (2010 census) spatially dispersed in an area of about 700 sq. mi.

Easy access to locally available resources is determined by proximity, transportation mode, ability to drive, cost & household income, etc., which will vary among families



Using Maps to Show Where Most People Live...



Within audit boundaries, we calculated statistically significant clusters of population based on population density

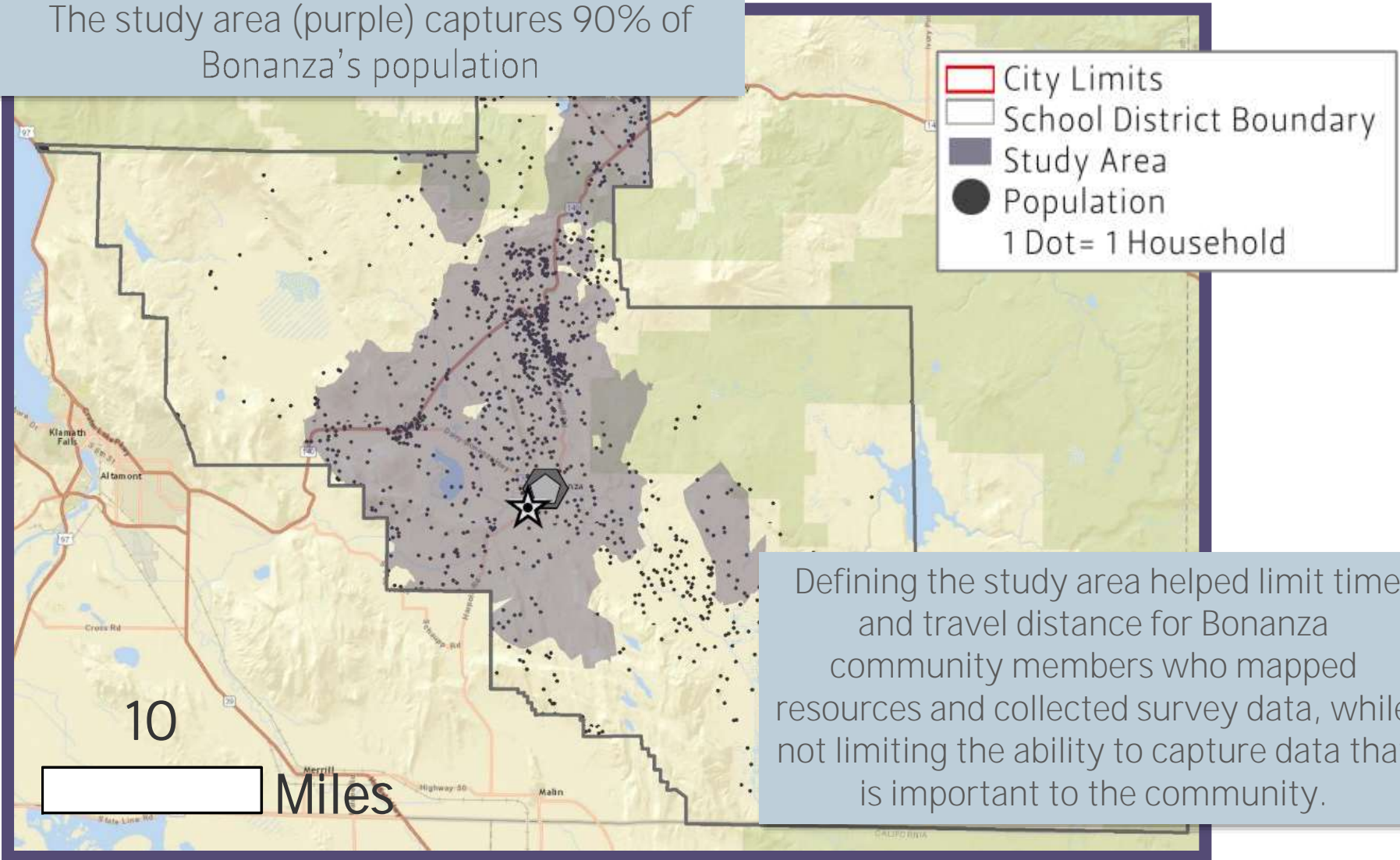
The geographic centers of these clusters were used to create network buffers, ranging in size from 2 to 5 miles, that captured 85% or more of the community population

The yellow to red areas are the most highly populated – Bonanza is sparsely populated (greens) throughout much of the boundary area.

Using Maps to Show Where Most People Live: Study Area

In order to determine the food and physical activity resources relevant to where most people live, a "study area" was defined using the most densely populated locations.

The study area (purple) captures 90% of Bonanza's population

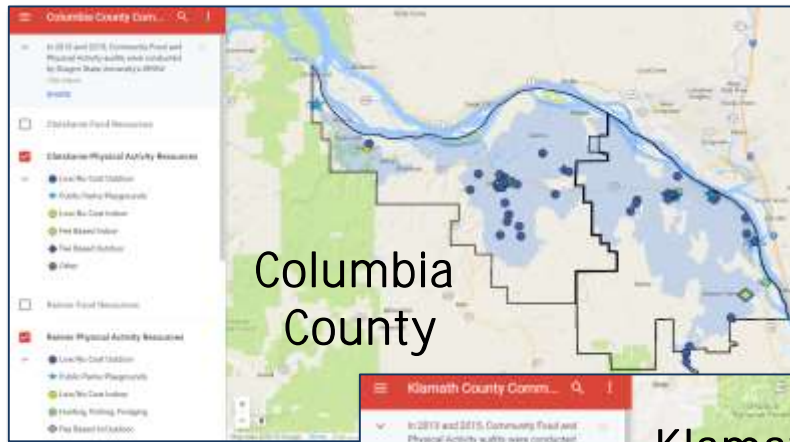


Resource Maps

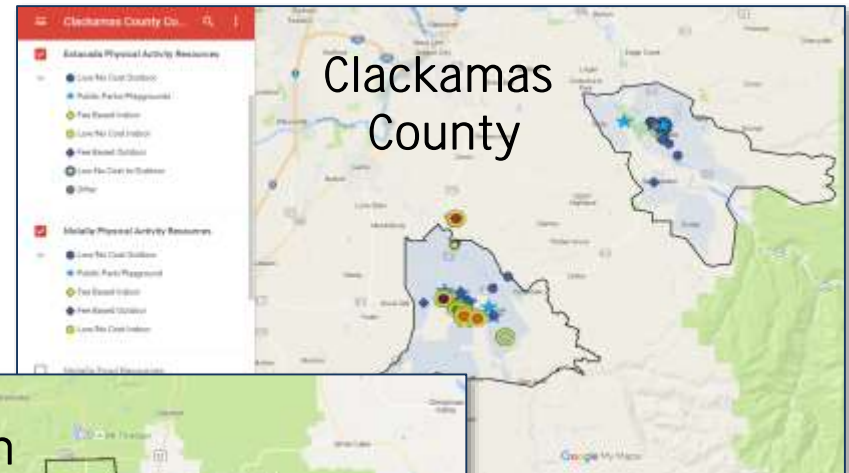
We collected information on resources in each community in 2013 and again in 2016 to assess any changes in resource availability and accessibility in our communities.

We created publicly available resource maps for each community and offer them in this report as well as online via google maps. These can be found by visiting the community maps section of the GROW HKC project website:

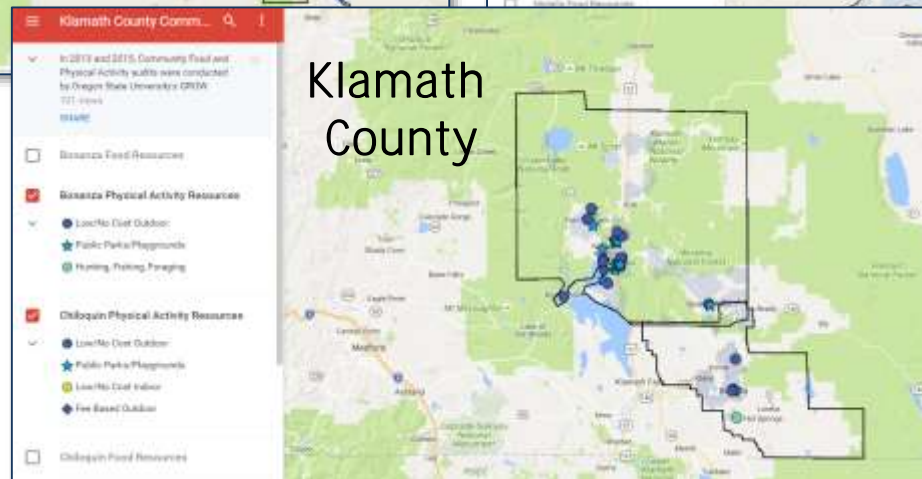
<http://extension.oregonstate.edu/growthkc/outputs/maps>



Columbia County

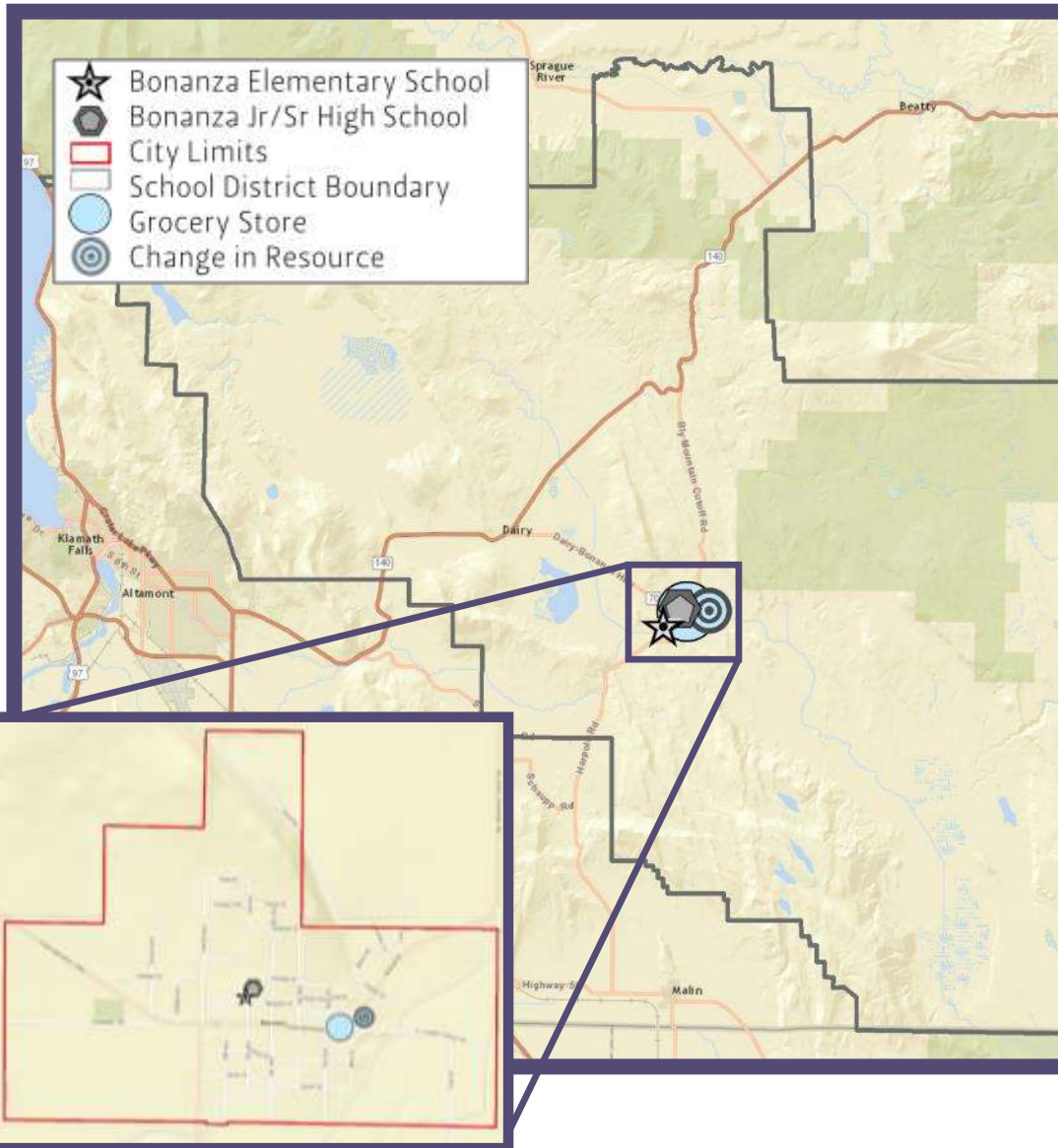


Clackamas County



Klamath County

Change in Resources for Grocery Store



According to the Healthy Food Financing Initiative, a food desert is an area where a larger proportion of people have low or no access to a supermarket or grocery store

Since the 2014 Audit, Bonanza has added a new Grocery/Country store, and now has a total of two locations to purchase groceries at within city limits. However, Bonanza is still considered a food desert, as most residents must travel 10 miles or more to reach a store. In fact, the closest full service grocer is located 25 miles away from city limits.

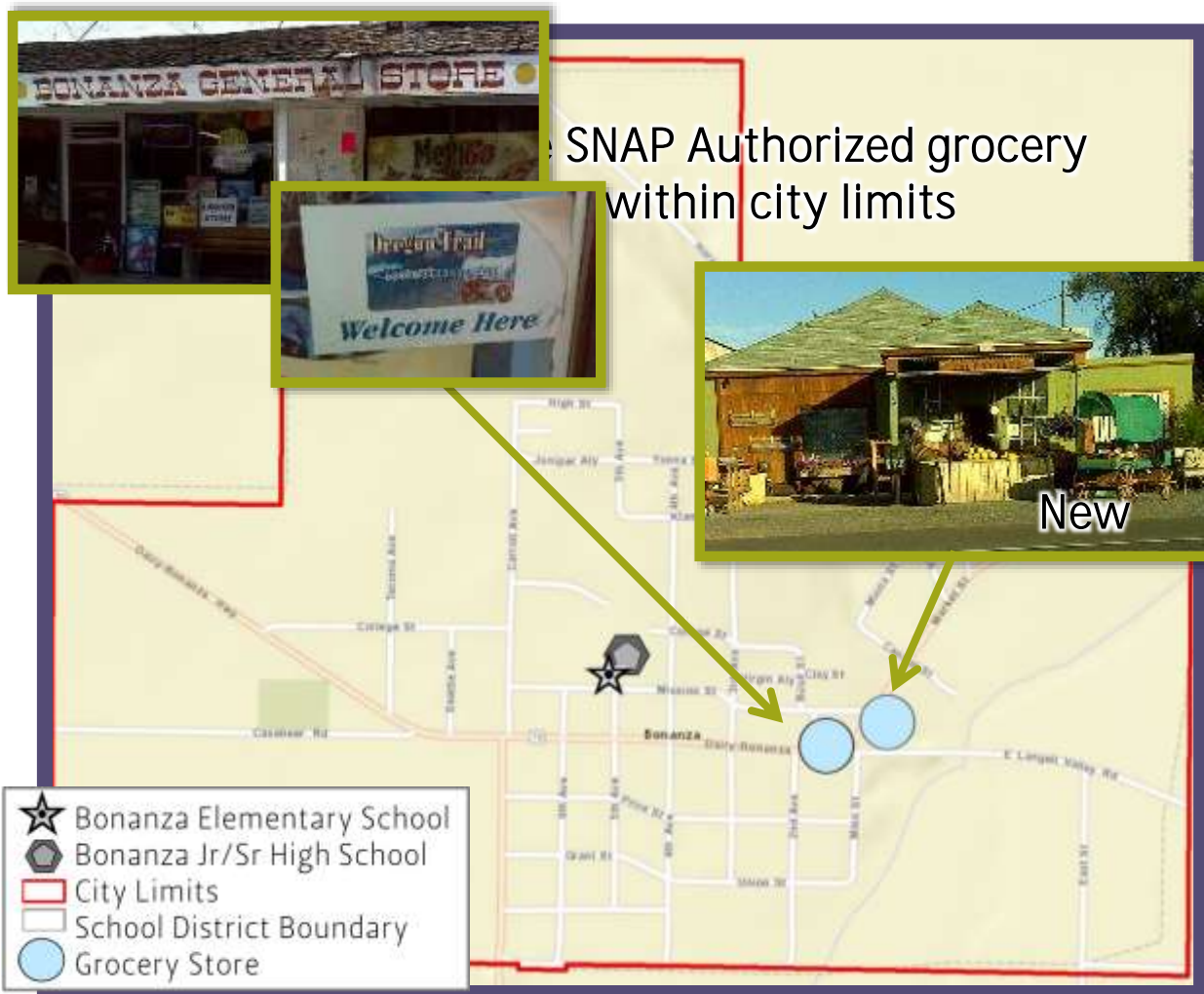
Based on a measure of availability of healthy food options, the “Modified Retail Food Environmental Index,” Bonanza scored “0” on scale ranging from 0 (no access to healthy food) to 100 (only access to healthy food)

Resources for Groceries Shown by Location

Limited access to affordable fresh produce is a barrier to healthy eating for people living in Bonanza – the nearest full service grocery or supermarket is located 25 miles west of city limits, meaning grocery access is car dependent for most of Bonanza

Both grocery stores are located within city limits and are small “country store” type grocers. The Bonanza General Store is one of the SNAP retailers in town.

SNAP–Supplemental Nutrition Assistance Program–is a federal program that offers nutrition assistance to income eligible families and individuals.



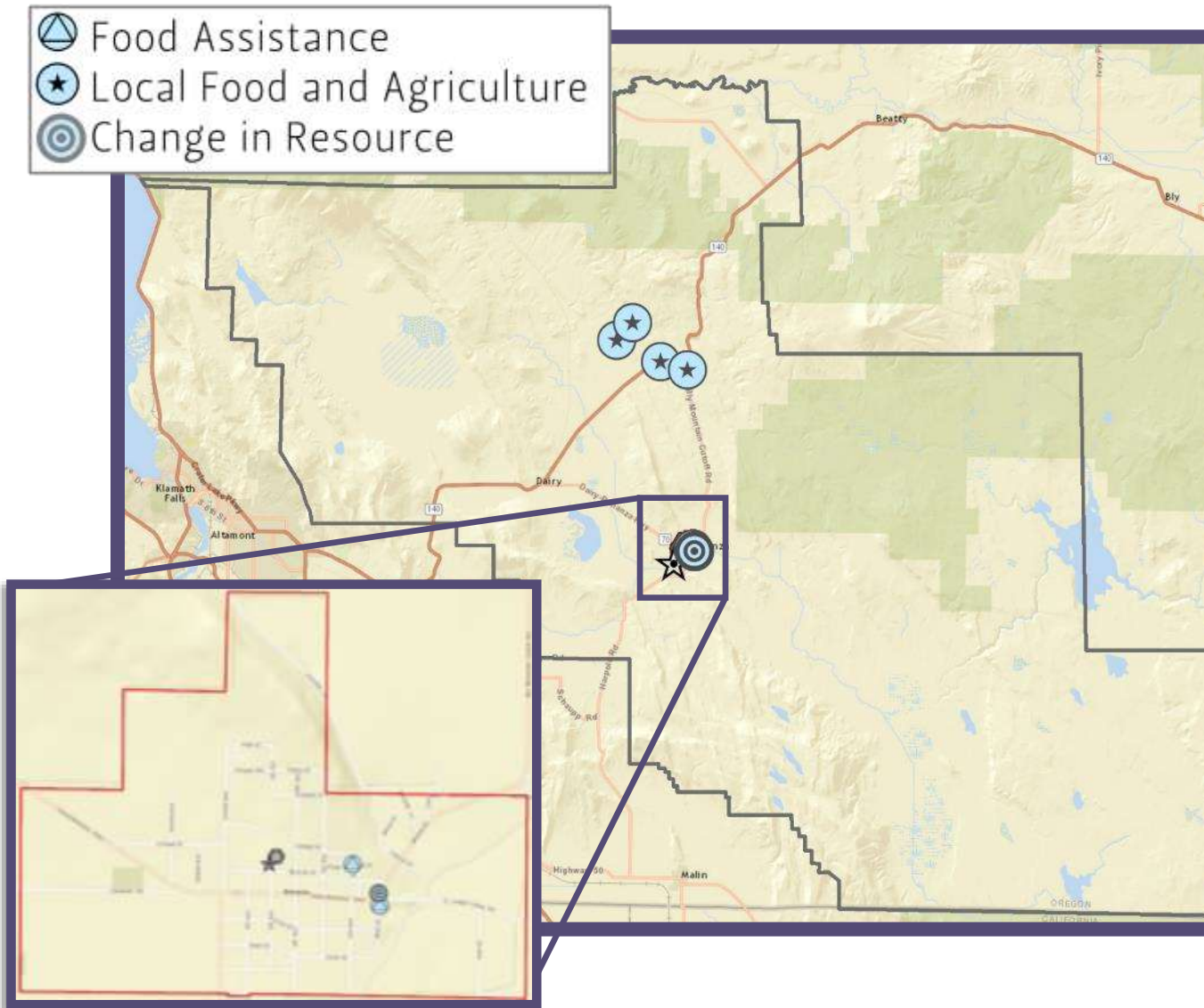
Change in Resources for Local Food, Agriculture, and Food Assistance

- ⊕ Food Assistance
- ★ Local Food and Agriculture
- 🎯 Change in Resource

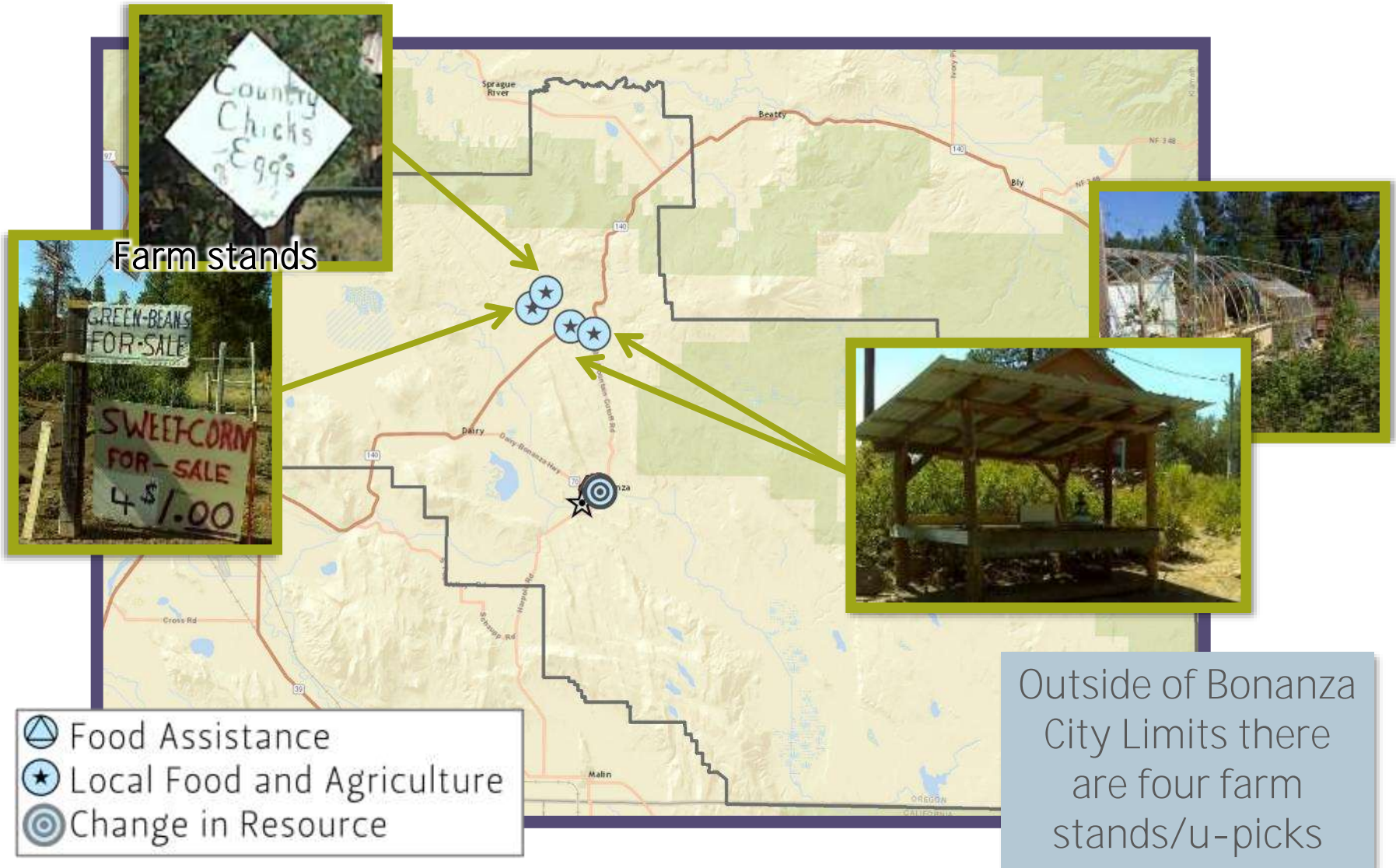
Bonanza has a number of “Local Food, Agriculture, and Food Assistance” resources.

Local Food and Agriculture includes farm stands, u-picks, home based food retailers, farmer’s markets, and hunting/fishing/gleaning supports.

Food Assistance includes food banks, summer lunch programs, community meals and other supplemental food support programs.



Resources for Local Food, Agriculture & Food Assistance Shown by Location



Resources for Local Food, Agriculture & Food Assistance Shown by Location

Bonanza has two resources within city limits that offer the community members food assistance:

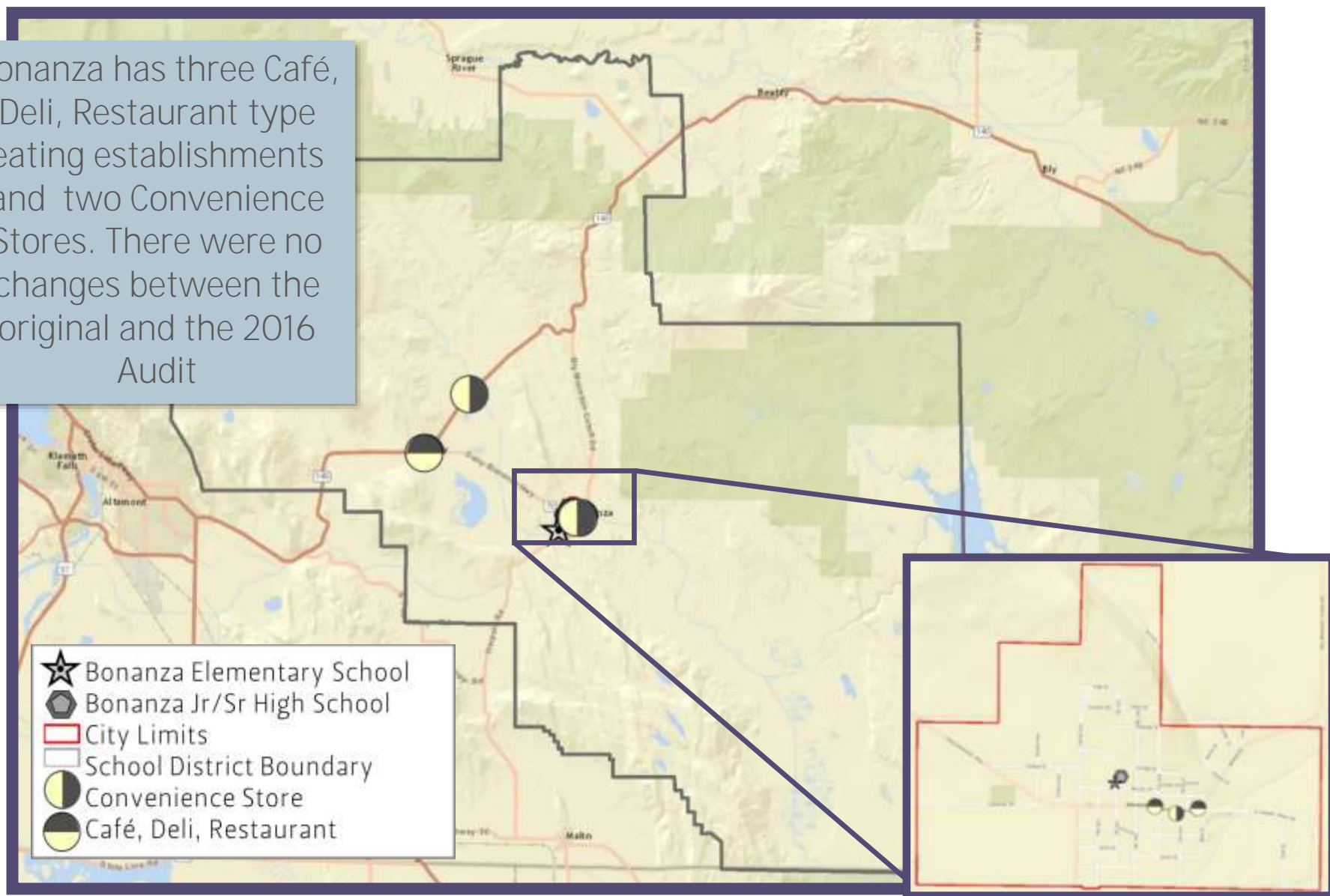
The Chuck Wagon Food Bank/Pantry as well as a summer meal program that happens at Big Springs Park. Additionally, since the original audit Bonanza's Farmer's Market has added a number of new vendors and increased amounts and variety of produce.

- ★ Bonanza Elementary School
- Bonanza Jr/Sr High School
- City Limits
- ▭ School District Boundary
- ⊕ Food Assistance
- ⊙ Local Food and Agriculture

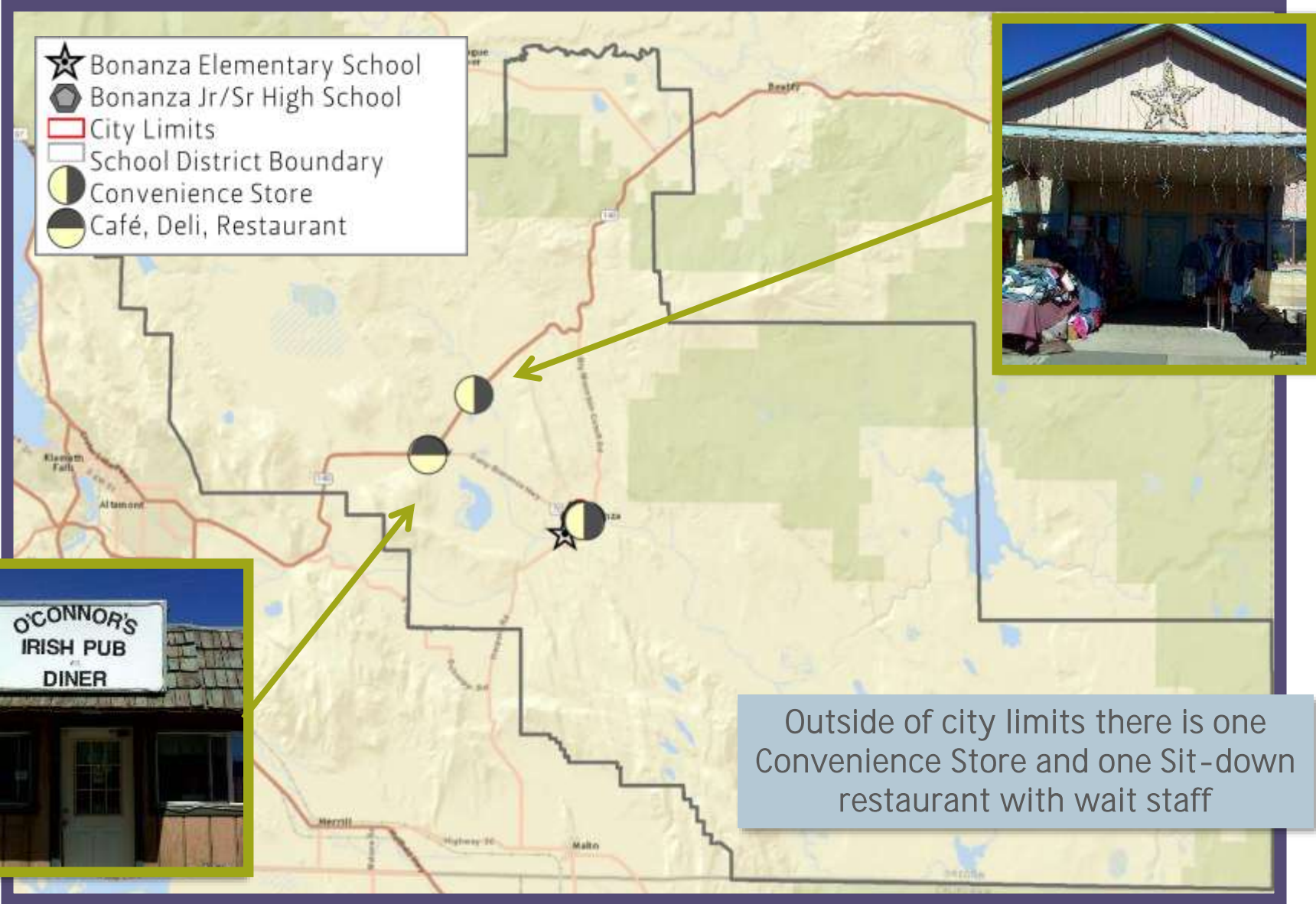


Change in Resources for Cafés, Delis, and Restaurants

Bonanza has three Café, Deli, Restaurant type eating establishments and two Convenience Stores. There were no changes between the original and the 2016 Audit



Resources for Cafés, Delis, & Restaurants Shown by Location



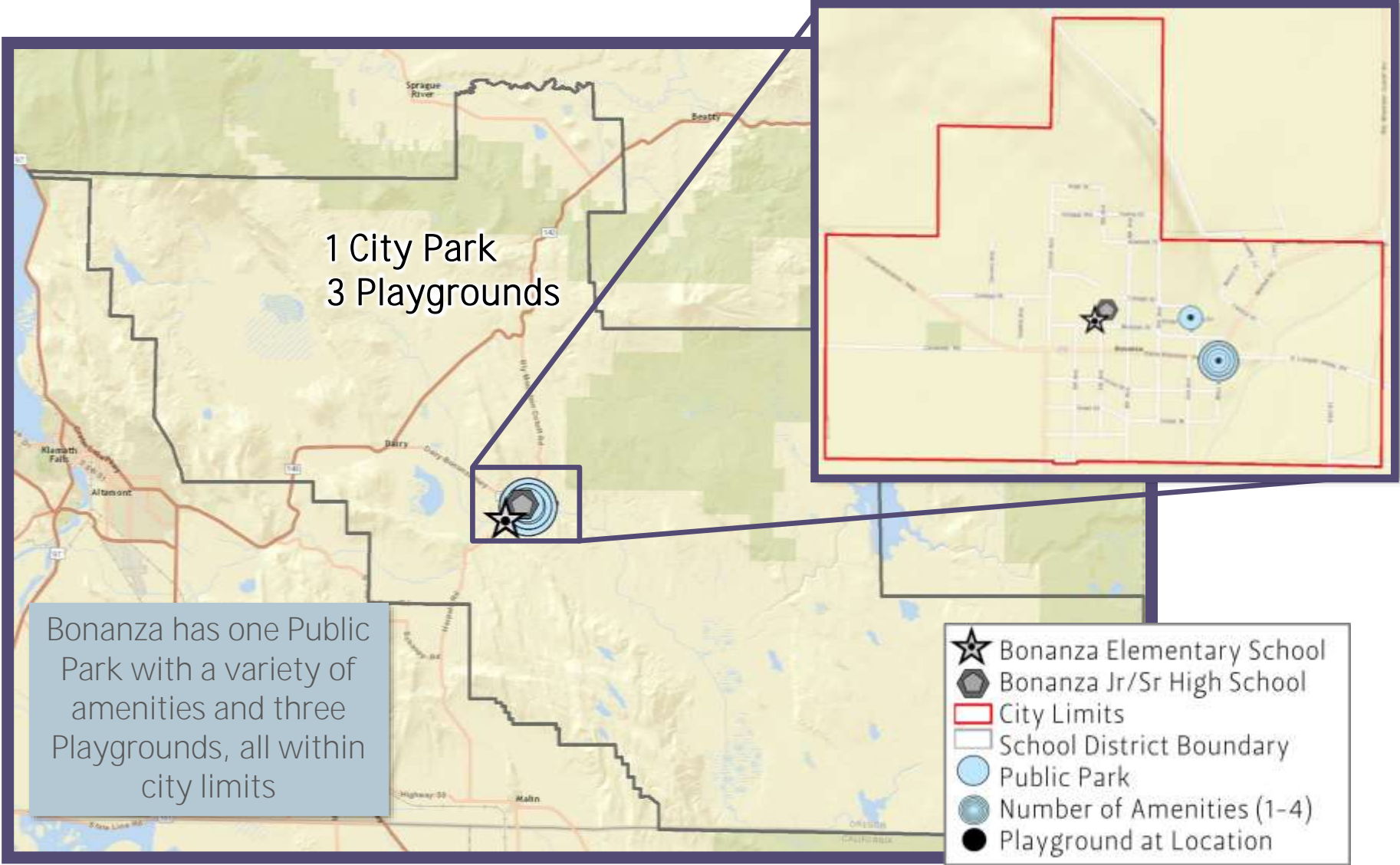
Resources for Cafés, Delis, & Restaurants Shown by Location

Within city limits there are two Sit-down restaurants with wait staff and one Convenience Store

- ★ Bonanza Elementary School
- ⬡ Bonanza Jr/Sr High School
- ▭ City Limits
- ▭ School District Boundary
- ◐ Convenience Store
- ◑ Café, Deli, Restaurant



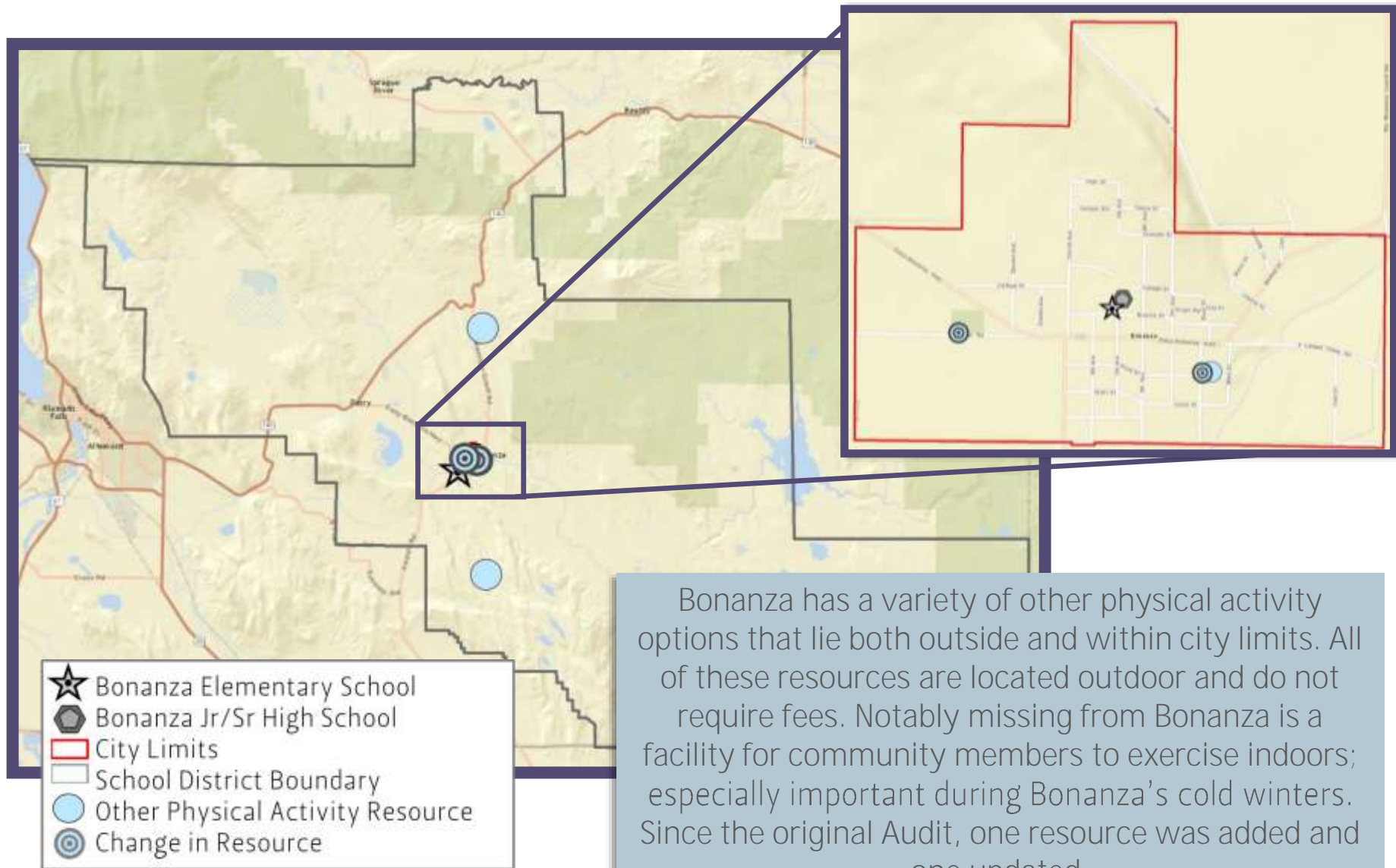
Change in Resources for Public Parks and Playgrounds



Resources and Amenities for Public Parks and Playgrounds Shown by Location



Other Physical Activity Resources



Bonanza has a variety of other physical activity options that lie both outside and within city limits. All of these resources are located outdoor and do not require fees. Notably missing from Bonanza is a facility for community members to exercise indoors; especially important during Bonanza's cold winters. Since the original Audit, one resource was added and one updated.

Resources and Amenities for Other Physical Activity Resources Shown by Location



Hunting, Fishing, Hiking and Horseback Riding

There are two resources that lie outside of city limits: a trail on public land that can be used for hiking or horseback riding, and an area on private land that allows hunting and fishing.

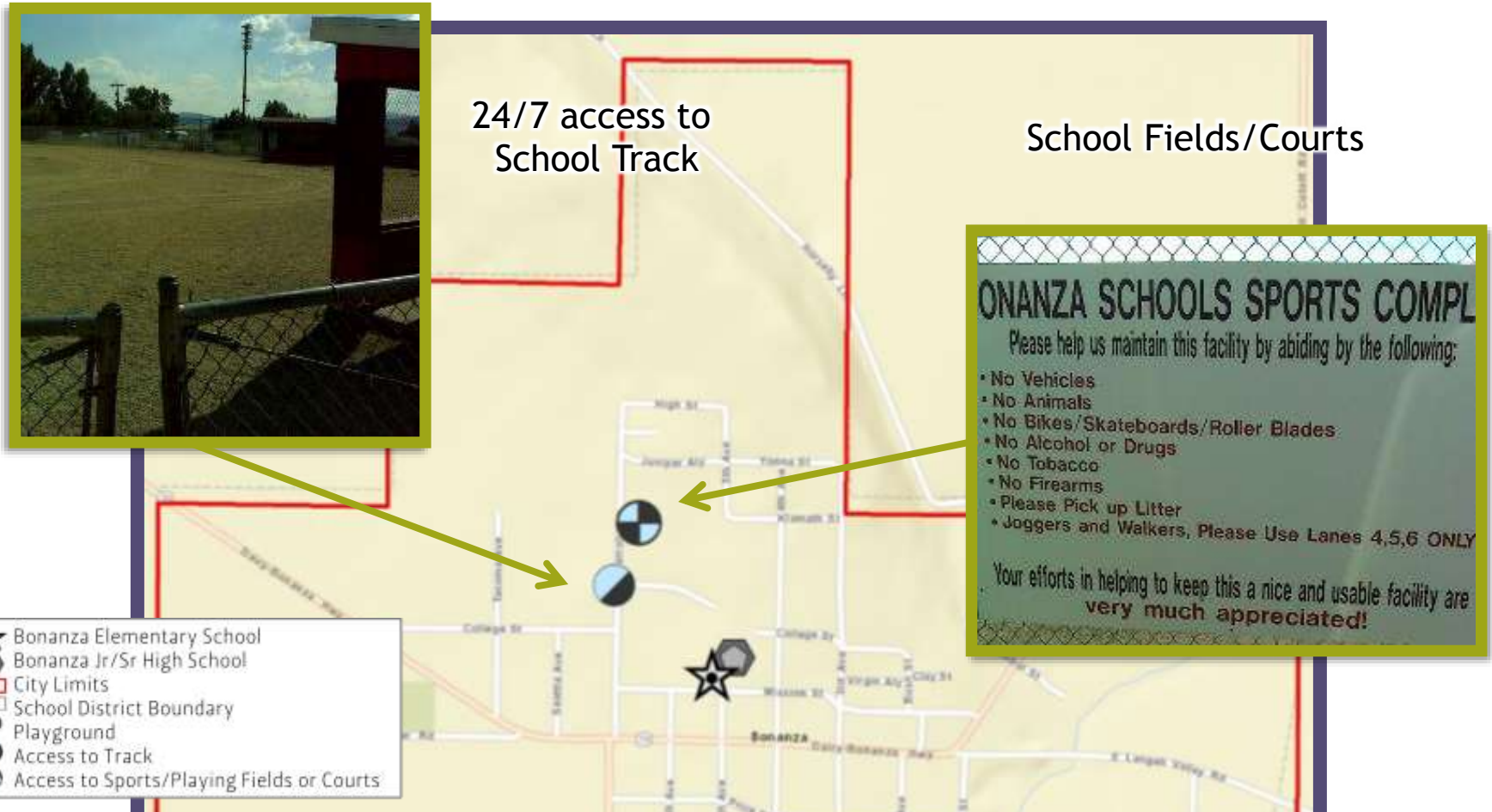
- ★ Bonanza Elementary School
- ⬡ Bonanza Jr/Sr High School
- ▭ City Limits
- ▭ School District Boundary
- Other Physical Activity Resource

Resources and Amenities for Other Physical Activity Resources Shown by Location



Within Bonanza city limits, there are three Sports/Playing fields or courts: one new field that can be used for a variety of activities like baseball/softball or soccer, and a newly updated tennis court, a basketball court and horse shoe pits (these last three associated with Bonanza's city park).

School Physical Activity Resources Shown by Location



School physical activity (PA) resources play a valuable role in both adults and children's activity in rural communities. School PA resources that are available to the Bonanza community include sports/playing fields and track, as well as playgrounds at the elementary school.

Ease of Access to Resources

- Spatial accessibility is relative: if you have a car and gas money, your spatial access to resources is potentially only limited by how much time you want to spend in the car. As our goal is to include all potential community members, not just those with a means of transportation, we analyzed the proportion of community members who have “Easy Access” to resources.
- We described Easy Access as being located within a ¼ mile distance to a resource category.
- While Bonanza does have some food and physical activity (PA) resources located close-in, much of the PA and healthy food resources are located outside of city limits and often upwards of 20 miles away.
- Resources have been aggregated into 6 categories: ○ Low/No Cost Outdoor PA, ○ Low/No Cost Indoor PA, ○ Fee-Based Outdoor PA, ○ Fee-Based Indoor PA, ○ Local Agriculture, Grocery and Food Assistance, ○ Fast Food/Convenience Store and Restaurant

Low/No Cost PA Resources

Community Centers
Public lands/Parks & Playgrounds
Sports Fields/Courts

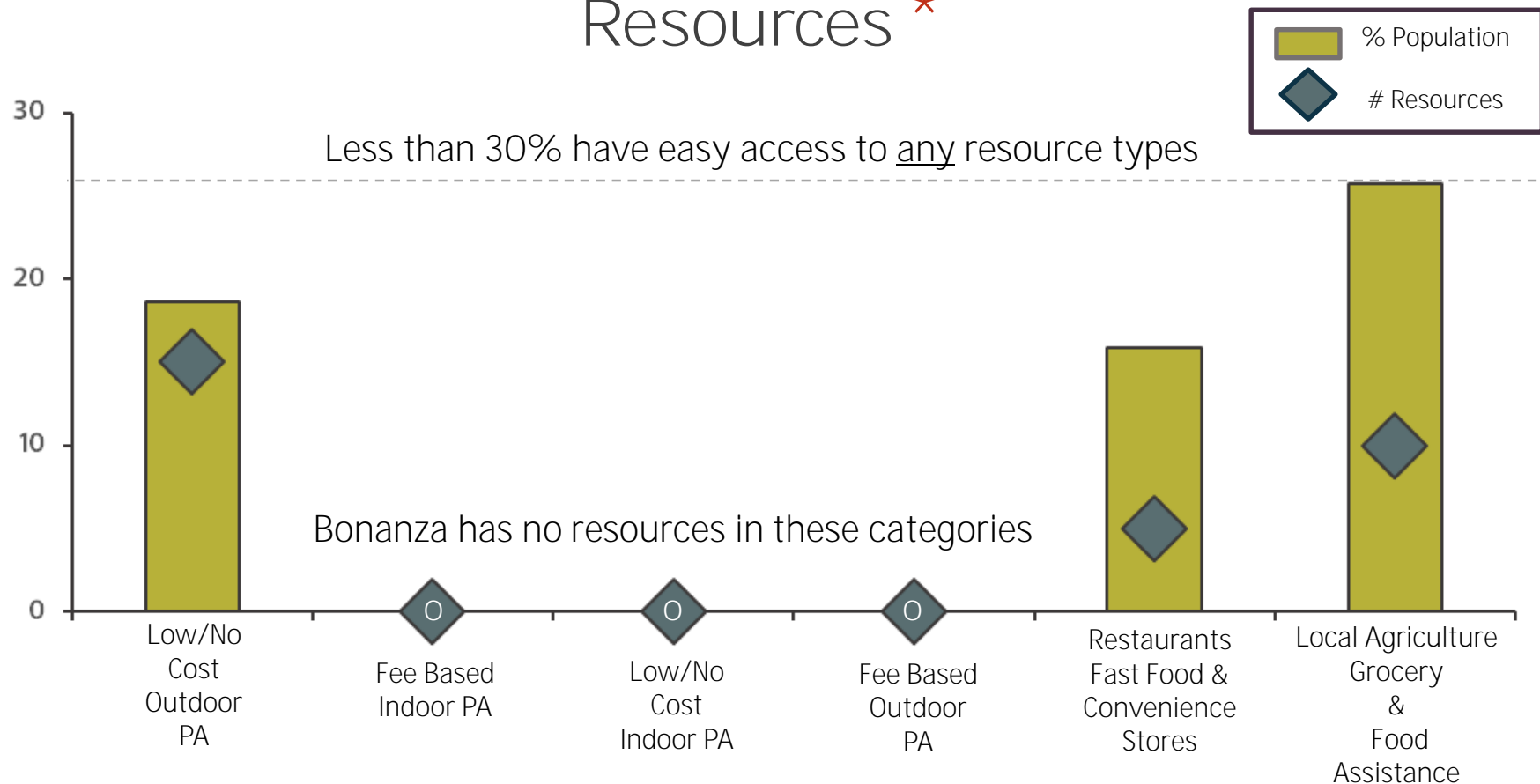
Fee-Based PA Resources

Golf Courses
Equestrian centers
Exercise/Fitness centers

Local Agriculture

Farm stands/U-picks
Farmer’s markets
Home-based sales (Eggs, Milk, Veggies)
Hunting/Fishing/Gleaning Supports

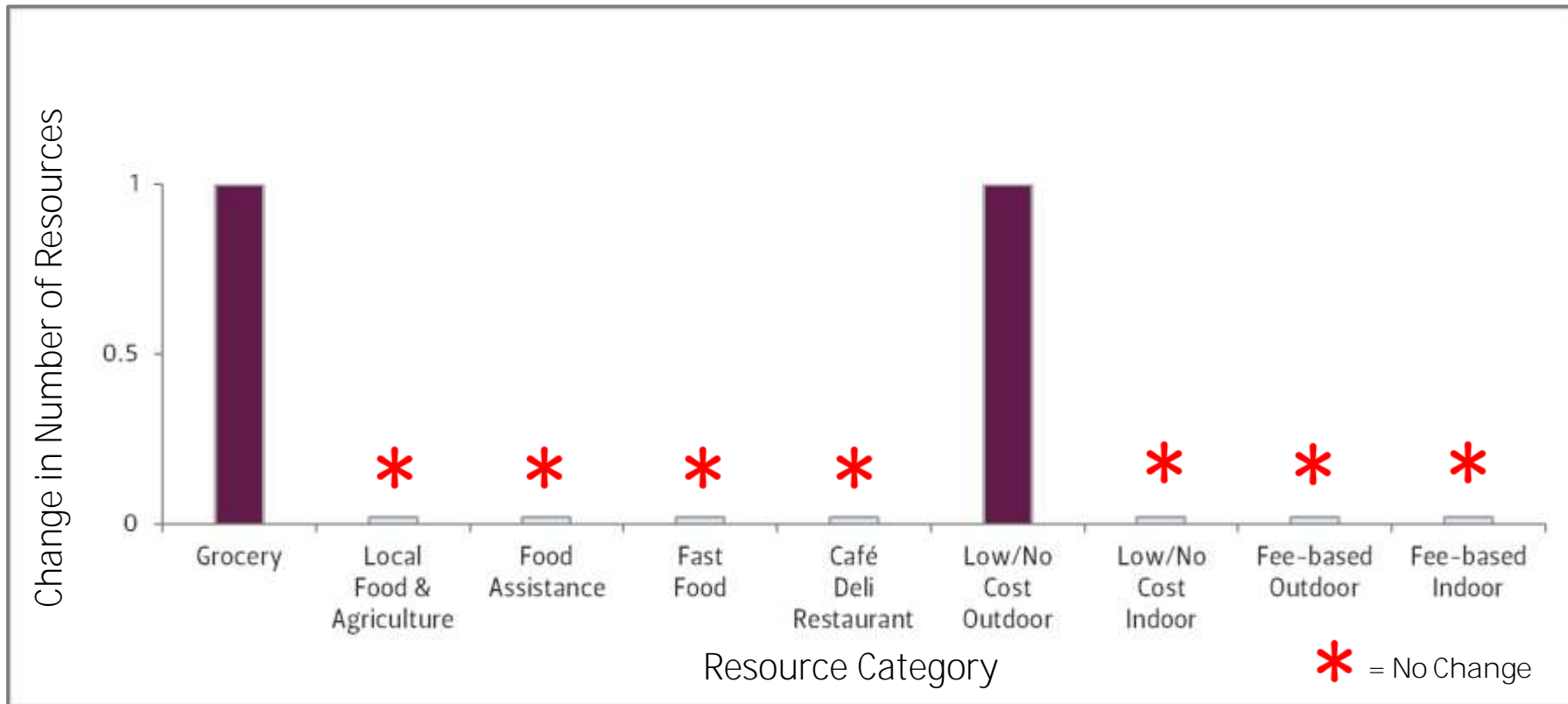
Ease of Access to Food and Physical Activity Resources *



* Analyzed via a ¼ mile network buffer: approximately a 5 to 10 minute walk

Ease of access to resources remained relatively stable with some nominal changes: a 1% increase in access to Low/No Cost Outdoor PA; however, there remain no resources in any of the other PA categories in the community. Access remained stable across all food categories with less than 30% of the population having easy access to any resource category.

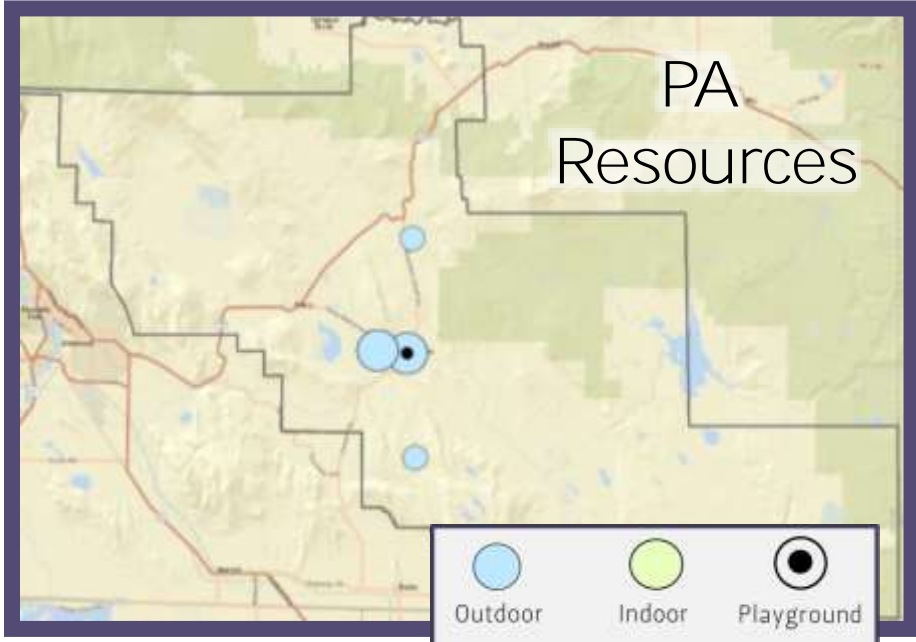
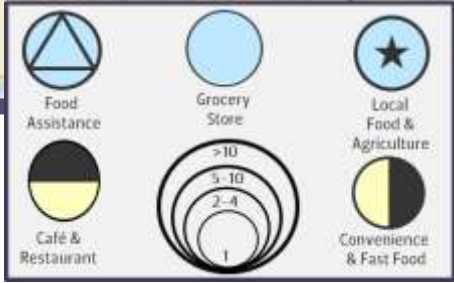
Change in Number of Food and Physical Activity Resources



Overall, there were no changes in the raw number of resources in most resource categories, the exceptions being the addition of one Grocery Stores and one Low/No Cost Outdoor PA Resource.

Conclusions

In rural communities, a lack of available resources and accessibility to existing resources may make developing and maintaining healthy dietary and activity habits difficult.



Resources are available, but spread out or only located within city limits, making them inaccessible to those without a means of transportation. Supports need to be affordable and accessible from where people live and work