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.
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.
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.
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 Estacada was enabled by the Oregon Environmental Public Health Tracking Program.

Adult Body Mass Index (BMI)
- 6% Healthy (BMI 18–24.9) Decrease 22%
- 85% Overweight (BMI 25–29.9) Increase 25%
- 9% Obese (BMI >30) Decrease 3%

*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 School District Catchment for two schools and city limits.

Bonanza includes 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 Zone

Most populated areas were used to define the “study zone” to determine the food and PA resources relevant to where most people live.

The study zone (blue) captures 90% of Bonanza’s population

Defining the study zone helped limit time and travel distance for Bonanza community members who mapped resources and collected survey data, while not limiting the ability to capture data that is important to the community.
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.

Bonanza has a small grocery store in town. However, Bonanza is still considered a food desert, as most residents must travel 10 miles or more to reach a store.

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).
The Bonanza General Store is a small grocery located within city limits and is one of the SNAP retailers in town.

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

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 Bonanza, meaning grocery access is car dependent for most of Bonanza.
Local Food, Agriculture, and Food Assistance

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

Outside of Bonanza City Limits there are four farm stands/u-picks and a fish cleaning station.
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.
Bonanza has three Café, Deli, Restaurant type eating establishments and two Convenience Stores.
Resources for Cafés, Delis, Restaurants, and Convenience Stores Shown by Location

- Bonanza Elementary School
- Convenience Stores
- Convenience Store W/ Gas
- Restaurants
- City Limits
- School Catchment Area

Outside of city limits there is one Convenience Store and one Sit-down restaurant with wait staff.
Resources for Cafés, Delis, Restaurants and Convenience Stores Shown by Location

Within city limits there is one Convenience Store and two Sit-down restaurants with wait staff.
Public Parks and Playgrounds

Bonanza has one Public Park with a variety of amenities and three Playgrounds, all within city limits.

- Bonanza Elementary School
- Bonanza Jr/Sr High School
- City Limits
- School Catchment Area

- Public Park
- Fees
- Number of Amenities (1-7)
- Playground at location
Resources and Amenities for Public Parks and Playgrounds Shown by Location

Bonanza Elementary School
Bonanza Jr/Sr High School
City Limits
School Catchment Area

Public Park
Fees
Number of Amenities (1-7)
Playground at location

Resources and Amenities include three playgrounds, basketball courts, horseshoe pits, restrooms, picnic shelters, and areas for dog walking, all of which are free.
Bonanza has a variety of other physical activity options that lie outside of city limits. All of these resources are located outdoor and may or may not require fees.
Resources and Amenities for Other Physical Activity Shown by Location

Canoeing, Hiking, Horseback Riding, Fishing, and Swimming Some day use fees

Beaches/Waterways

Camping, Hunting

Trails, Hiking, Horseback Riding

All resources are located outside of city limits on a mix of private and public lands
School Physical Activity Resources

The school district allows public access to the track, gymnasium, playgrounds and various sports/playing fields and courts.
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, the bulk of the PA and Local Food resources are located outside of city limits.

- 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

<table>
<thead>
<tr>
<th>Low/No Cost PA Resources</th>
<th>Fee-Based PA Resources</th>
<th>Local Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Centers</td>
<td>Golf Courses</td>
<td>Farm stands/U-picks</td>
</tr>
<tr>
<td>Public lands/Parks &amp; Playgrounds</td>
<td>Equestrian centers</td>
<td>Farmer’s markets</td>
</tr>
<tr>
<td>Sports Fields/Courts</td>
<td>Exercise/Fitness centers</td>
<td>Home-based sales (Eggs, Milk, Veggies)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hunting/Fishing/Gleaning Supports</td>
</tr>
</tbody>
</table>
Ease of Access to Resources

Analyzed via a \( \frac{1}{4} \) mile network buffer: approximately a 5 to 10 minute walk

- **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

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Proportion of Bonanza Population within 1/4 mile of Food and Physical Activity Resources

Less than 20% have easy access to any resource types

- Low/No Cost Outdoor PA
- Low/No Cost Indoor PA
- Fee-Based Outdoor PA
- Fee-Based Indoor PA
- Locally Ag, Grocery Stores, & Food Assistance
- Convenience Stores Fast Food and Restaurants

Resources Access Lacking

% Population / # Resources
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.

Food Resources

Resources are available, but spread out and often located far from the town center, making them inaccessible to those without a means of transportation. Supports need to be affordable and accessible from where people live and work.

PA Resources