

# Rural Community Food and Physical Activity Environment

## Estacada Audit Result 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 Erin Devlin and Beret Halverson (Clackamas 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

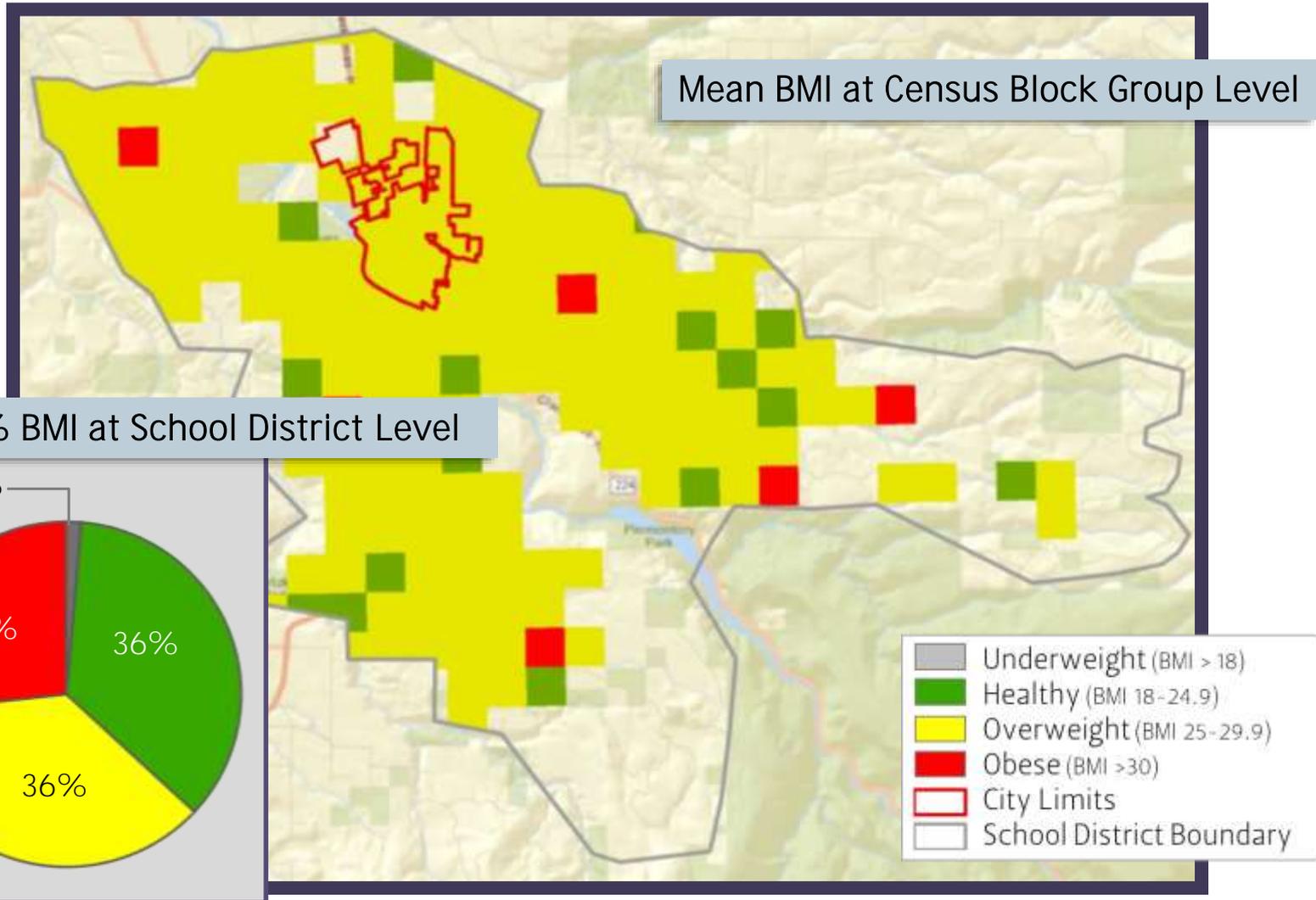


Many risk factors have been associated with childhood obesity, including rural residency

- 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

# Estacada Community - Adult Weight Health (BMI)

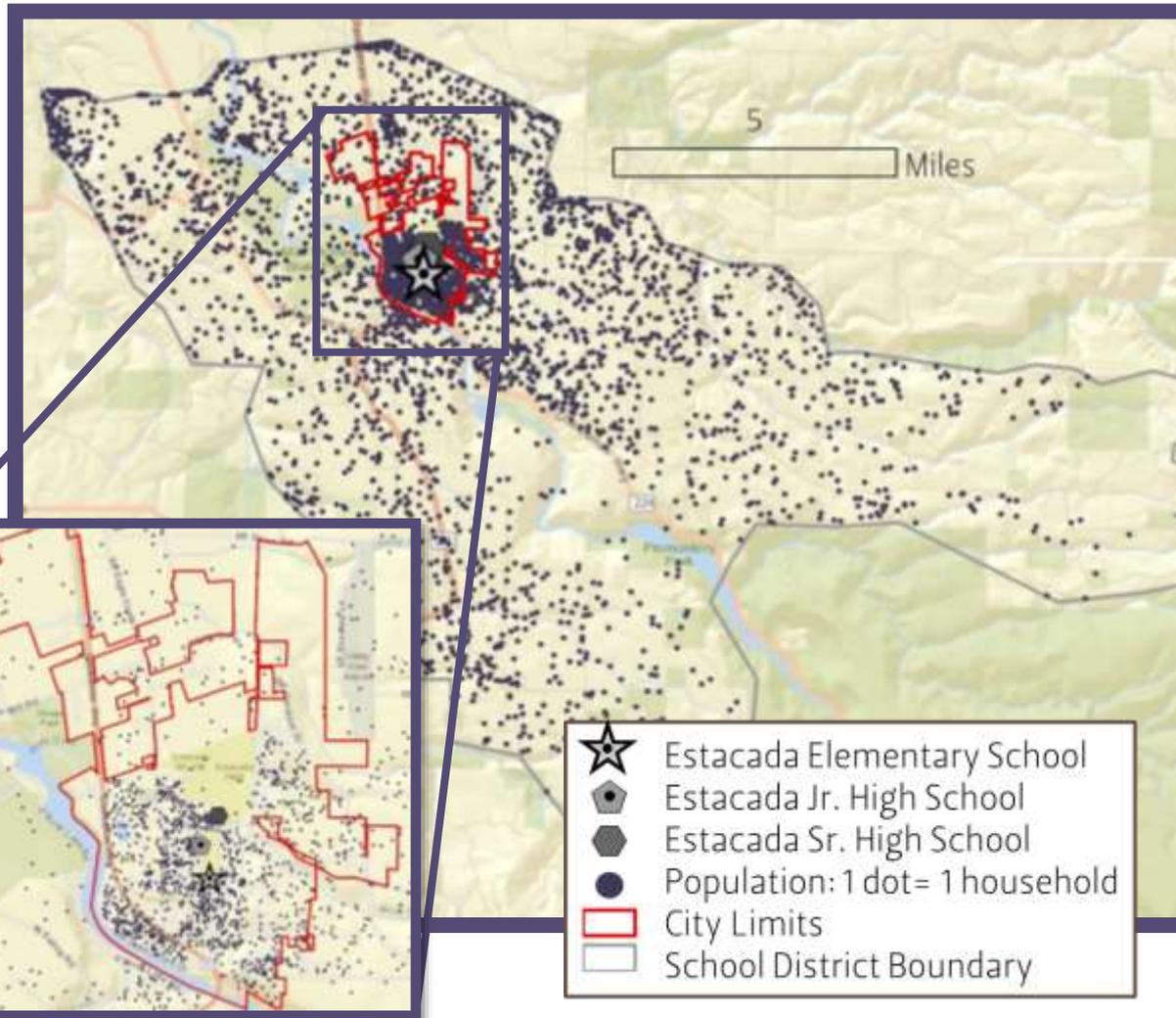
Visualizing weight health in Estacada was enabled by the \*Oregon Environmental Public Health Tracking Program



\*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 Three Schools and Estacada City Limits.



Within the School District Boundary, Estacada has 10516 people living in 4246 households (2010 census) spatially dispersed in the school district boundary, an area of about 70 sq. mi. 2695 individuals reside within Estacada’s city limits.

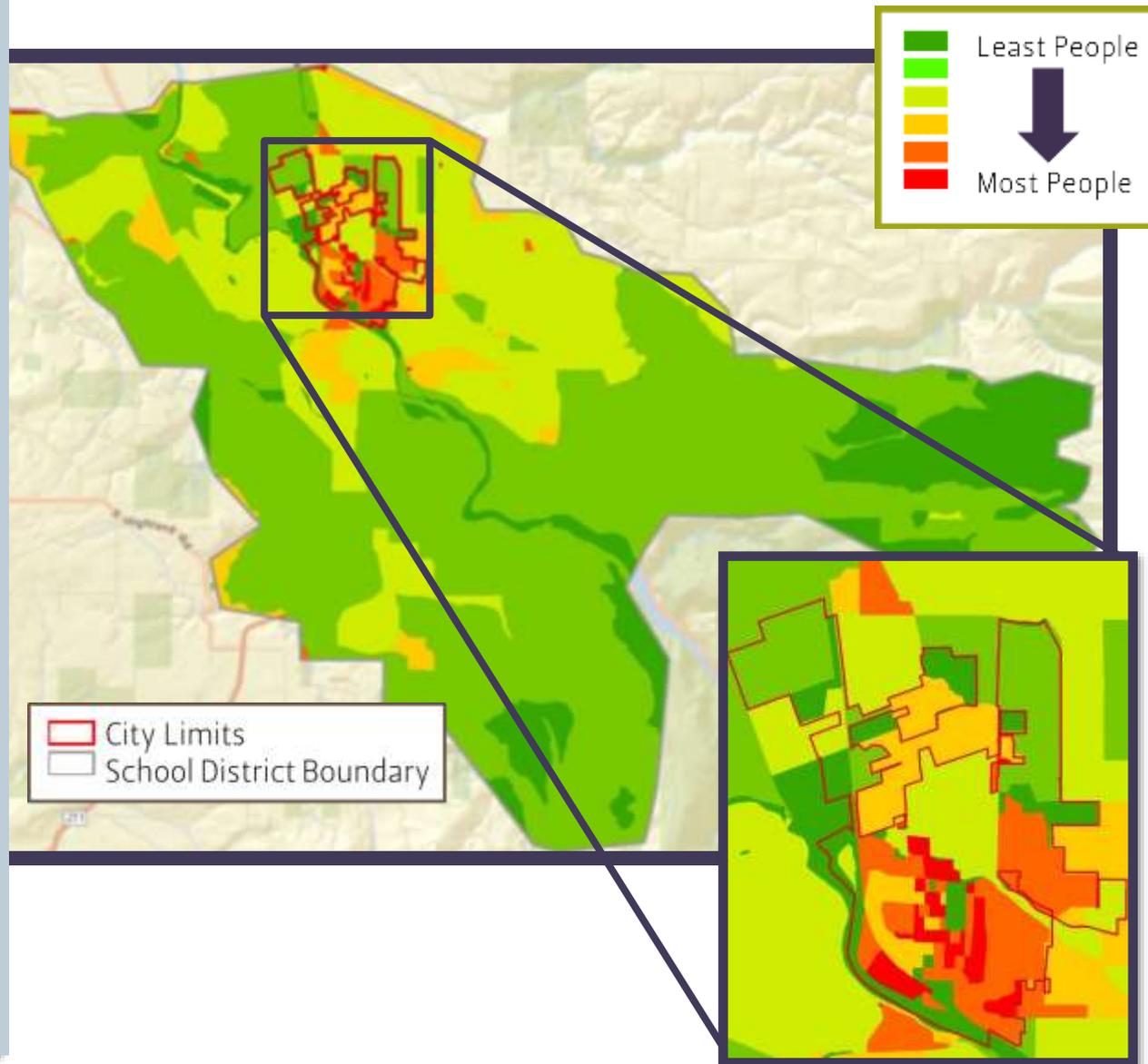
Easy access to locally available resources is determined by proximity, transportation mode, ability to drive, cost & household income, etc. which will vary among families.

# Using Maps to Show Where Most People Live...

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

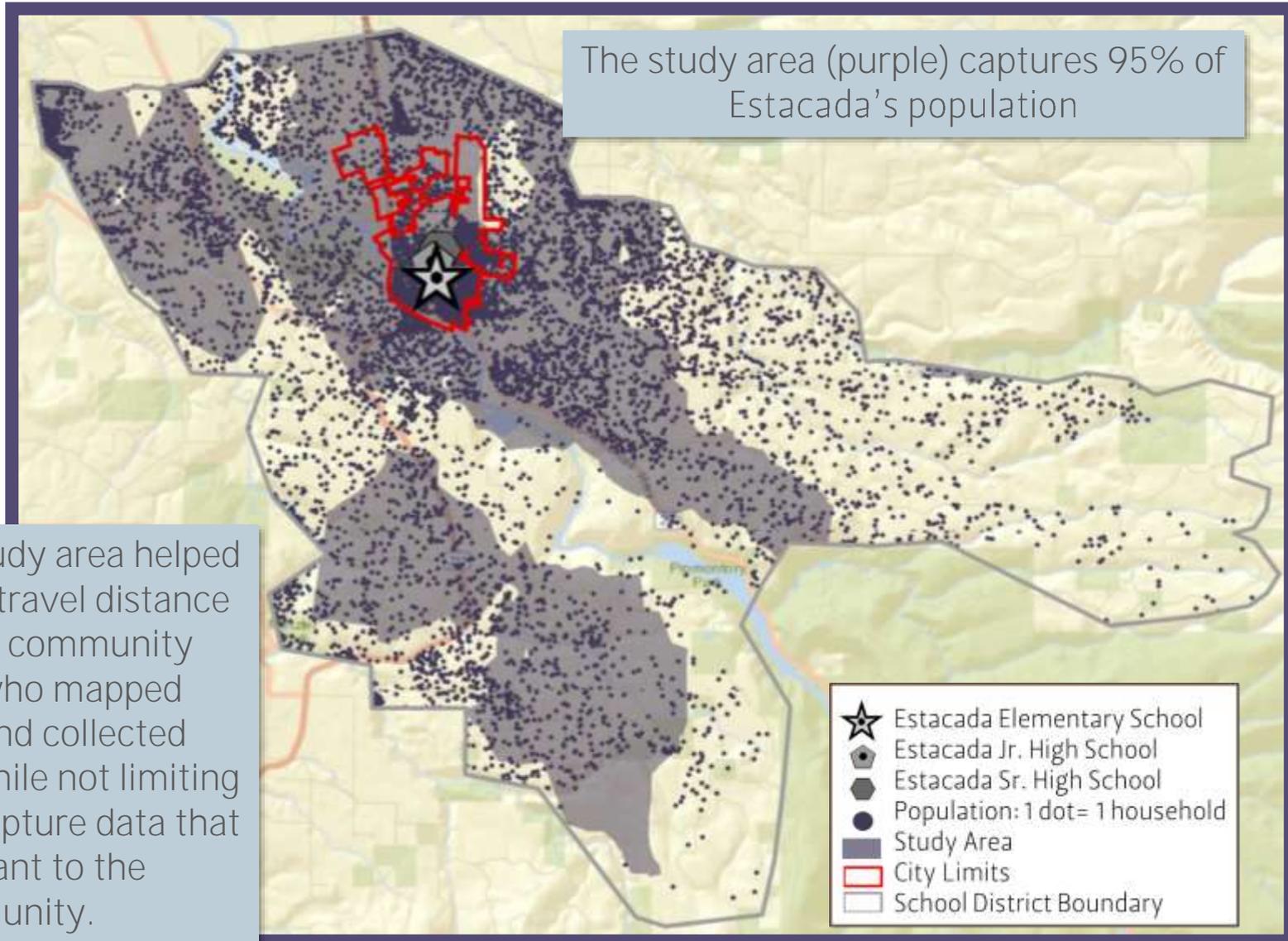
The geographic centers of these clusters were used to create network buffers, ranging in size from 2 to 5 miles, that captured 85% or more of the community population.

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



# Using Maps to Show Where Most People Live: Study Area

A “study area” was defined using the areas most densely populated, in order to determine the food and physical activity resources relevant to where most people live.

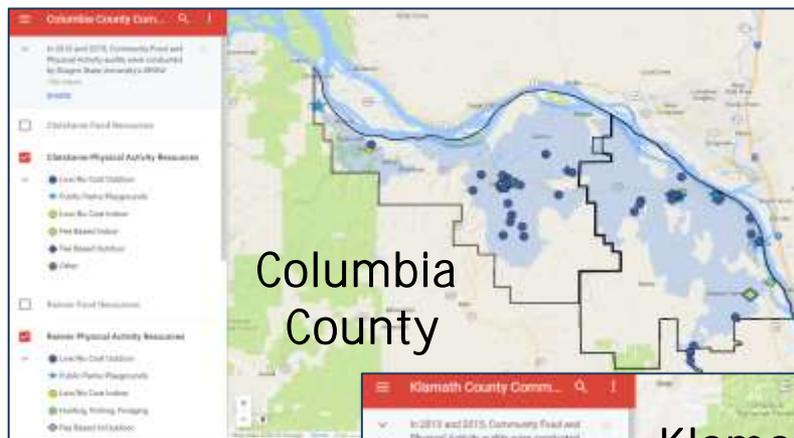


# Resource Maps

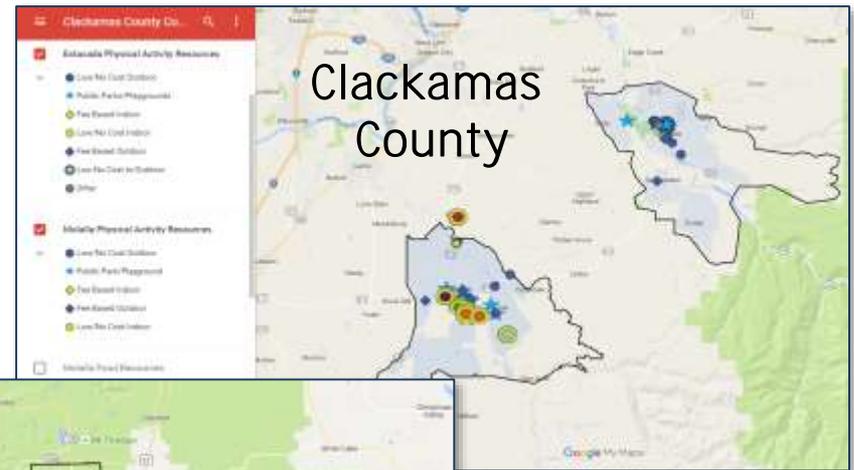
We collected information on resources in each community in 2014 and again in 2016 to assess any changes in resource availability and accessibility in our communities.

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:

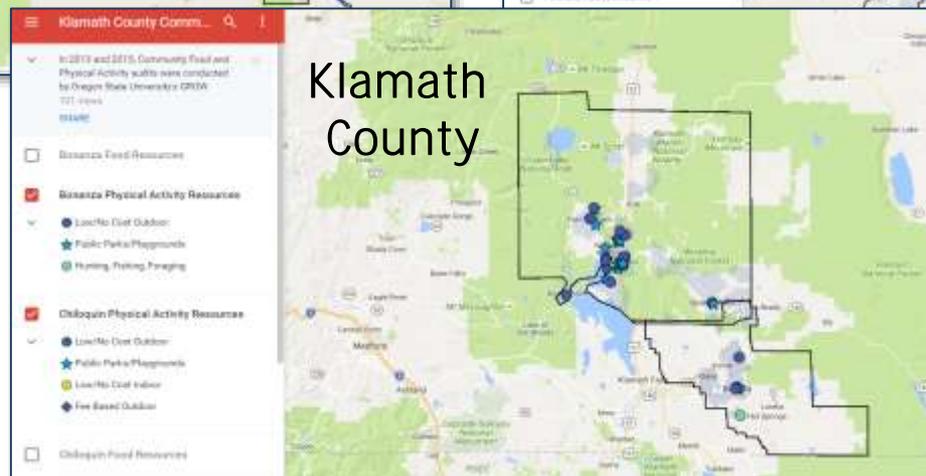
<http://extension.oregonstate.edu/growthkc/outputs/maps>



Columbia County



Clackamas County



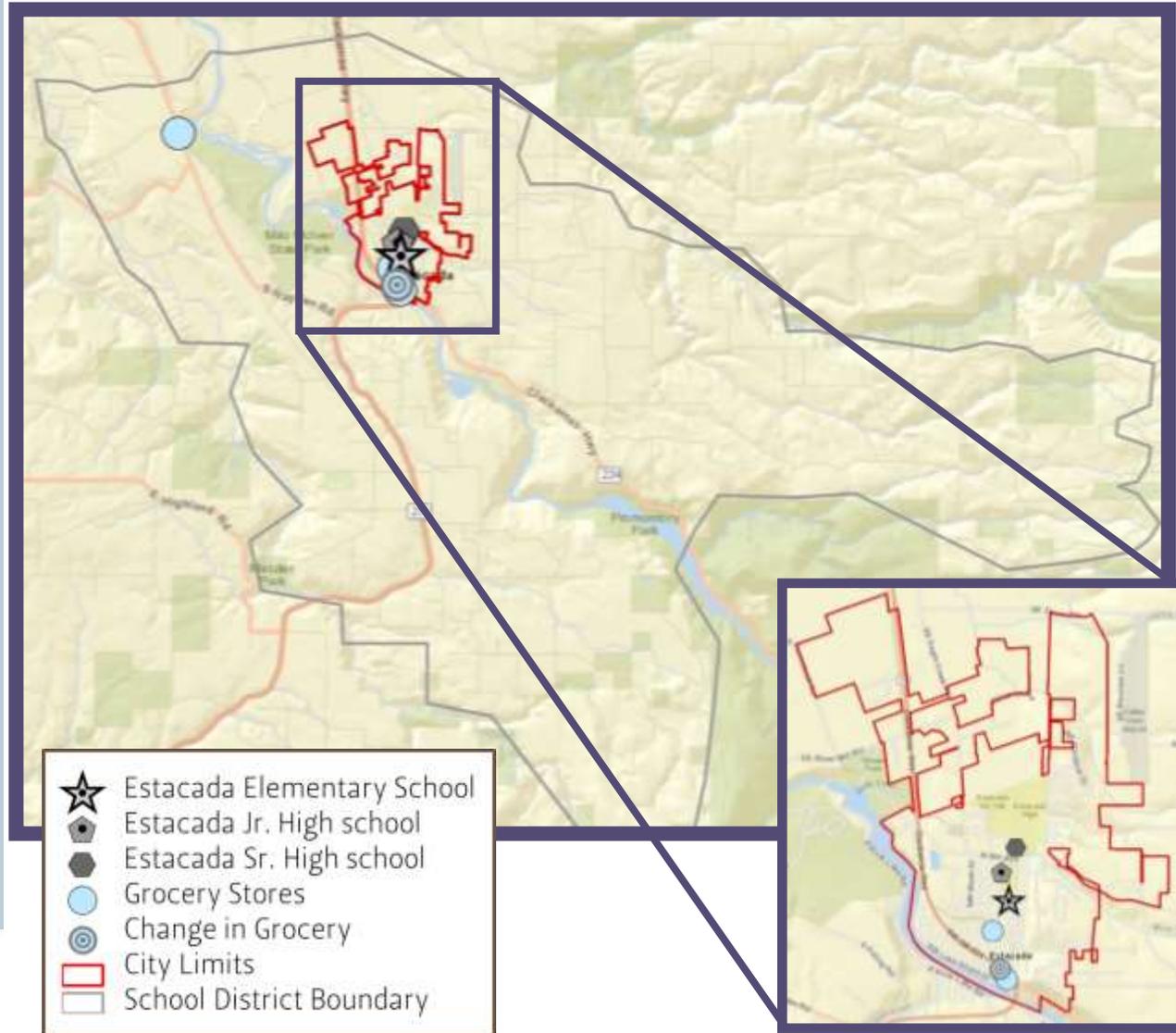
Klamath County

# Grocery Store Locations

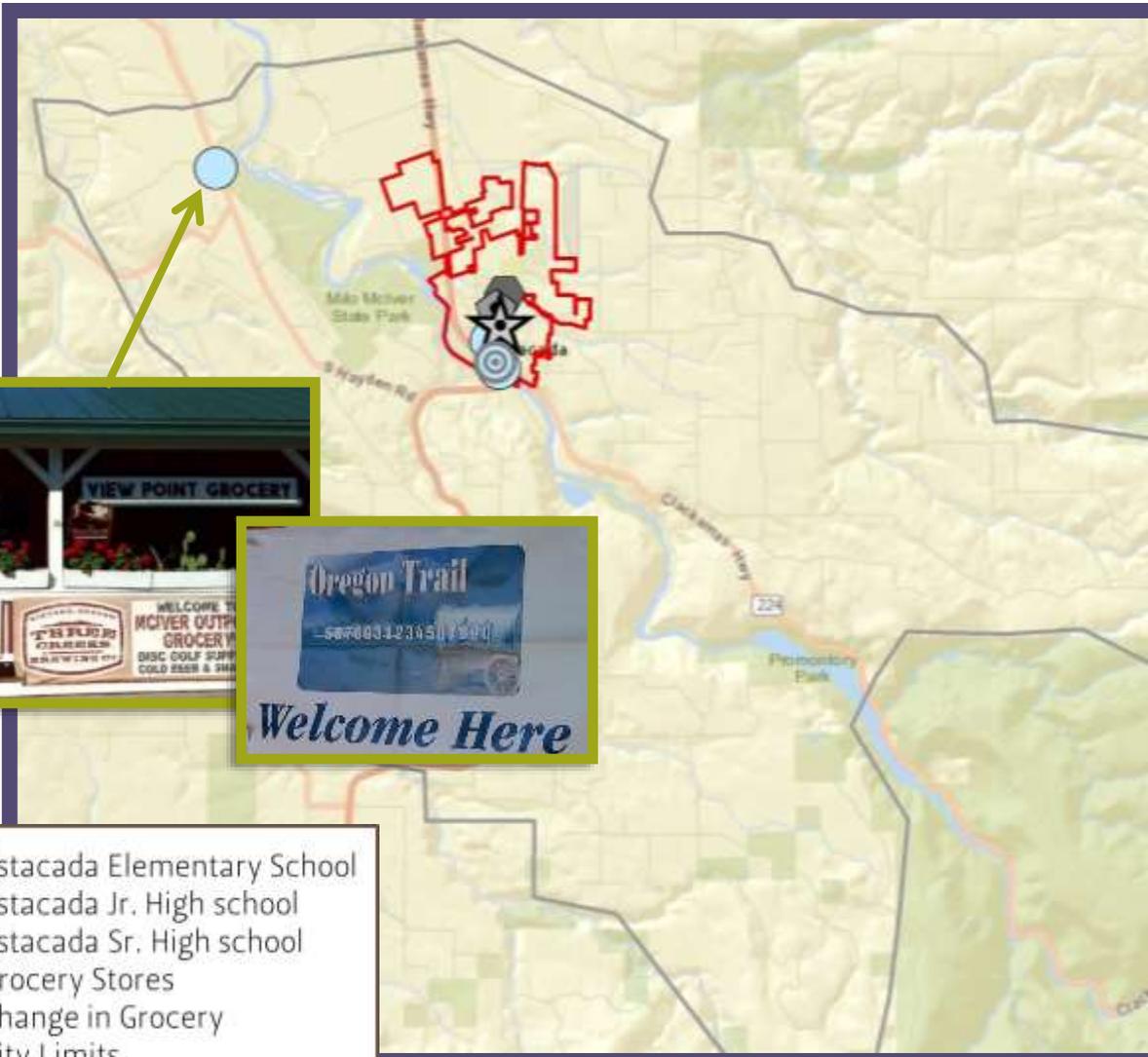
According to the Healthy Food Financing Initiative, a food desert is an area where a larger proportion of people have low or no access to a supermarket or grocery store

Estacada has four grocery stores, three within city limits and one outside. However, Estacada is still considered a partial food desert.

Based on a measure of availability of healthy food options, the “Modified Retail Food Environmental Index,” Estacada scored “12.5” on scale ranging from 0 (no access to healthy food) to 100 (only access to healthy food)



# Resources for Groceries Shown by Location



- ★ Estacada Elementary School
- Estacada Jr. High school
- Estacada Sr. High school
- Grocery Stores
- Change in Grocery
- ▭ City Limits
- ▭ School District Boundary

There was no change in the number or location of grocery stores that fell outside of Estacada City Limits. *The View Point Grocery*, a small store and one of the SNAP authorized dealers in the Estacada area, is the only grocery that lies outside of city limits.

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

# Change in Resources for Groceries Shown by Location



Within Estacada there remain three grocery stores; a full service Thriftway, a discount or bargain outlet store, and a smaller market style grocery. The discount grocer is under new ownership and has changed it's name to "River Market"

All of these grocers are SNAP authorized retailers. Additionally, the Thriftway is also a WIC (Woman Infants and Children) authorized retailers.

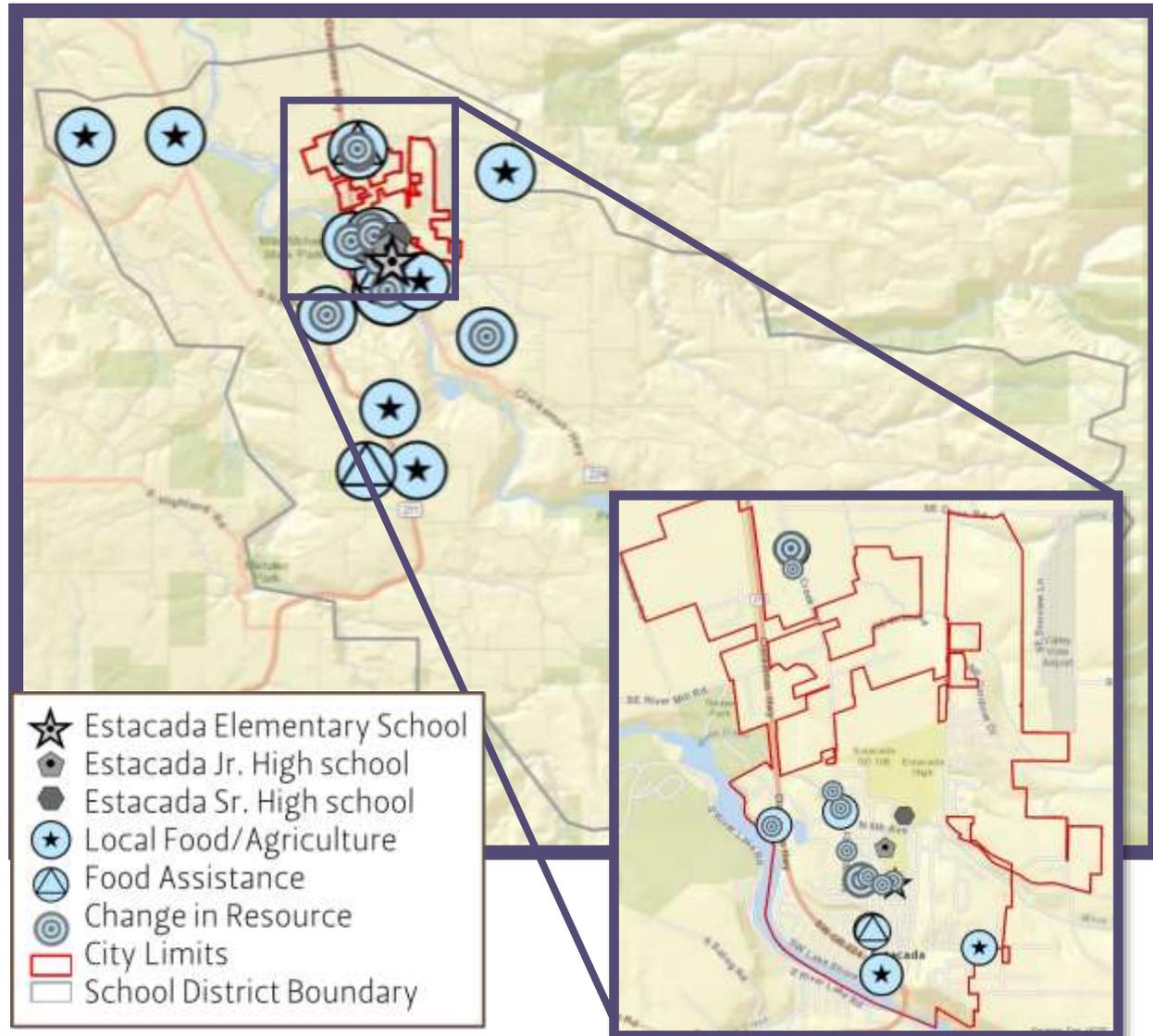
WIC is a SNAP program that provides supplemental foods, health care referrals, and nutrition education for low income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk.

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

Estacada 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

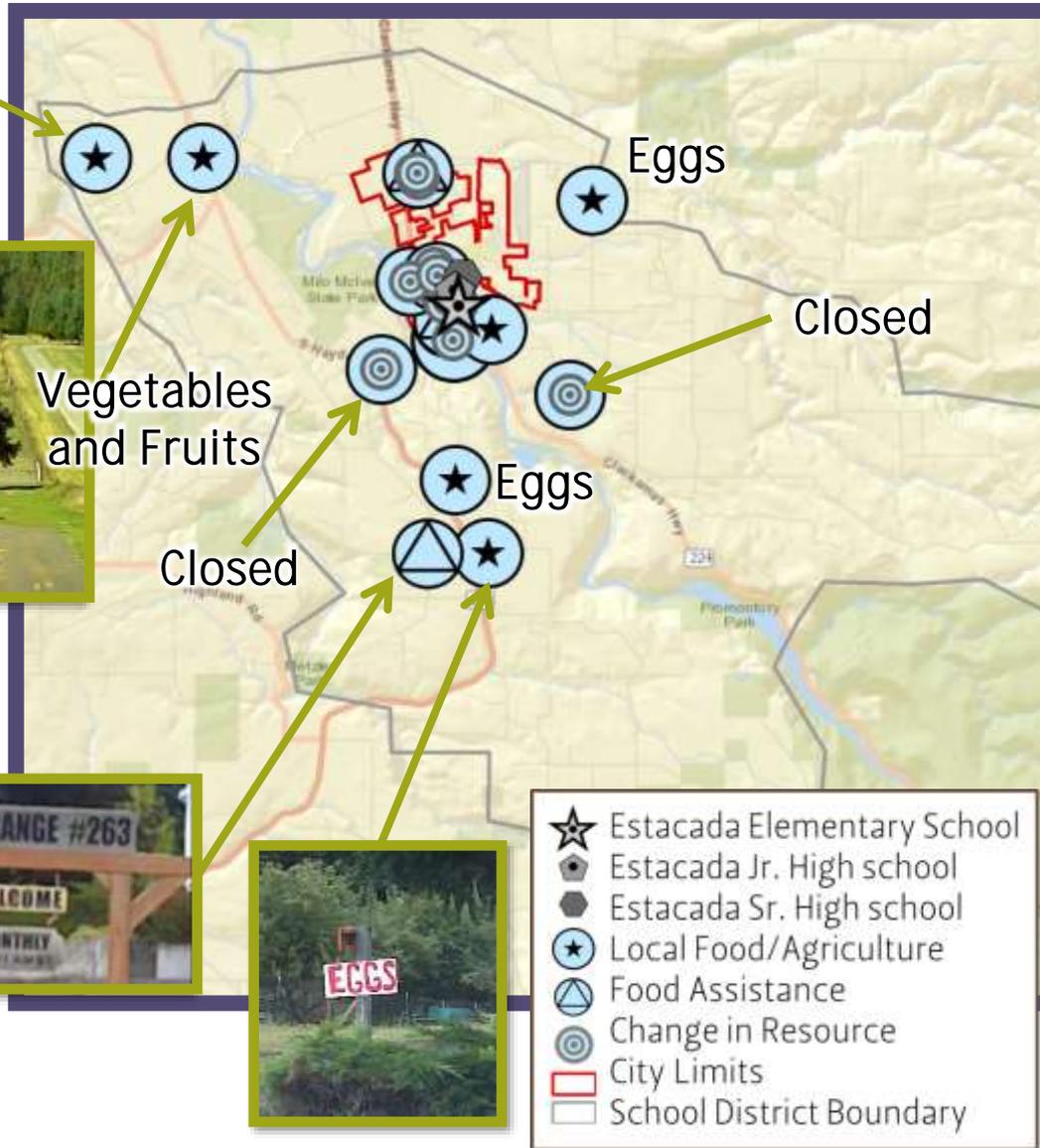


# Change in Resources for Local Food, Agriculture & Food Assistance Shown by Location



Vegetables and Fruits

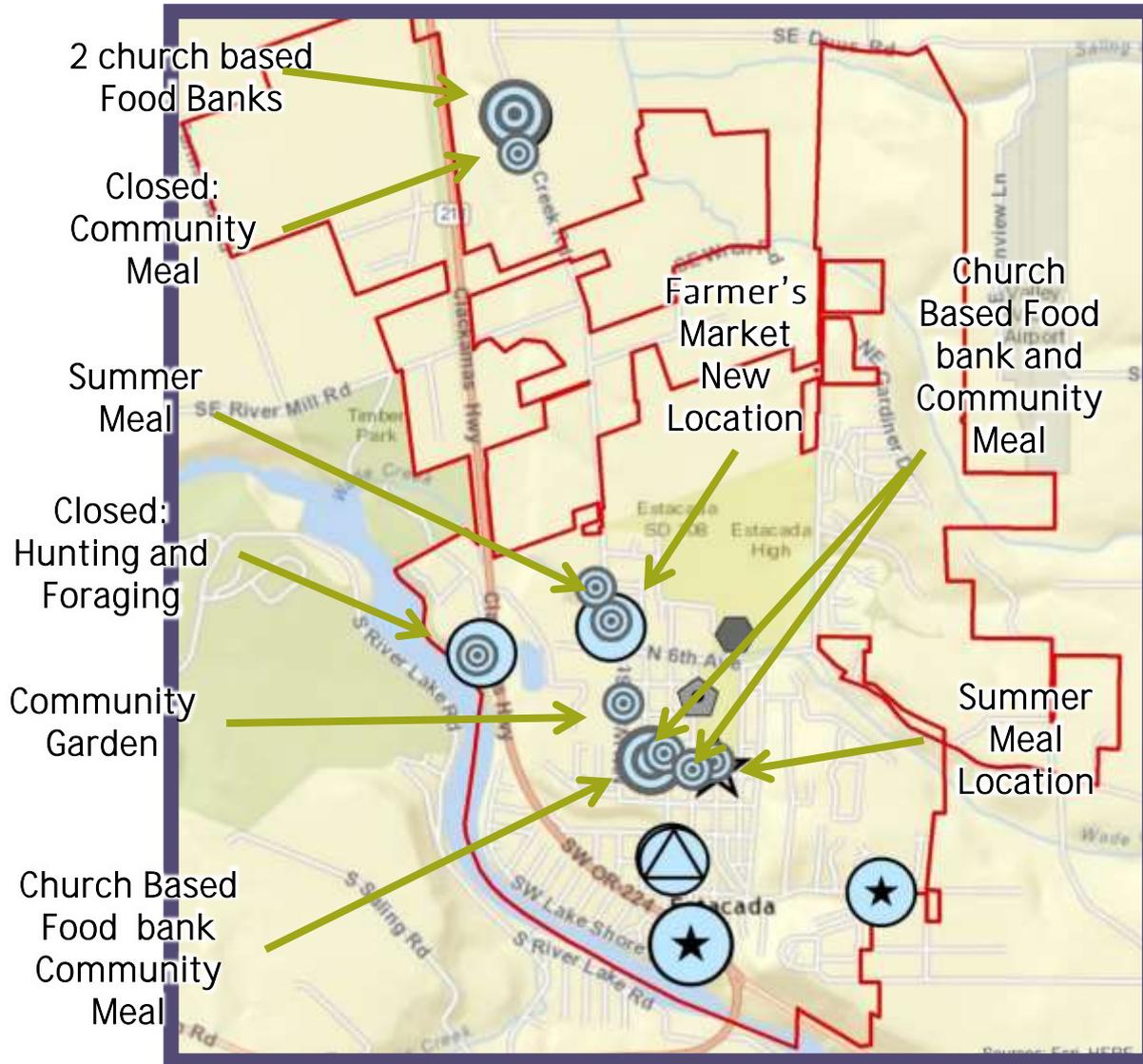
Closed



- ★ Estacada Elementary School
- 🏠 Estacada Jr. High school
- 🏠 Estacada Sr. High school
- ★ Local Food/Agriculture
- △ Food Assistance
- 🎯 Change in Resource
- 🔴 City Limits
- ⬜ School District Boundary

Estacada has 6 local food/agriculture and food assistance options that lie outside of city limits; including a farm stand/u-pick type operation, as well as a number of home based retailers that offer things like eggs and vegetables for sale. The lone food assistance resource are the community meals (monthly breakfasts) offered at the Springwater Grange. Since the 2015 mapping two homebased food retailers have closed.

# Change in Resources for Local Food, Agriculture & Food Assistance Shown by Location



Within city limits, Estacada has a seasonal farmer's market, now located at the Wade Creek House, which is also the location of a home based food retailer and a church based community garden.

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There are a number of summer meal program sites some offering breakfast as well as lunch. Local churches are also offering a number of food assistance resources to community members; there are four church based food banks/pantries and a community meal.

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Since the 2014 mapping, two resources were removed: the community meal at the Estacada 1<sup>st</sup> Baptist church and the foraging supports at the Ranger station, as the signs promoting those resources have been removed.

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

Two Church  
Based Food  
Bank/Pantries

Summer Meal  
Site

Eggs

Community  
Garden

Mobile Food  
Pantry /  
Community  
Meal

Hunting and  
Fishing  
Supports



Within city limits, Estacada has a home based food vendor and a seasonal farmer's market – both located at the Wade Creek House, Hunting and Fishing supports, a summer meal program with a number of locations, and two church facilitated community meals. Local churches also offer a number of other supports for food assistance, including three food bank/pantries.

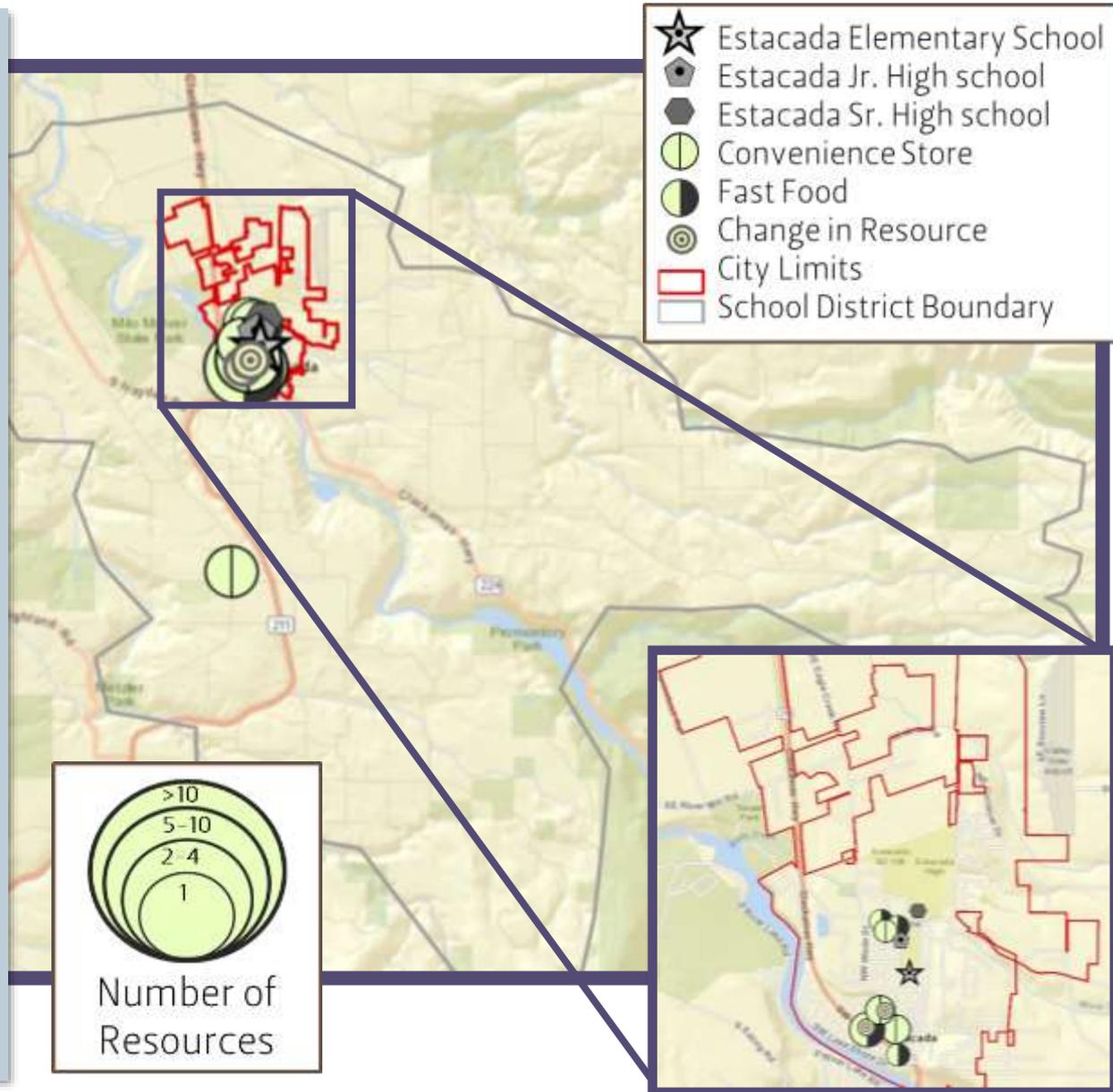
- ★ Estacada Elementary School
- ⬠ Estacada Jr. High School
- ⬠ Estacada Sr. High School
- ⊙ Food Assistance
- ⊙★ Local Food/Agriculture
- ⬠ City Limits
- ⬠ School District Boundary
- ⊙ Number of Resources

# Change in Resources for Convenience Stores and Fast Food

Estacada has six convenience stores, one located outside city limits and five located within. Estacada also has seven fast food establishments, all located within city limits.

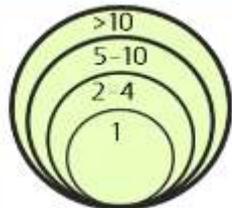
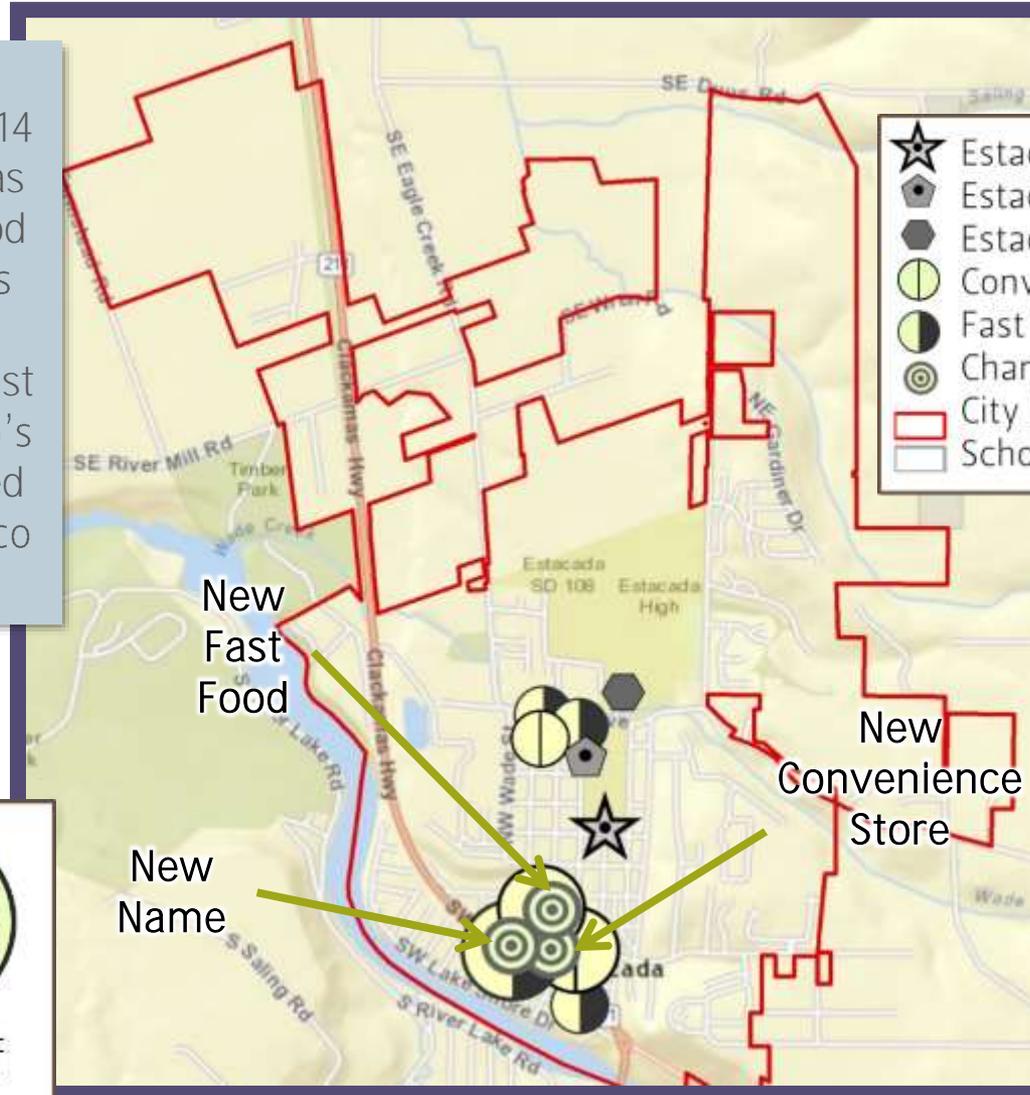
For our purposes here, fast food is considered any place that sells prepared foods or drinks and does not have seating, or if it does have seating, then it also has a drive through.

Estacada's "Modified Retail Food Environmental Index" score was 12.5. A lower score indicating a higher number of places that don't typically have healthy food and lower numbers of places that would typically have healthy food options.



# Change in Resources for Fast Food and Convenience Stores

Three changes have occurred since the 2014 Mapping: Estacada has gained both a fast food establishment (Lew's Drive In) and a Convenience Store (Just in Video). Finally, Rico's taco cart, has changed its name to Pepe's Taco Cart



Number of Resources

# Resources for Convenience Stores Shown by Location

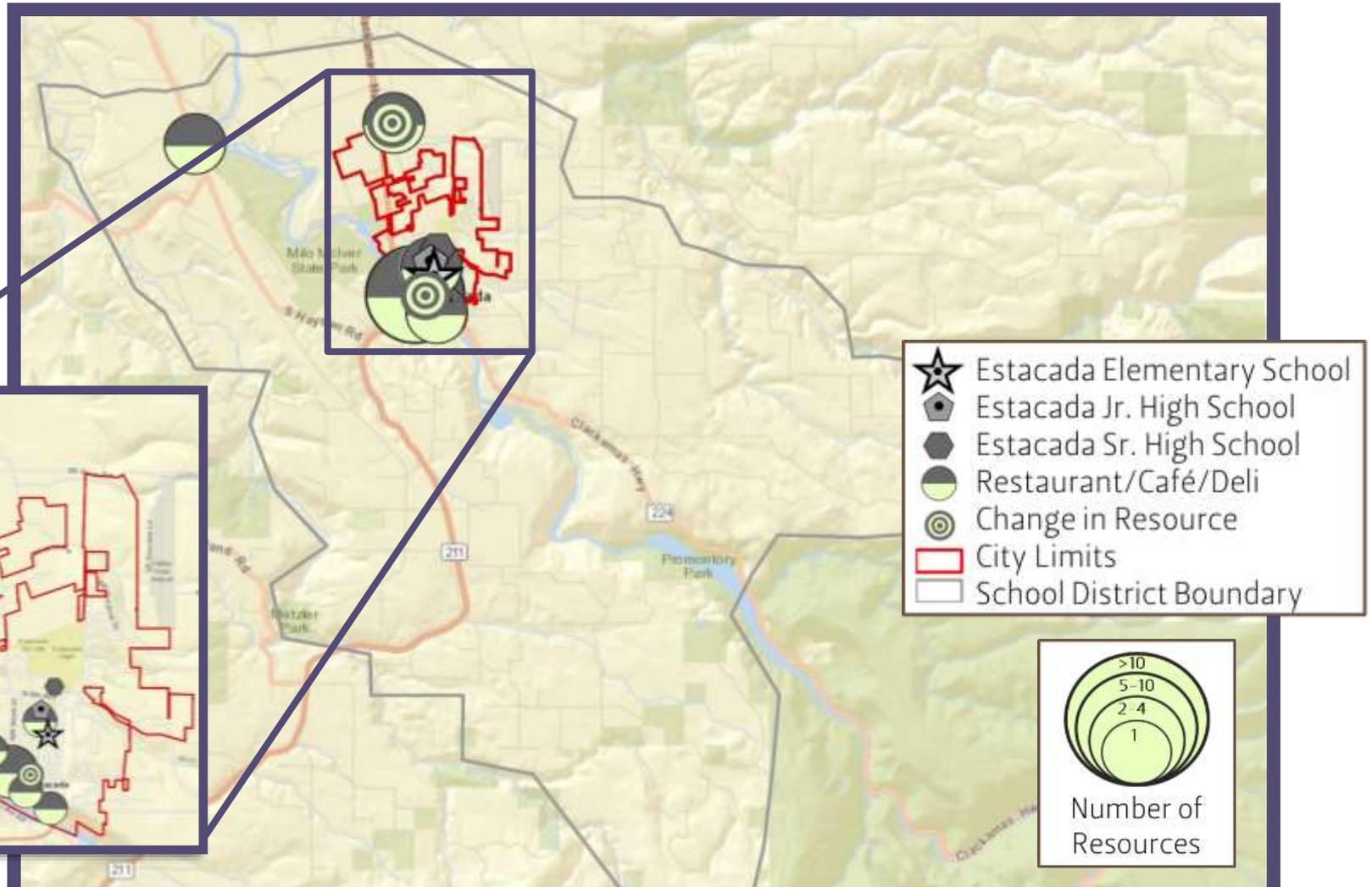
In addition to four convenience stores, Estacada's fast food environment consists of drive through coffee huts, food carts, national chains like A&W, as well as local establishments like Sparkey's take out pizza. SNAP benefits are accepted at some convenience stores.

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



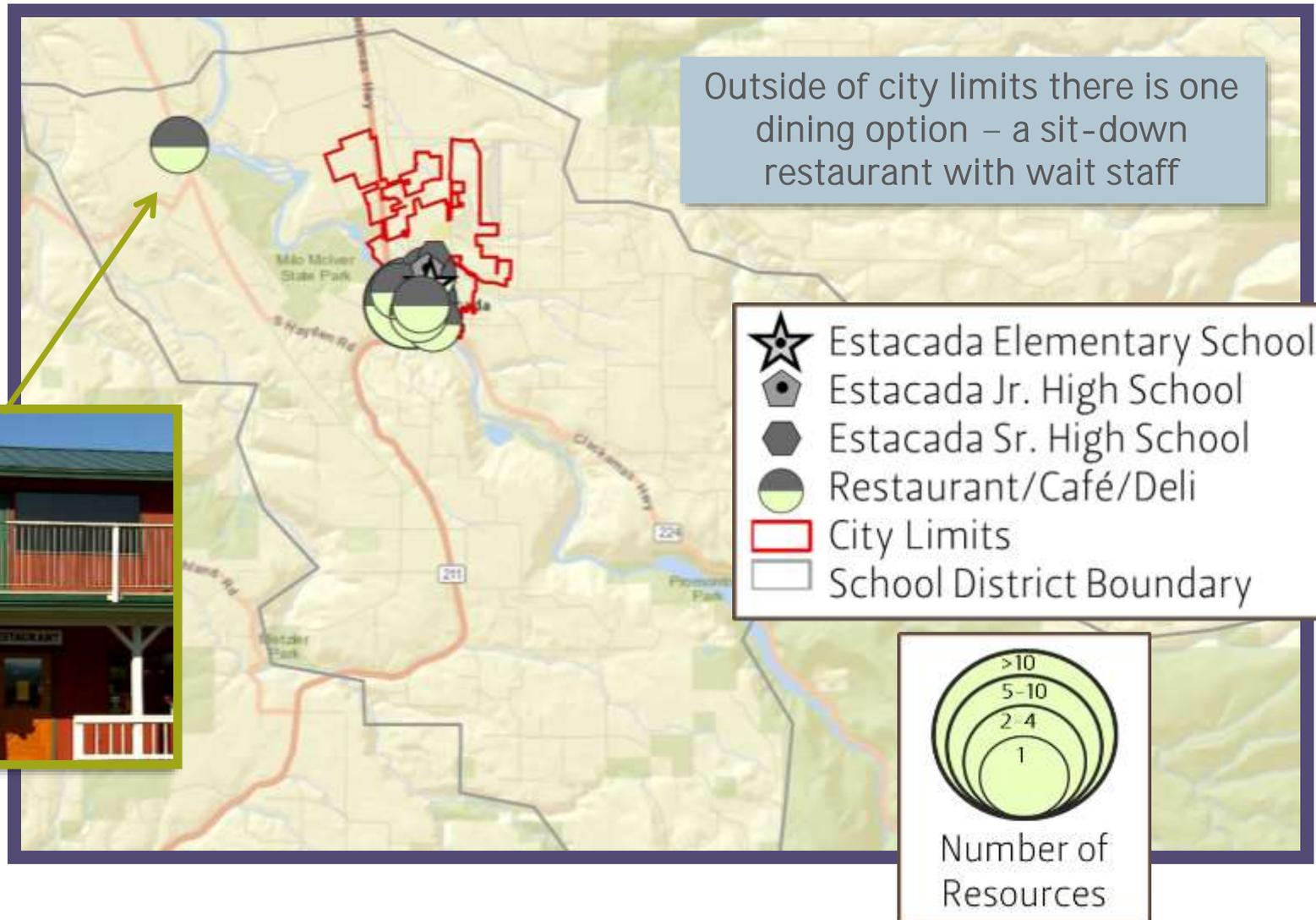
Not shown: Springwater Store located outside city limits

# Change in Resources for Cafés, Delis, and Restaurants



Estacada has 16 Café, Deli, Restaurant type eating establishments, all but one located within city limits. Two changes have occurred since the 2014 mapping: the Curinsville deli (located outside of city limits) is closed due to a fire and a new sit down restaurant – the Mason Jar – has opened in town.

# Resources for Cafés, Delis, & Restaurants Shown by Location



# Resources for Cafés, Delis, & Restaurants Shown by Location

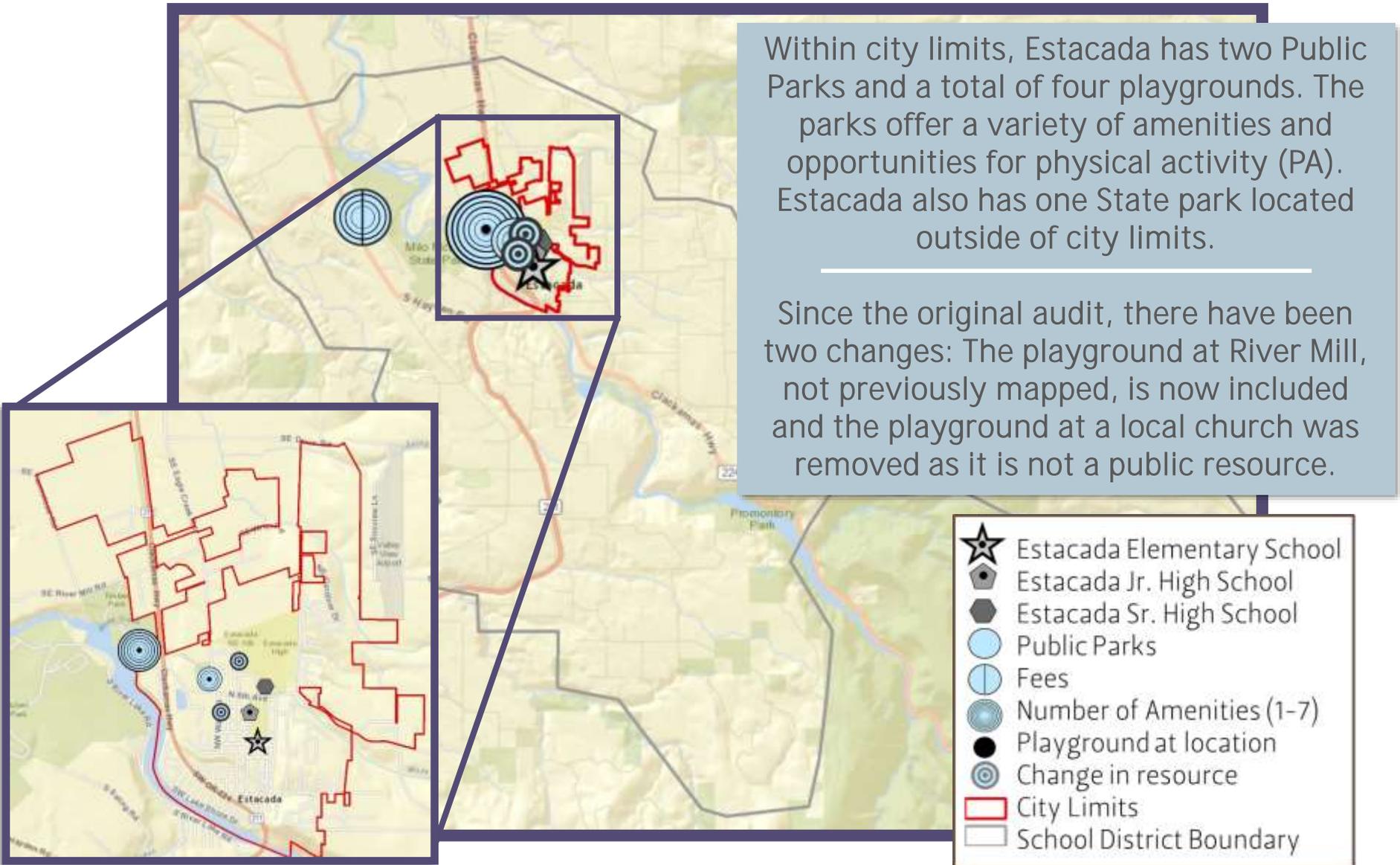
A map of Estacada, South Dakota, showing the city limits outlined in red. The map features several street names: SE Express, Chickasha Hwy, Mill Rd, Timber Park, S River Lake Rd, NW Wade St, N 6th Ave, NE Stratford Dr, S 3rd St, and S 5th St. A star icon is located at the intersection of NW Wade St and N 6th Ave. Several circular icons, each divided into a light green and dark grey half, are placed on the map to indicate restaurant locations. Green arrows point from these icons to various inset photographs of restaurant exteriors and signs. A text box in the upper right corner provides a general overview of the dining scene.

Within city limits there are a variety of dining establishments from café/bakeries, to deli/sandwich and pizza shops, to full service Sit-Down restaurants.

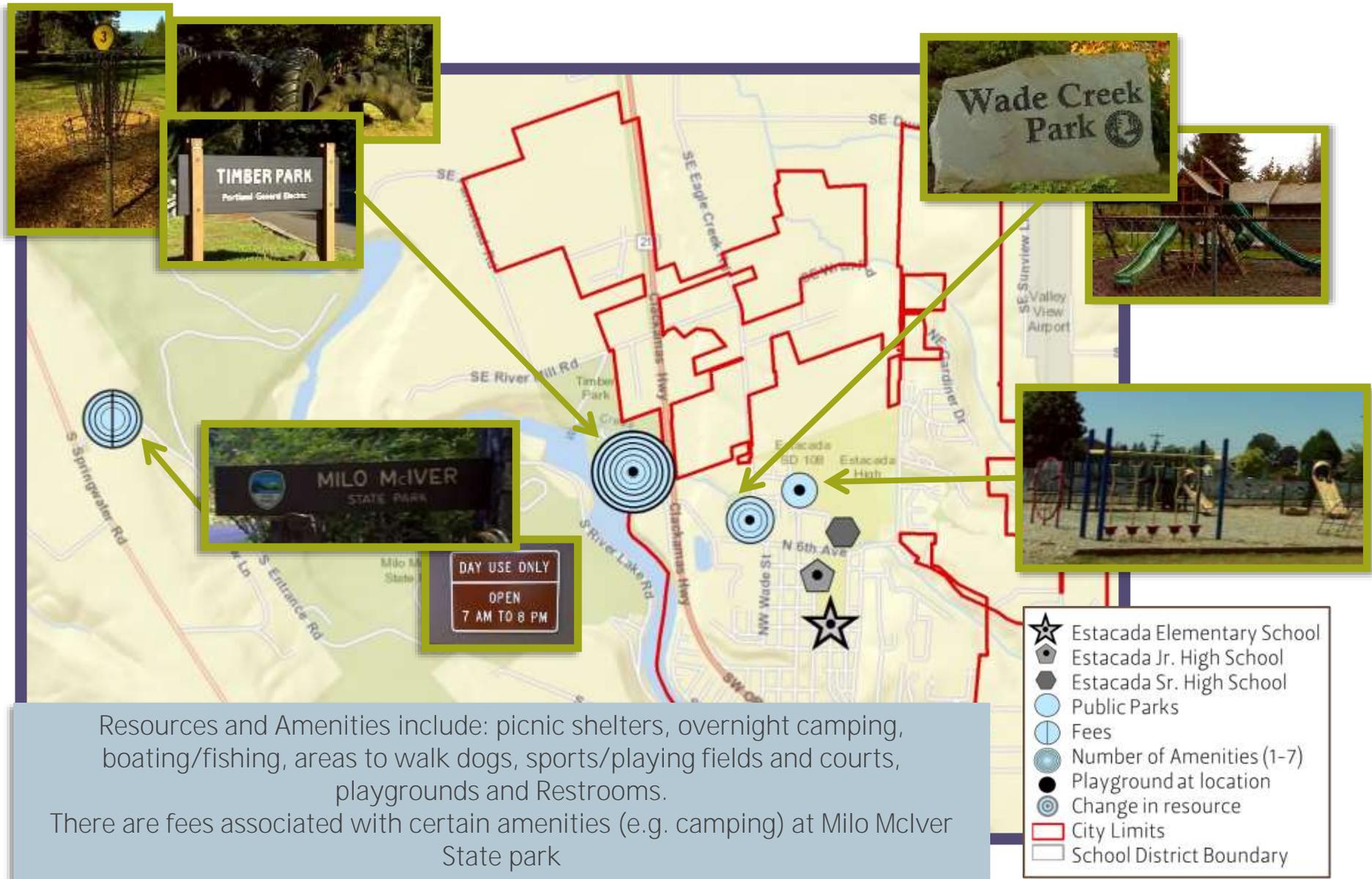
**Inset Photos:**

- Top left: A wooden building with a sign that reads "Old Mill Tavern".
- Top right: A restaurant with a thatched roof and outdoor seating.
- Middle left: A sign for "MEXICAN RESTAURANT LOUNGE".
- Middle left (below): A sign for "The Grind coffee house".
- Middle left (below): A "SUBWAY" sign.
- Middle left (below): A sign for "HITCHHIK POST PIZZA".
- Middle left (below): A sign for "LOWERS".
- Middle left (bottom): A sign for "FIGARO'S".
- Middle right: A restaurant with a sign that reads "McBOTTLE".
- Bottom right: A sign for "THE CAZADERO".

# Change in Resources for Public Parks and Playgrounds



# Resources and Amenities for Public Parks and Playgrounds Shown by Location

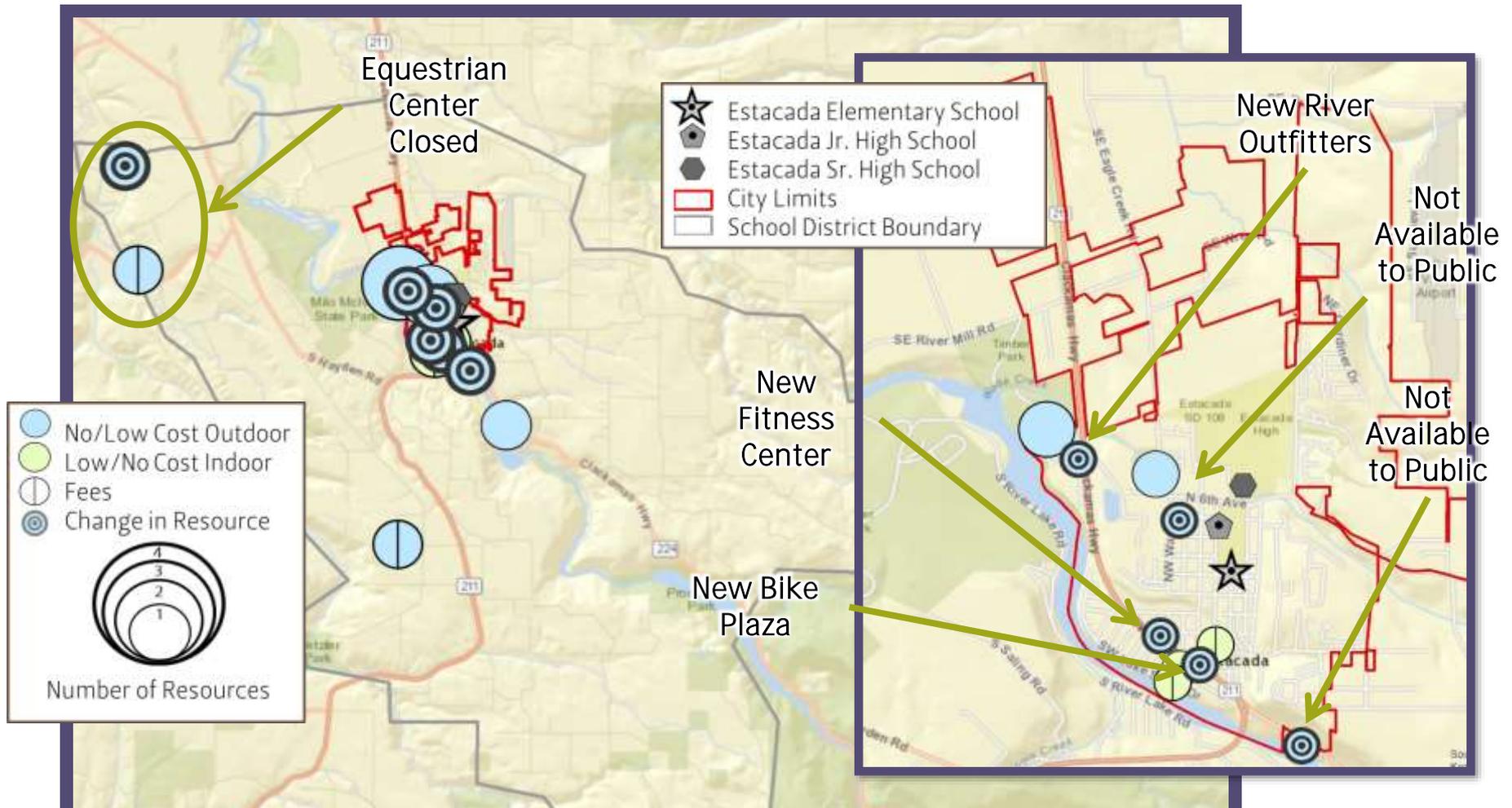


Resources and Amenities include: picnic shelters, overnight camping, boating/fishing, areas to walk dogs, sports/playing fields and courts, playgrounds and Restrooms.

There are fees associated with certain amenities (e.g. camping) at Milo McIver State park

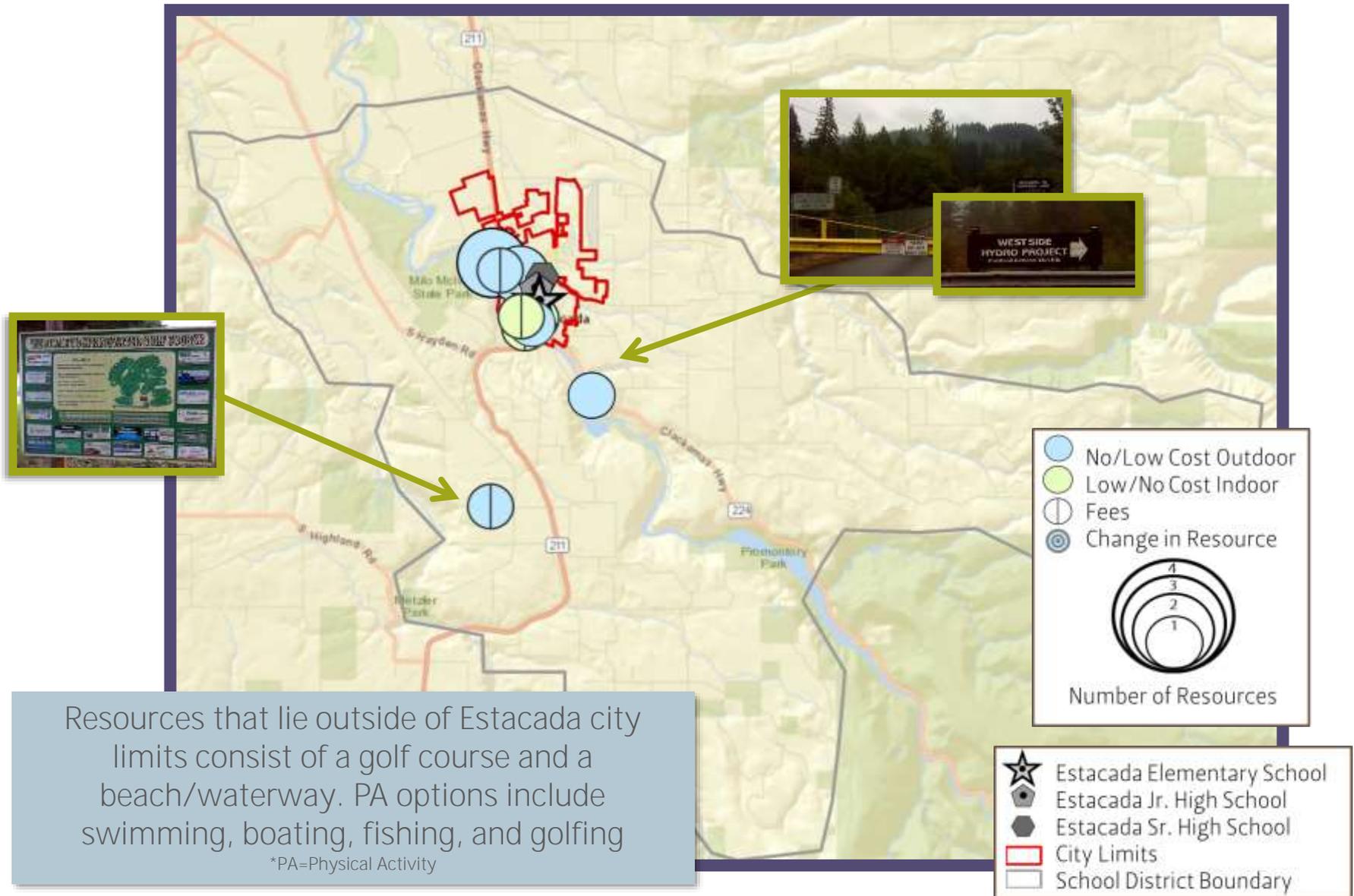
- ★ Estacada Elementary School
- ⬠ Estacada Jr. High School
- ⬡ Estacada Sr. High School
- Public Parks
- Fees
- ⊙ Number of Amenities (1-7)
- Playground at location
- ⊙ Change in resource
- ▭ City Limits
- ▭ School District Boundary

# Change in Resources for Other Physical Activity



Estacada has a variety of other physical activity options, both indoor and out, that may or may not have fees associated with them. This includes those resources and amenities previously mentioned at public parks. Since the 2014 mapping, a number of changes have occurred: Estacada has gained a Bike Plaza, Fitness Center, and River Outfitters within city limits and lost access to a sports field at a local church and an equestrian center due to its closure.

# Resources for Other PA Shown by Location



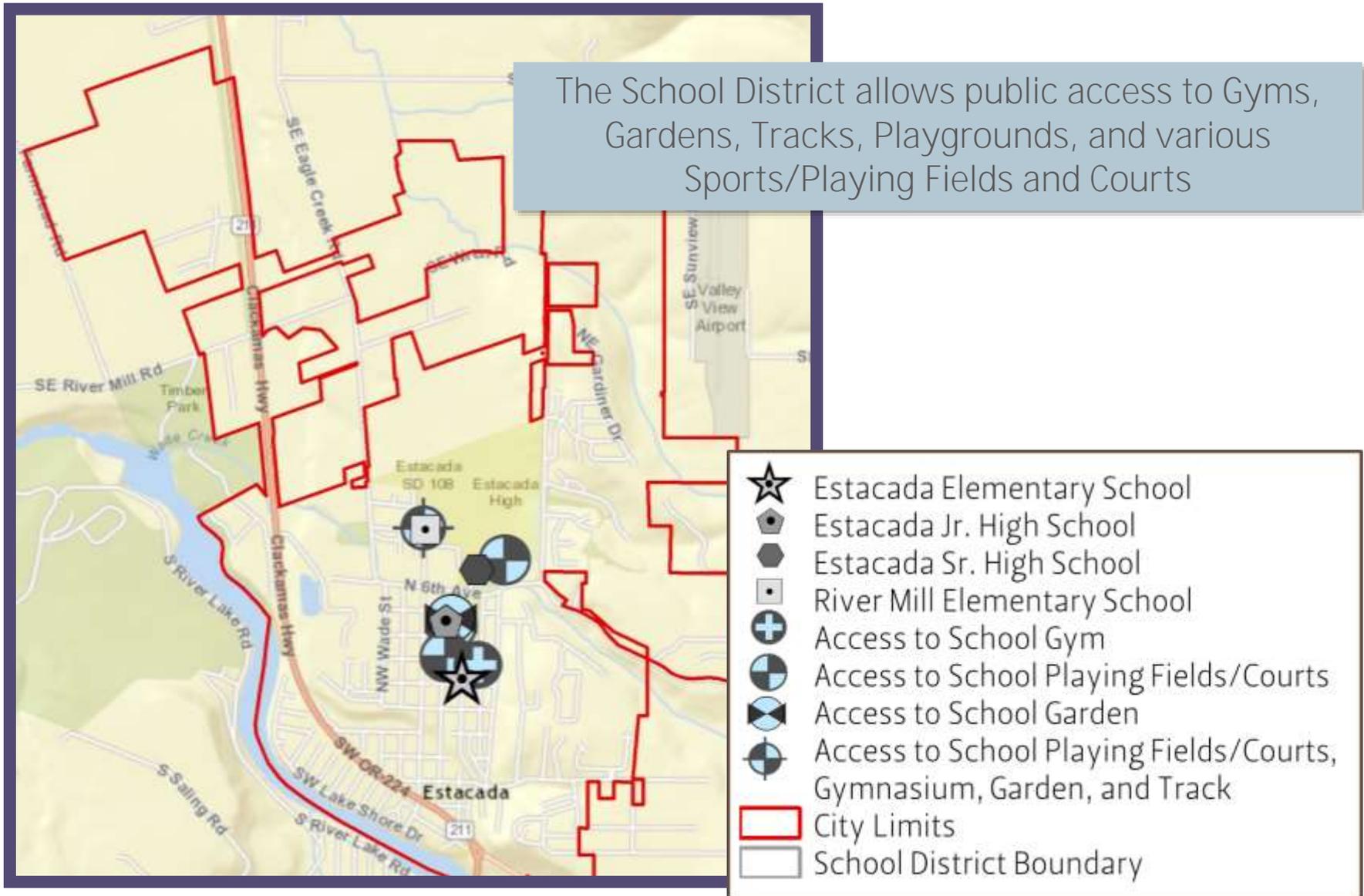
# Resources and Amenities for Other PA Shown by Location



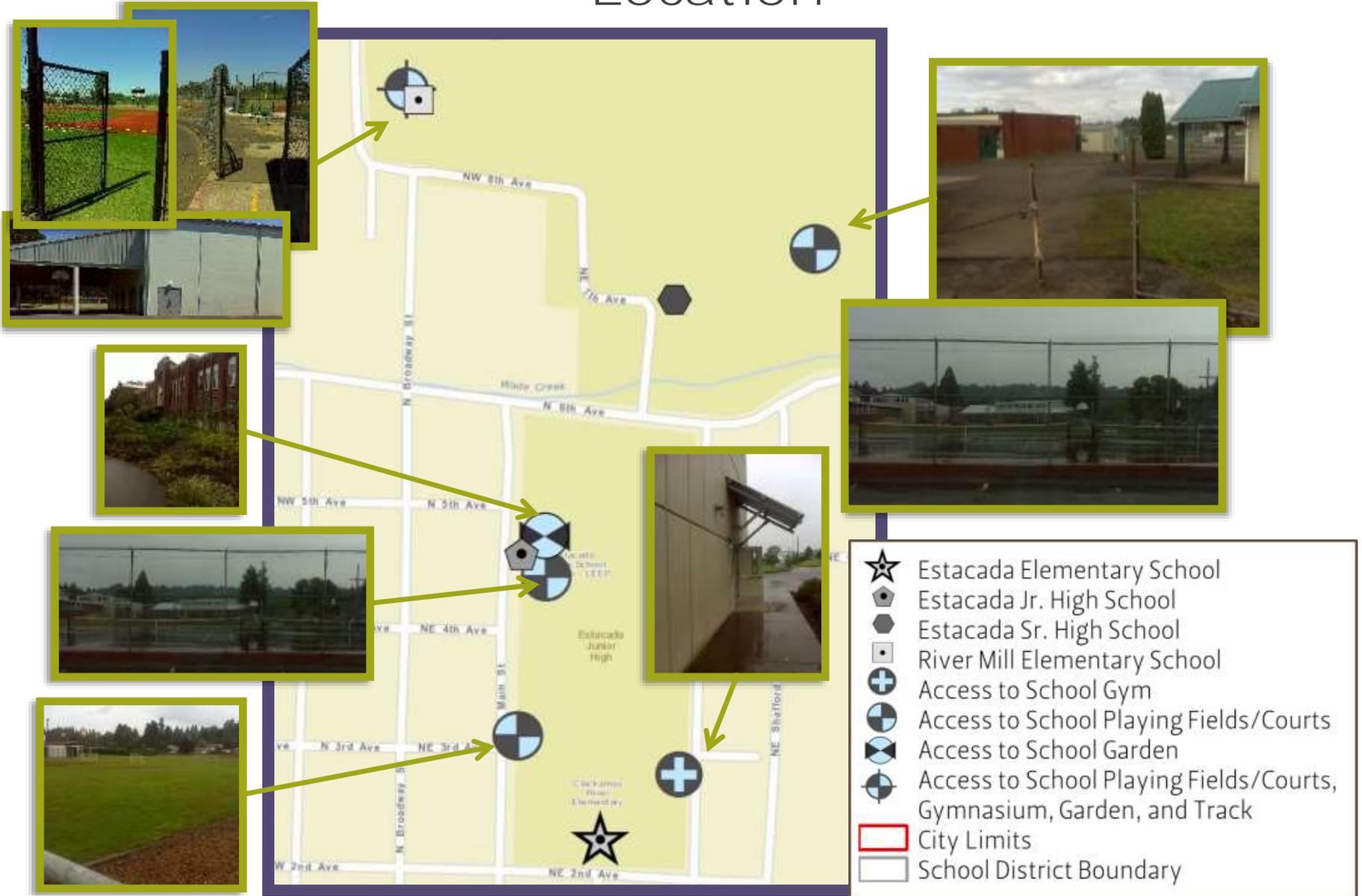
Resources and amenities include a Bike Plaza, with a workstation, bike racks and water bottle fill station, basketball and volleyball courts, a skate park, a community recreation center, two martial arts studios, and a fitness center.

# School Physical Activity Resources

The School District allows public access to Gyms, Gardens, Tracks, Playgrounds, and various Sports/Playing Fields and Courts



# School Physical Activity Resources Shown by Location



- ★ Estacada Elementary School
- ⬠ Estacada Jr. High School
- ⬠ Estacada Sr. High School
- ⬠ River Mill Elementary School
- ⊕ Access to School Gym
- ⊕ Access to School Playing Fields/Courts
- ⊕ Access to School Garden
- ⊕ Access to School Playing Fields/Courts, Gymnasium, Garden, and Track
- ▭ City Limits
- ▭ School District Boundary

# 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 Estacada 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

## Low/No Cost PA Resources

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

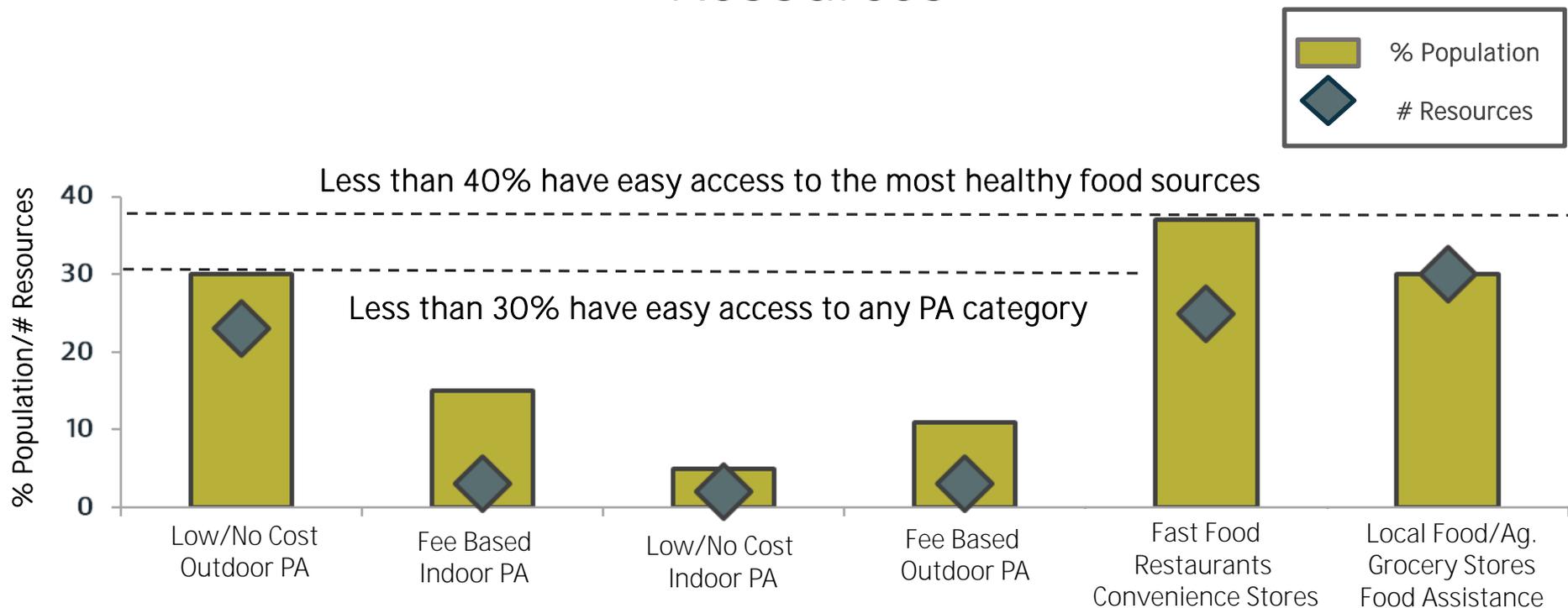
## Fee-Based PA Resources

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 \*

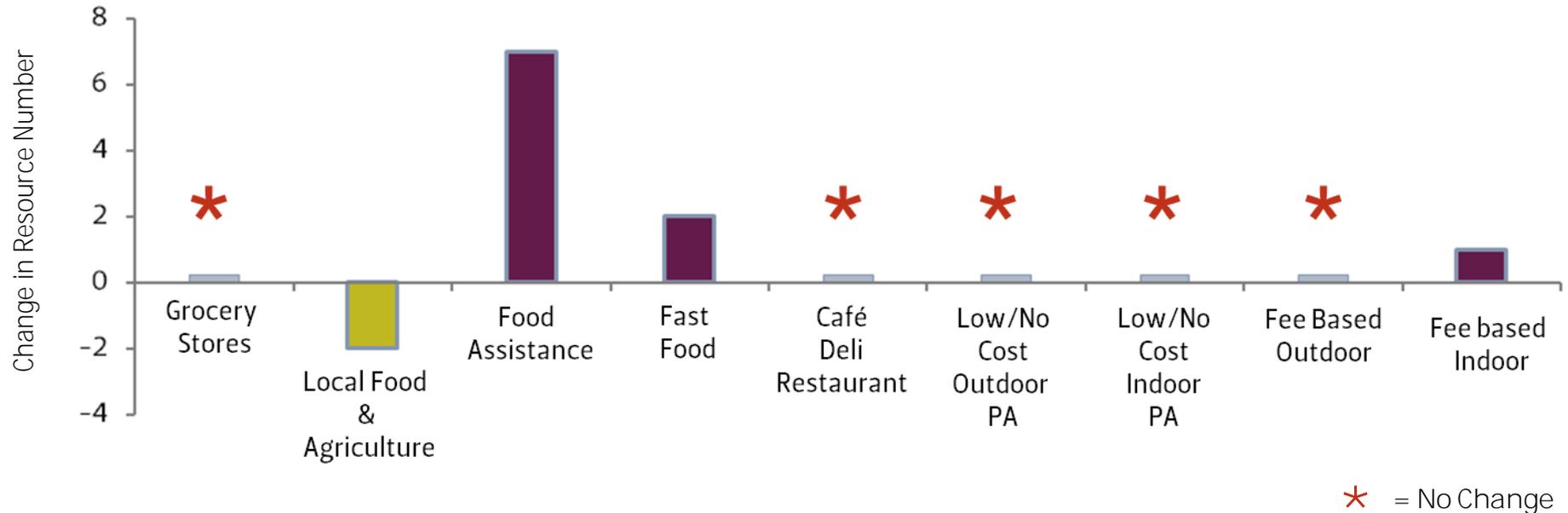


\* Analyzed via a ¼ mile network buffer: approximately a 5 to 10 minute walk

Estacada's ease of access to resources remained relatively stable with some nominal changes: a 5% increase in access for Low/No cost Outdoor PA, a 10% increase for Low/No cost Indoor PA, and slight decreases (<5%) in both food categories. Still, less than 40% have easy access to the most healthy food sources, and less than 15% have access to any Indoor PA.

PA=Physical Activity

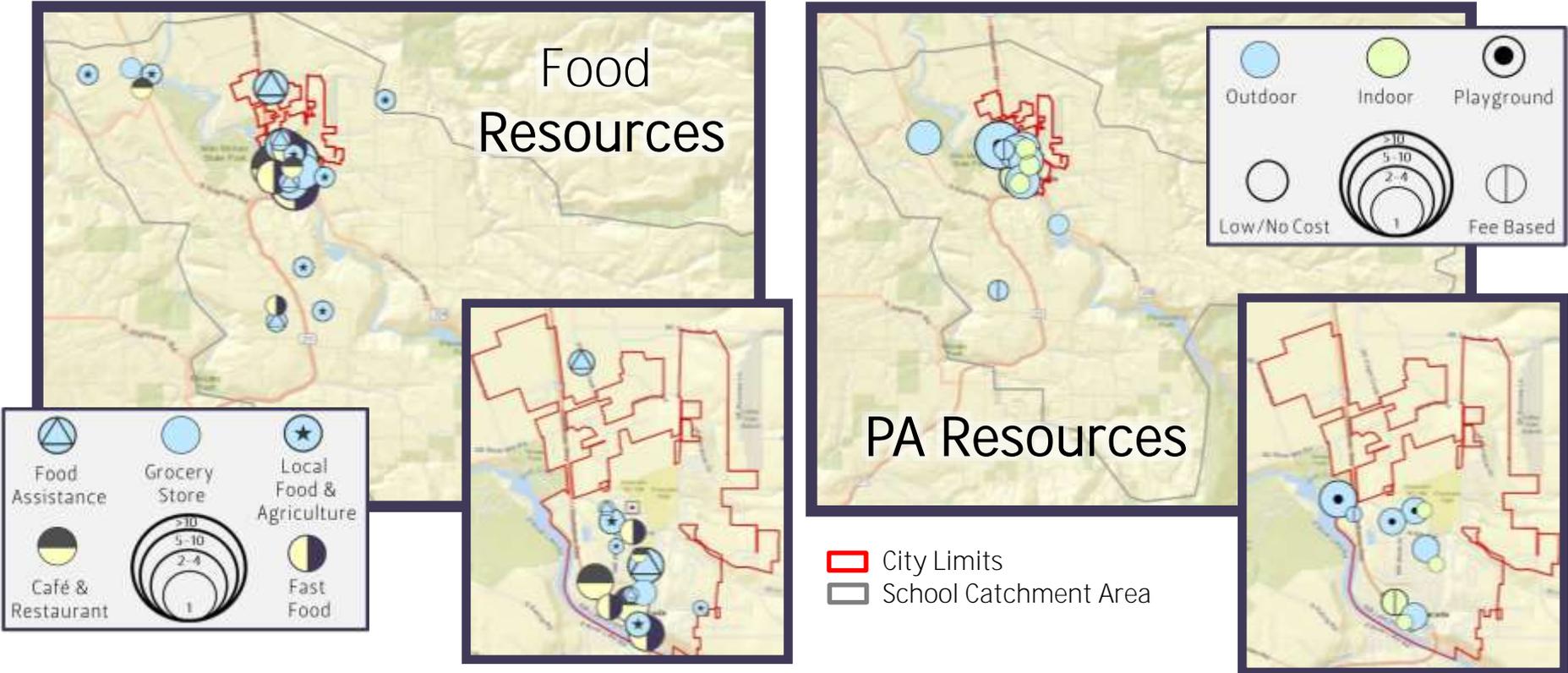
# Change in Number of Food and Physical Activity Resources



Overall, there were no changes in the raw number of resources for Grocery Stores, Café/Deli/Restaurants, or any PA category except **Fee Based Indoor** (One new Fitness Center). The largest change in resources was found in the **Food Assistance** category – due to the addition of multiple summer lunch sites as well as three food banks operated by faith based organizations. Finally, Estacada Lost two Local Food/Agriculture resources (home-based types) and gained two Fast Food resources: one restaurant and one convenience store. PA=Physical Activity

# 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 mainly located within city limits, leaving those who live in more rural areas without easy access. Supports need to be affordable and accessible from where people live and work.