Rural Community Food and Physical Activity Environment

Molalla Audit Results Maps 2013-2016

Oregon State UNIVERSITY | **Extension Service**

Community members are provided a Garmin OR 550 (camera-enabled GPS unit) and trained to map features of their community

On their own or with a partner, they photograph (and map) the food and/or physical activity resources in their assigned sectors of the community

They record details about the resources on the sheets of the audit tool, which are then used to create maps for the community.

GROW HKC
Rural Community Food & Physical Activity Environment Audit
Example Community

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

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.
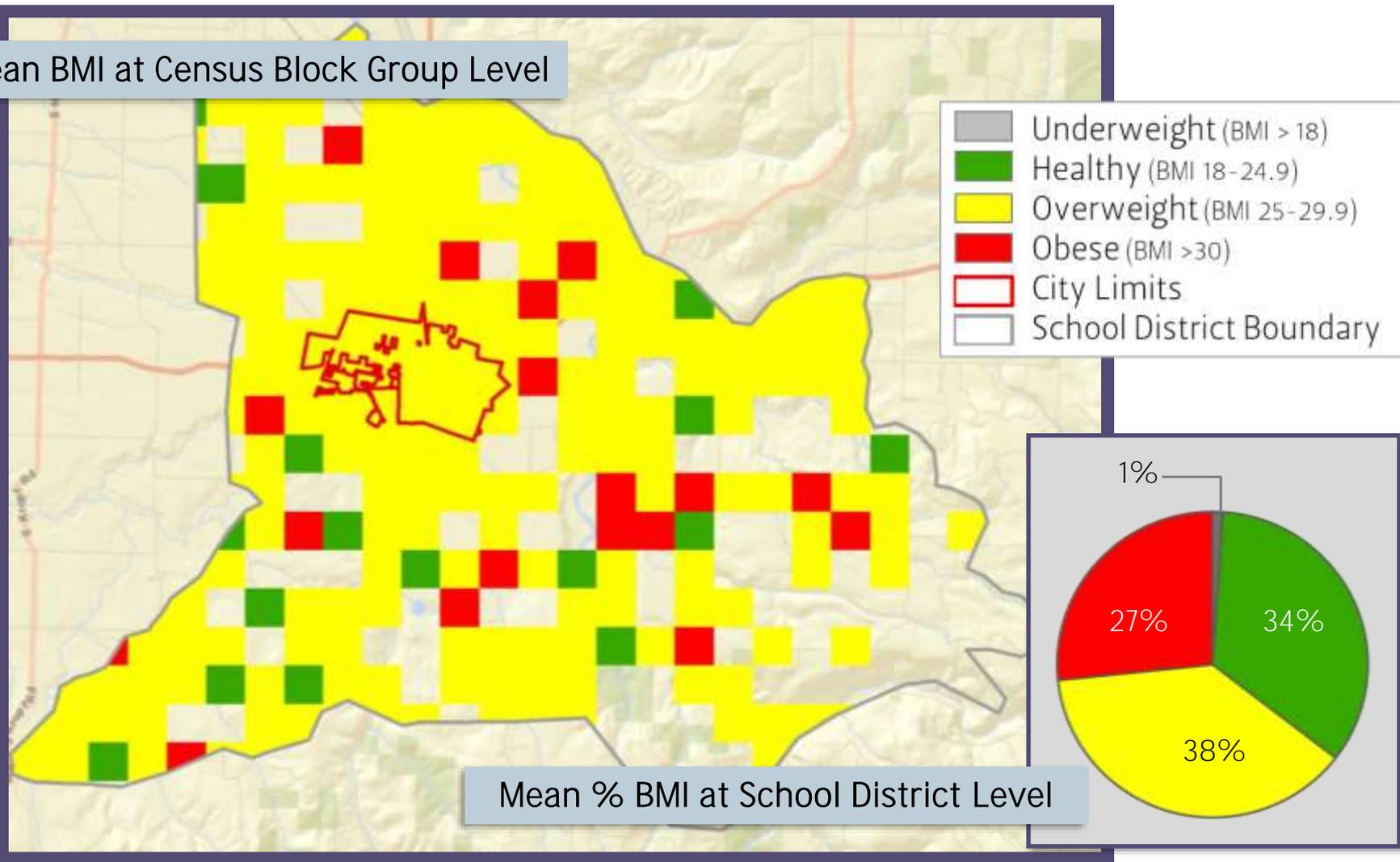
Rurality and Weight Health

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

Molalla Community - Adult Weight Health (BMI)

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

Mean BMI at Census Block Group Level

Underweight (BMI > 18)
Healthy (BMI 18-24.9)
Overweight (BMI 25-29.9)
Obese (BMI >30)
City Limits
School District Boundary

1%

27%   34%

38%

Mean % BMI at School District Level

*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 ("Scholl District Boundary") for Five Schools and Molalla City Limits.
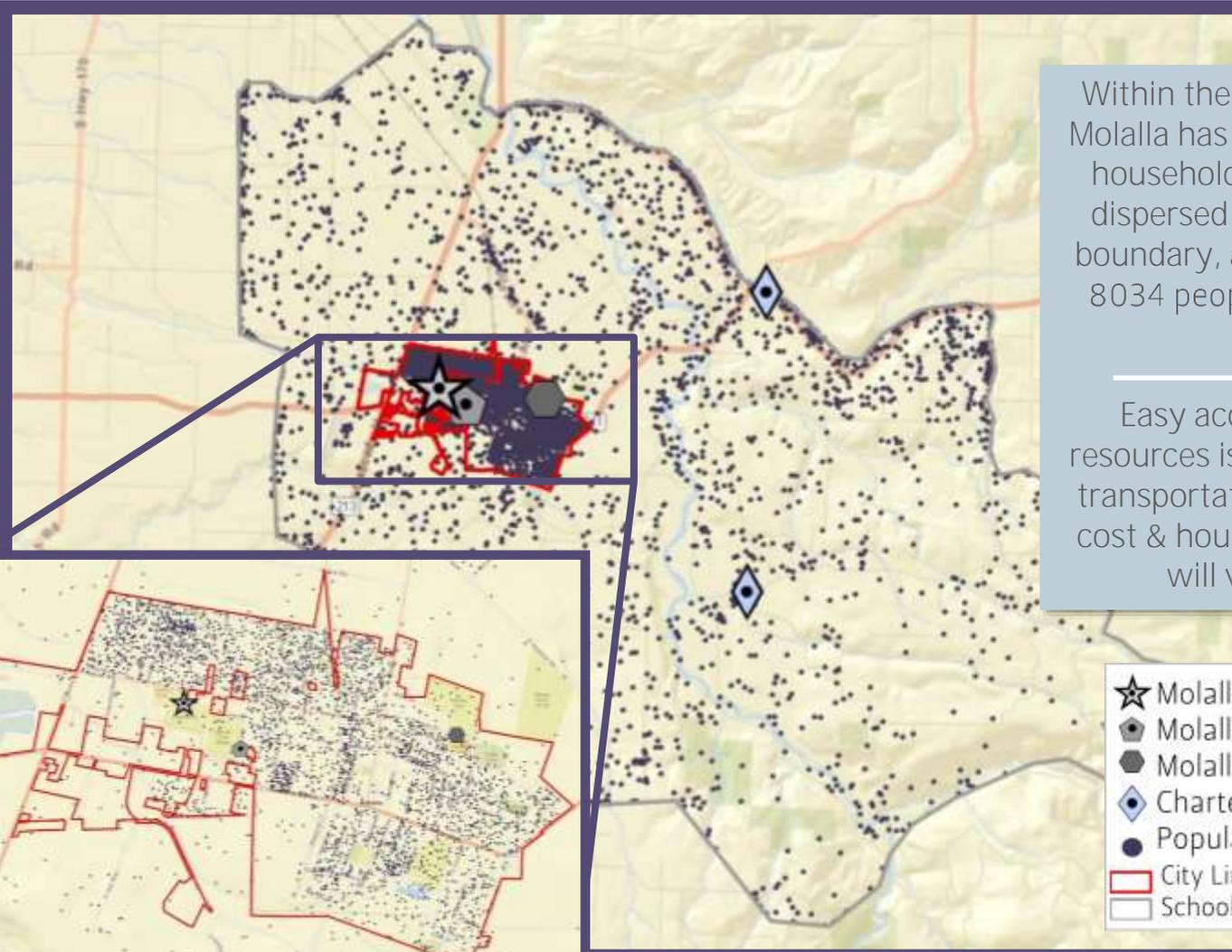
Within the School District Boundary, Molalla has 16531 people living in 6241 households (2010 census) spatially dispersed within the school district boundary, an area of about 72 sq. mi. 8034 people reside within Molalla's city limits.

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

☆ Molalla Elementary School
⬟ Molalla Middle School
⬢ Molalla High School
◈ Charter or Private Religious School
• Population: 1 dot = 1 household
☐ City Limits
☐ School District

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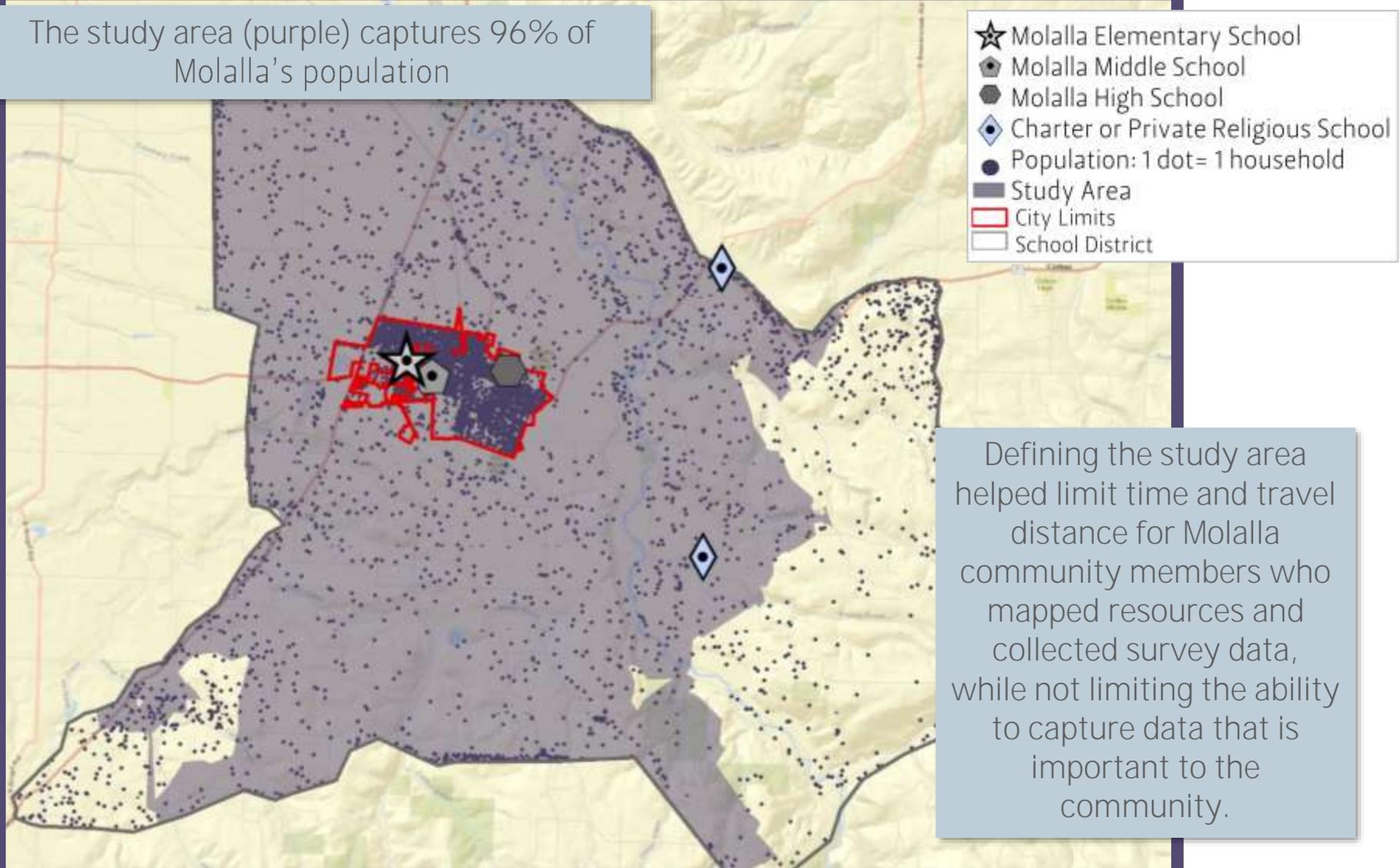
The yellow to red areas are the most highly populated; Molalla is sparsely populated (greens) throughout much of the boundary area.

Least People

Most People

City Limits
School District Boundary
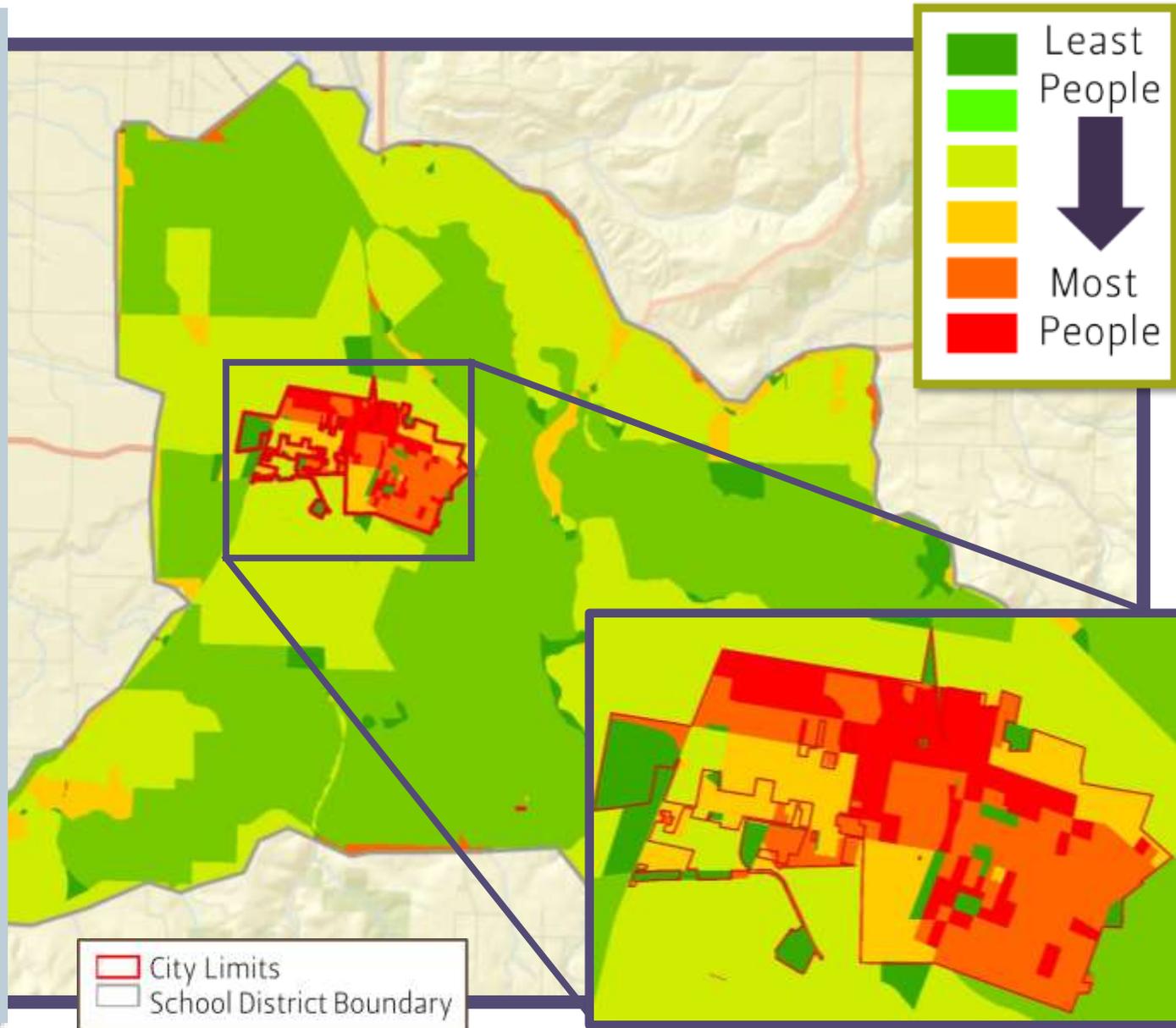
Using Maps to Show Where <u>Most</u> People Live: Study Area

A "study area" was defined using the areas most densely populated, in order to determine the food and physical activity resources relevant to where <u>most</u> people live.

The study area (purple) captures 96% of Molalla's population

Molalla Elementary School
Molalla Middle School
Molalla High School
Charter or Private Religious School
Population: 1 dot= 1 household
Study Area
City Limits
School District

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

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/growhkc/outputs/maps
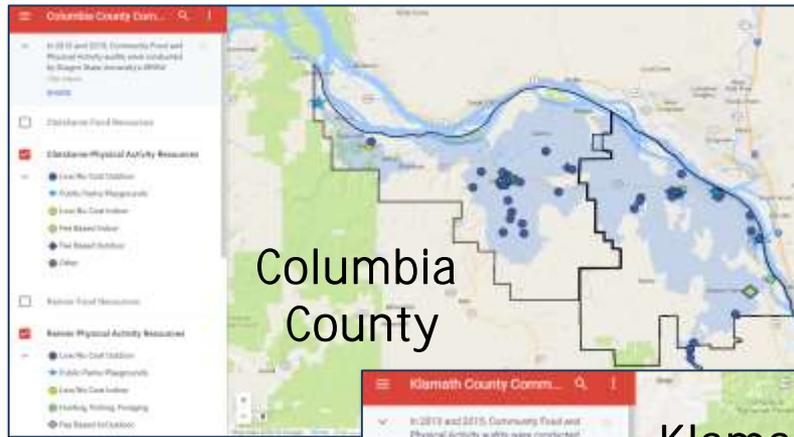
Columbia County
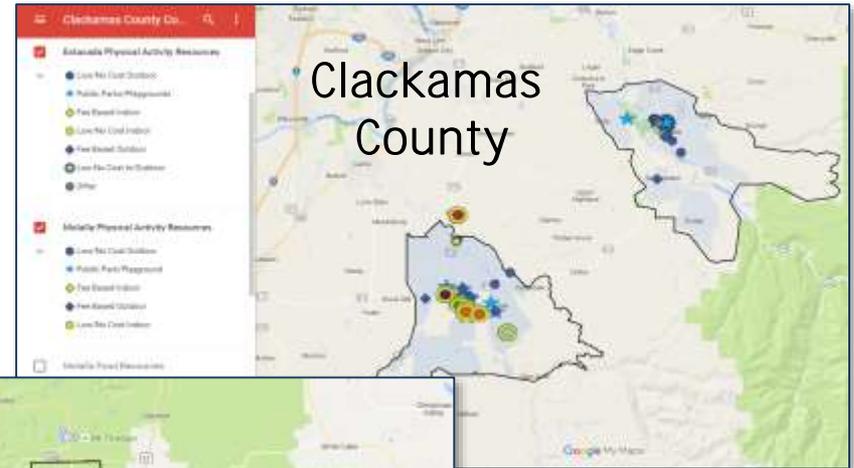
Clackamas County

Klamath County

Grocery Store Locations

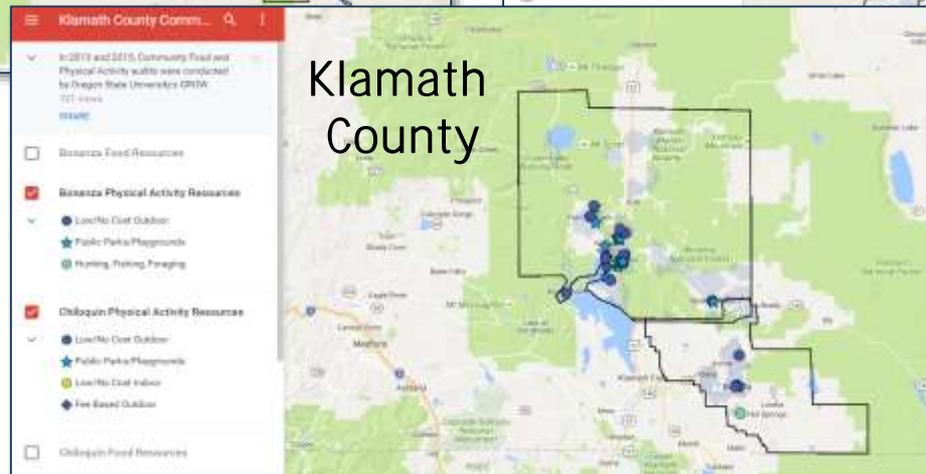According to the Healthy Food Financing Initiative, a food desert is an area where a larger proportion of people have low or no access to a supermarket or grocery store

Molalla has two grocery stores– less than 1 store per 1000 people – and is considered a partial food desert. Both Grocery stores are located within city limits.

Based on a measure of availability of healthy food options, the "Modified Retail Food Environmental Index," Molalla scored "28" on scale ranging from 0 (no access to healthy food) to 100 (only access to healthy food)

☆ Molalla Elementary School
⬠ Molalla Middle School
⬡ Molalla High School
◈ Charter or Private Religious School
⬤ Grocery Store
▭ City Limits
▭ School District
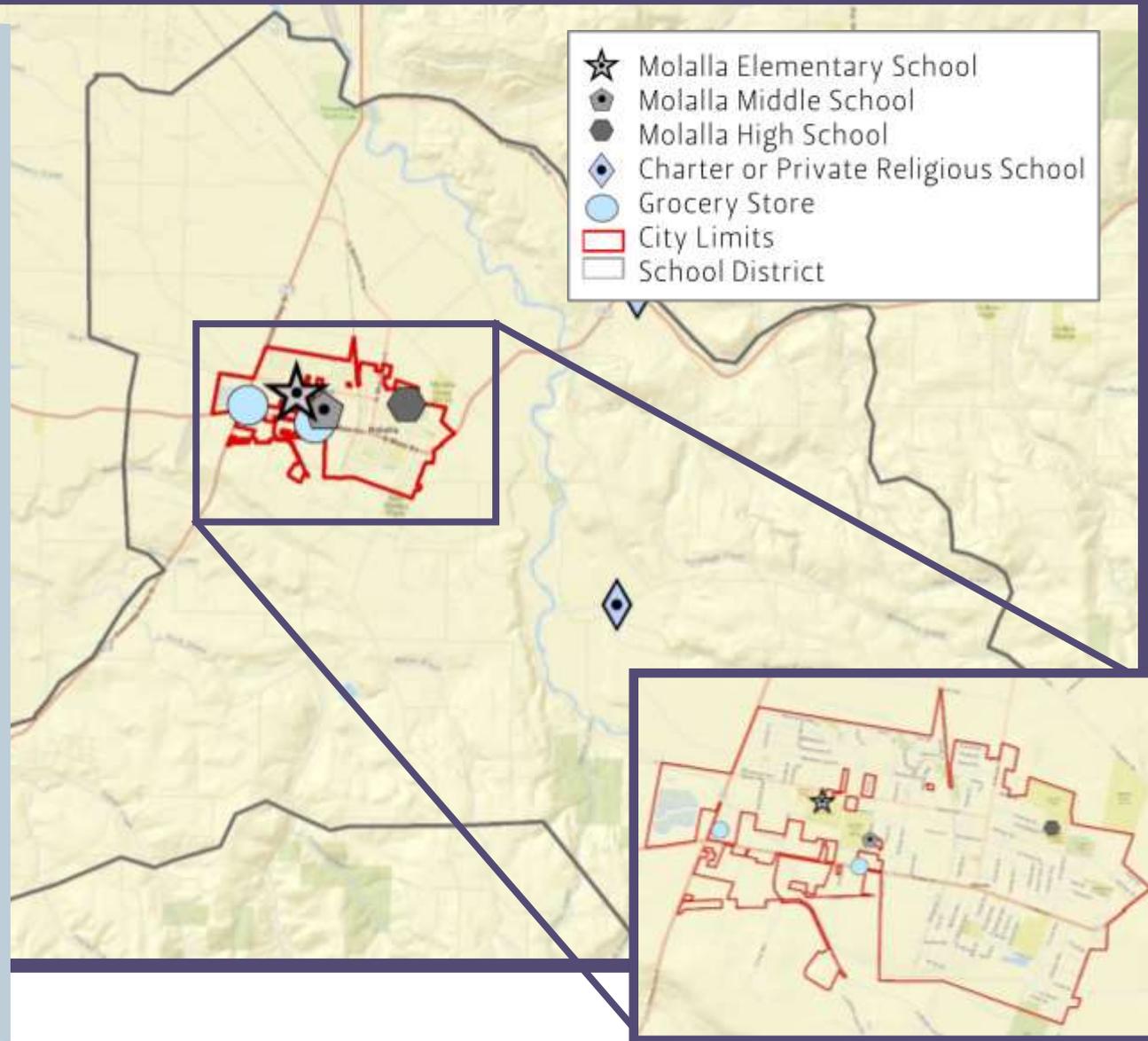
Resources for Groceries Shown by Location
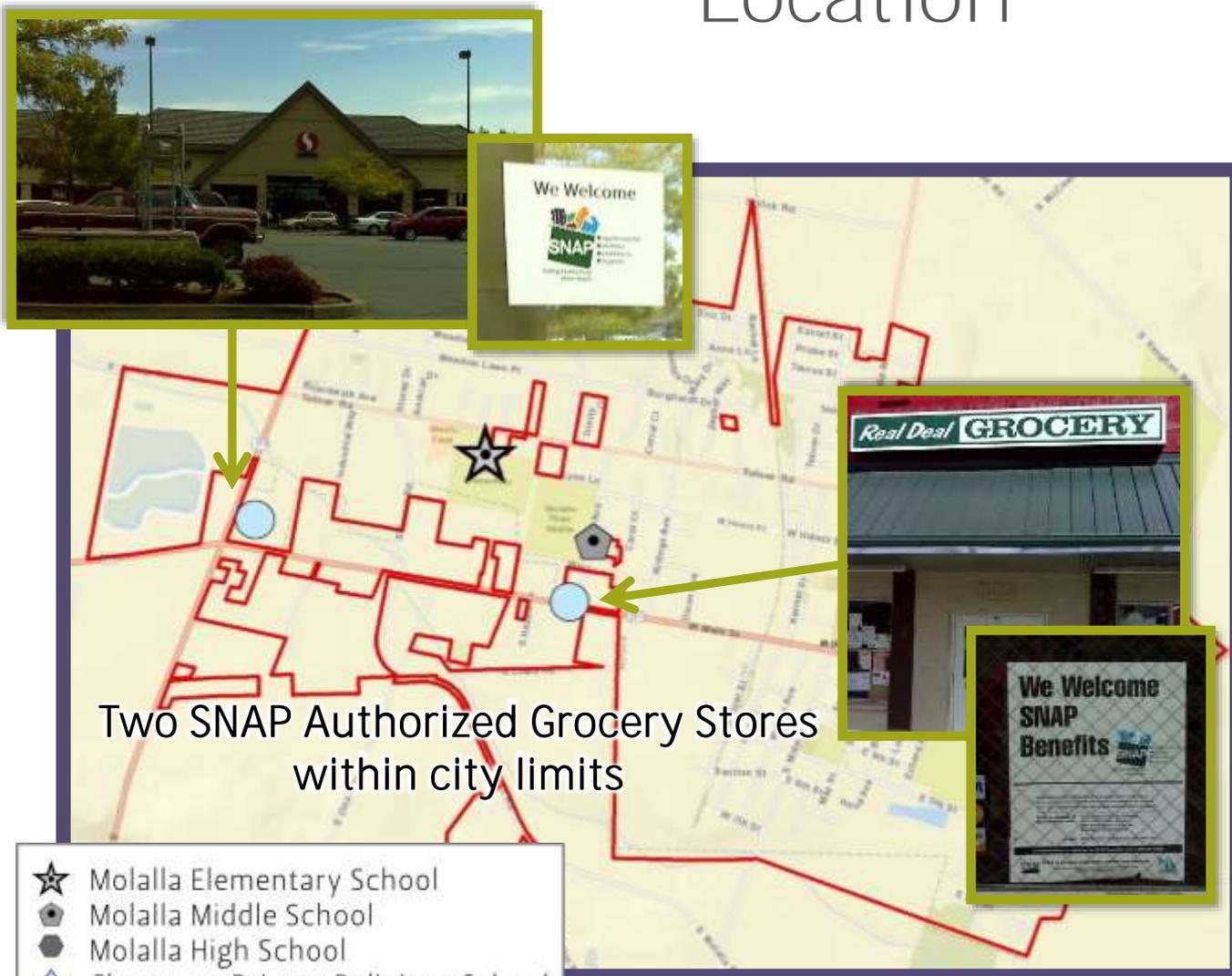
Two SNAP Authorized Grocery Stores within city limits

★ Molalla Elementary School
● Molalla Middle School
⬣ Molalla High School
◈ Charter or Private Religious School
◯ Grocery Store
▭ City Limits
▭ School District

There was no change in the number or location of grocery stores located in Molalla: Molalla has two grocers within city limits: a Supermarket and a smaller discount grocer. Both of these are two of Molalla's 10 authorized SNAP retailers.

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 Local Food, Agriculture,& Food Assistance

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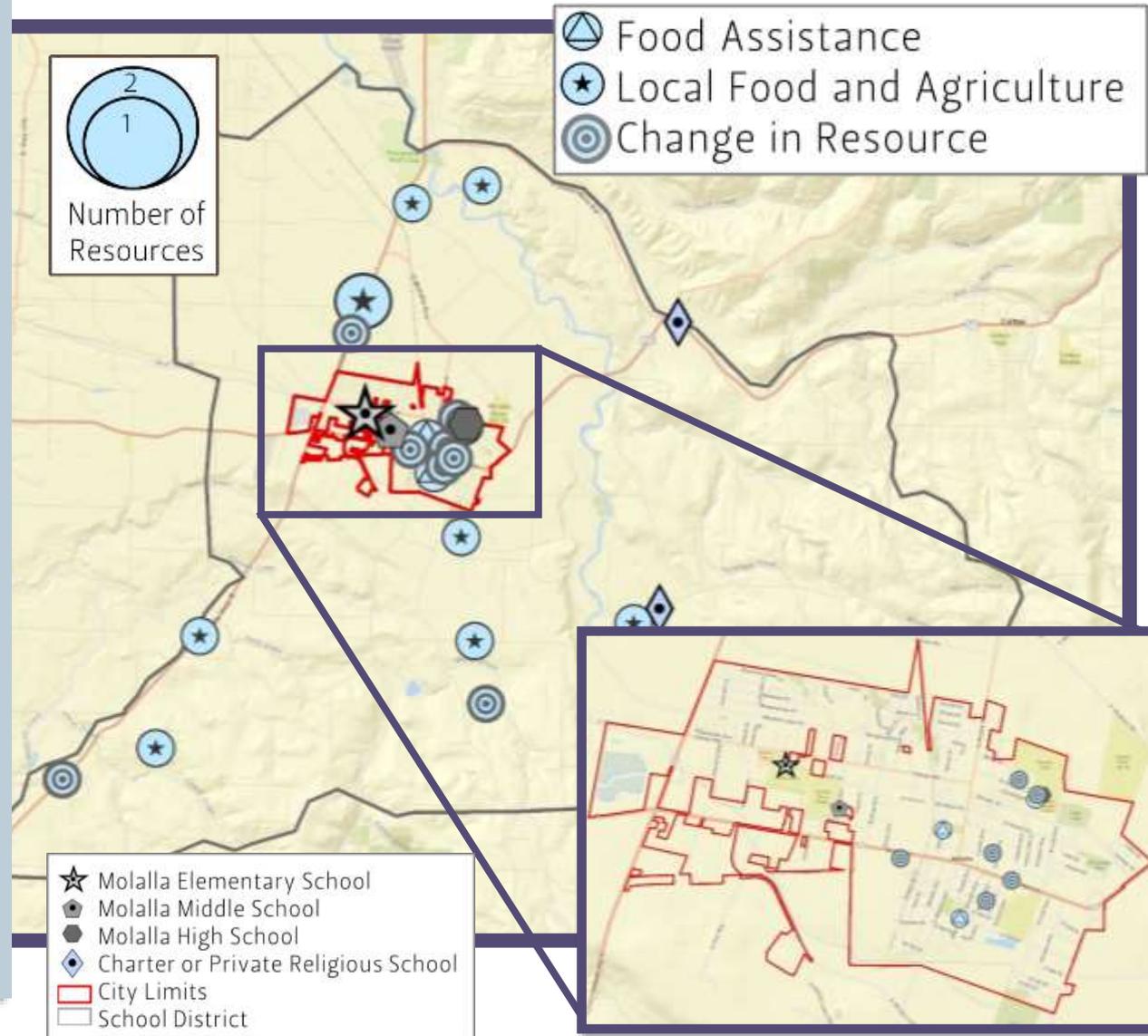
Change in Resources for Local Food, Agriculture & Food Assistance Shown by Location

New Home-Based

Chickens and Eggs

Vegetables and Fruits

Goats Milk

Now Sells Chicken

New Farm Stand

Food Assistance
Local Food and Agriculture
Change in Resource

Number of Resources

There are 12 local food/agriculture options that lie outside of Molalla city limits: These include a number of farm stands or u–pick farms, homebased food retailers selling things like eggs and vegetables, a plant nursery and supports for hunting. Since the first Audit in 2014, Molalla has gained two local food/agriculture resources: a home based operation that sells eggs and a year round farm stand.

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

Legend:
- ☆ Molalla Elementary School
- ⬠ Molalla Middle School
- ⬢ Molalla High School
- ◈ Charter or Private Religious School
- ▭ City Limits
- ▭ School District

New Food Bank

Newly Audited Food Bank

Community Garden Closed

Mary Jo Mackie Community Garden

New Farmer's Market

New Hunting Foraging Support

New Food Bank

- ◭ Food Assistance
- ◉ Local Food and Agriculture
- ◎ Change in Resource
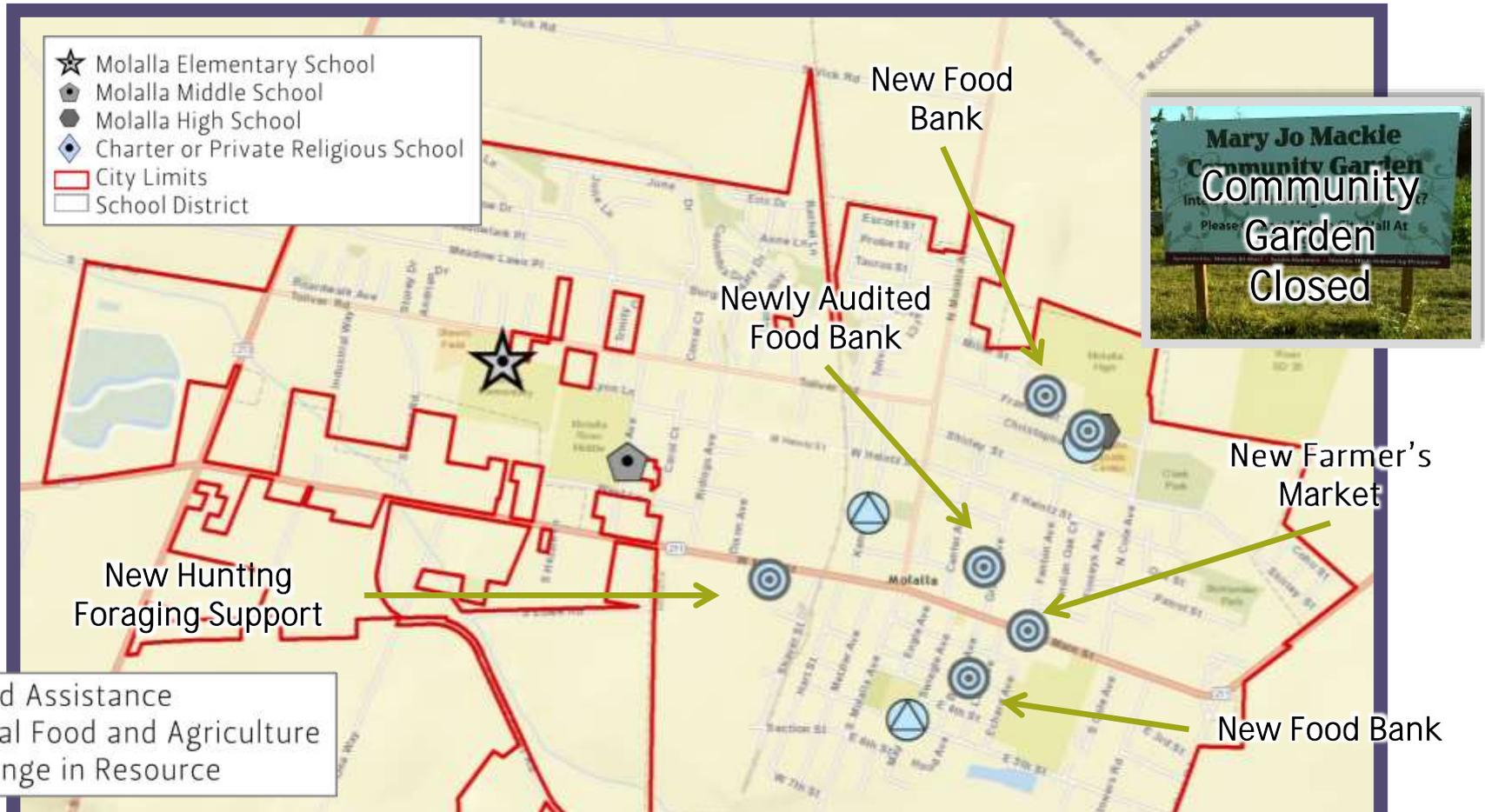
Within city limits, Molalla has four food banks/pantries, community meals at the adult community center, hunting foraging supports and a farmer's market; many of these are new (or newly audited) resources since the first Audit. The community garden that was previously located at the Molalla community center has closed since the last audit.

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

Molalla has increased food assistance resources since 2014. These resources were previously not audited or are new. There are currently four food bank/pantries located within city limits and community meals are served at the adult community center. Molalla has also gained a seasonal farmer's market (WIC benefits are accepted) and has resources that support hunting, fishing, or foraging activities. Recently, Molalla lost a community garden location with the closure of the Molalla community center.

Community Meal

Food Bank

Food Bank

Farmer's Market

Food Bank

Food Bank

Food Assistance
Local Food and Agriculture

Change in Resources for Fast Food and Convenience Stores

Convenience Store
Fast Food
Change in Resource

2-5
1

Number of Resources

Molalla Elementary School
Molalla Middle School
Molalla High School
Charter or Private Religious School
City Limits
School District Boundary
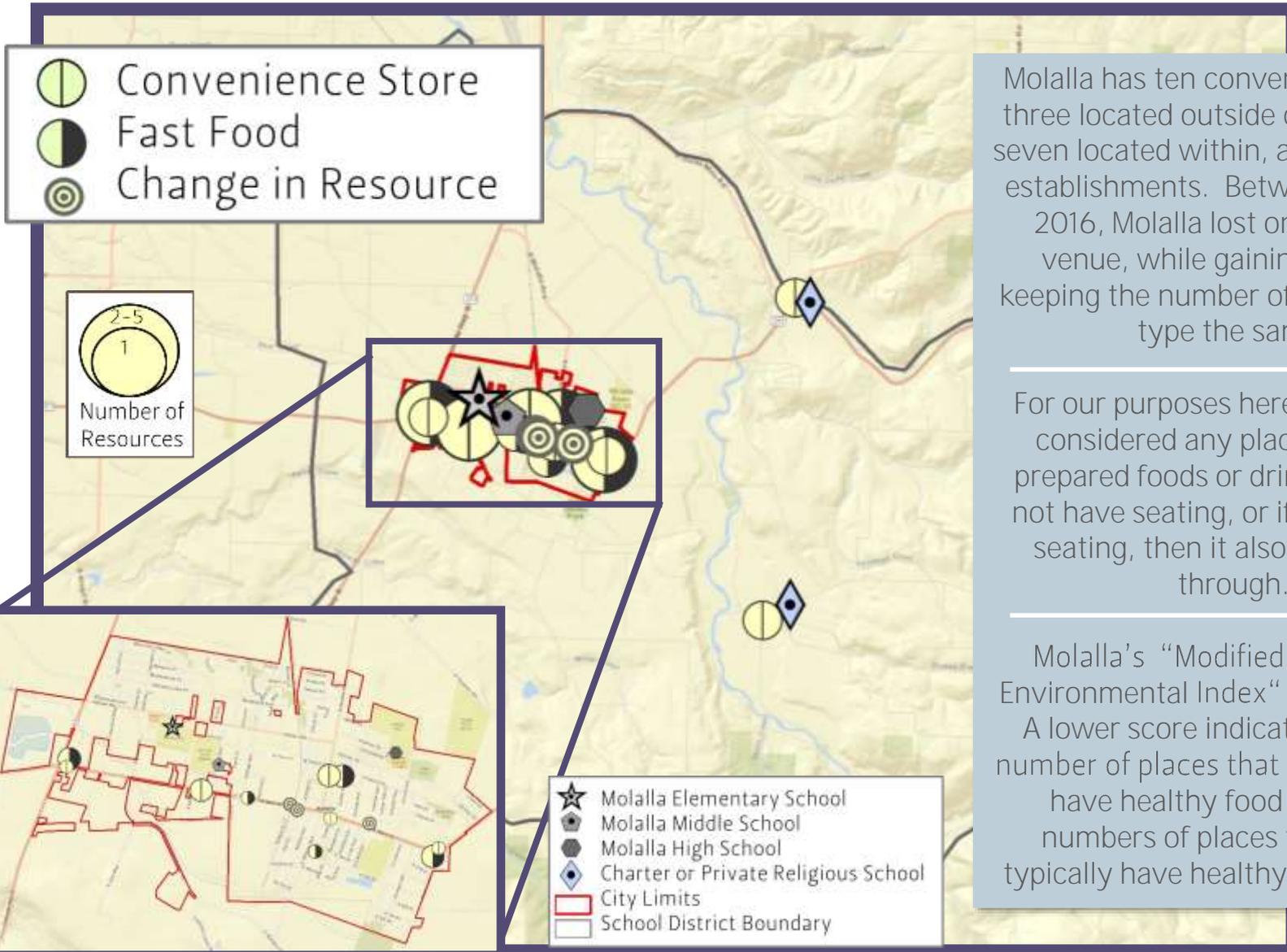
Molalla has ten convenience stores, three located outside city limits and seven located within, and 11 fast food establishments. Between 2014 and 2016, Molalla lost one fast food venue, while gaining another, keeping the number of this resource type the same.

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.

Molalla's "Modified Retail Food Environmental Index" score was 28. 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.

Resources for Fast Food and Convenience Stores Shown by Location

Legend

- ☆ Molalla Elementary School
- ⬟ Molalla Middle School
- ⬡ Molalla High School
- ◈ Charter or Private Religious School
- ▭ City Limits
- ▭ School District Boundary

- ◐ Convenience Store
- ◑ Fast Food
- ◉ Change in Resource

2-5
1
Number of Resources

Resources for Convenience Stores Shown by Location

Molalla has seven convenience stores, all of which are SNAP authorized retailers, and 11 fast food establishments within city limits. Fast Food options in Molalla consist of drive through, coffee stands, vending machines, and food trucks

Number of Resources: 2-5 / 1

Convenience Store
Fast Food
Change in Resource

Changes in Resources for Café, Deli, and Restaurant

Legend (top):
- ☆ Molalla Elementary School
- ⬠ Molalla Middle School
- ⬡ Molalla High School
- ◈ Charter or Private Religious School
- ☐ City Limits
- ☐ School District

Arrowhead G.C. / Legend's Bar & Grill
New Ownership and Name Change

Molalla has 17 Café, Deli, Restaurant type eating establishments, all but one of which are located within city limits.

One new resources has been added and one removed since the 2014 Audit. Other changes include restaurants under new ownership or management and name changes.

Legend (bottom):
- ◎ New Resource
- ◉ Ownership/Name Change
- ● Café/Restaurant/Deli

2-5
1
Number of Resources
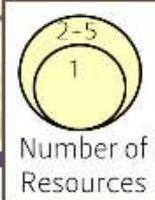
Changes in Resources for Cafés, Delis, & Restaurants Shown by Location

Molalla's residents can enjoy a variety of dinning options within city limits: Café/Bakeries, Pizza shops, Delis, Mexican and Chinese restaurants, as well as pub options are available.

New

New Ownership and Name Change

New

Closed

◎ New Resource
◉ Ownership/Name Change
◐ Café/Restaurant/Deli

☆ Molalla Elementary School
⬠ Molalla Middle School
⬤ Molalla High School
◈ Charter or Private Religious School
▭ City Limits
▭ School District

* Not all resources shown

Changes in Resources for Public Parks and Playgrounds

Molalla has 12 Public Parks that offer a variety of amenities and opportunities for physical activity (PA). Two of these parks are new since the 2014 Audit: one administrated by the city and the other by a local church – both located within city limits.
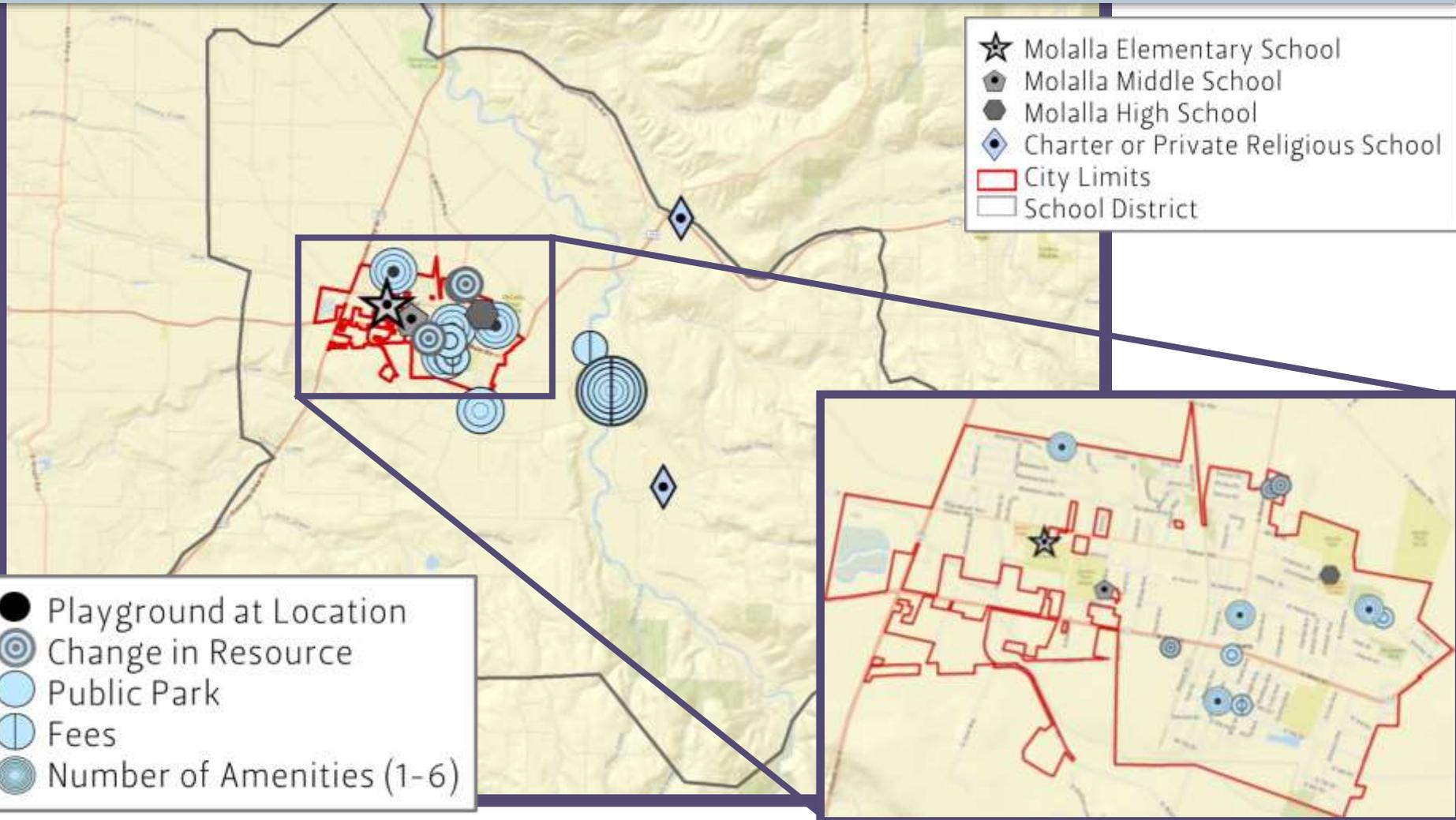
Legend:
☆ Molalla Elementary School
⬠ Molalla Middle School
⬡ Molalla High School
◈ Charter or Private Religious School
▭ City Limits
▭ School District

● Playground at Location
◎ Change in Resource
○ Public Park
◐ Fees
◉ Number of Amenities (1-6)

Resources and Amenities for Public Parks and Playgrounds Shown by Location

Legend:
- ● Playground at Location
- Change in Resource
- Public Park
- Fees
- Number of Amenities (1-6)
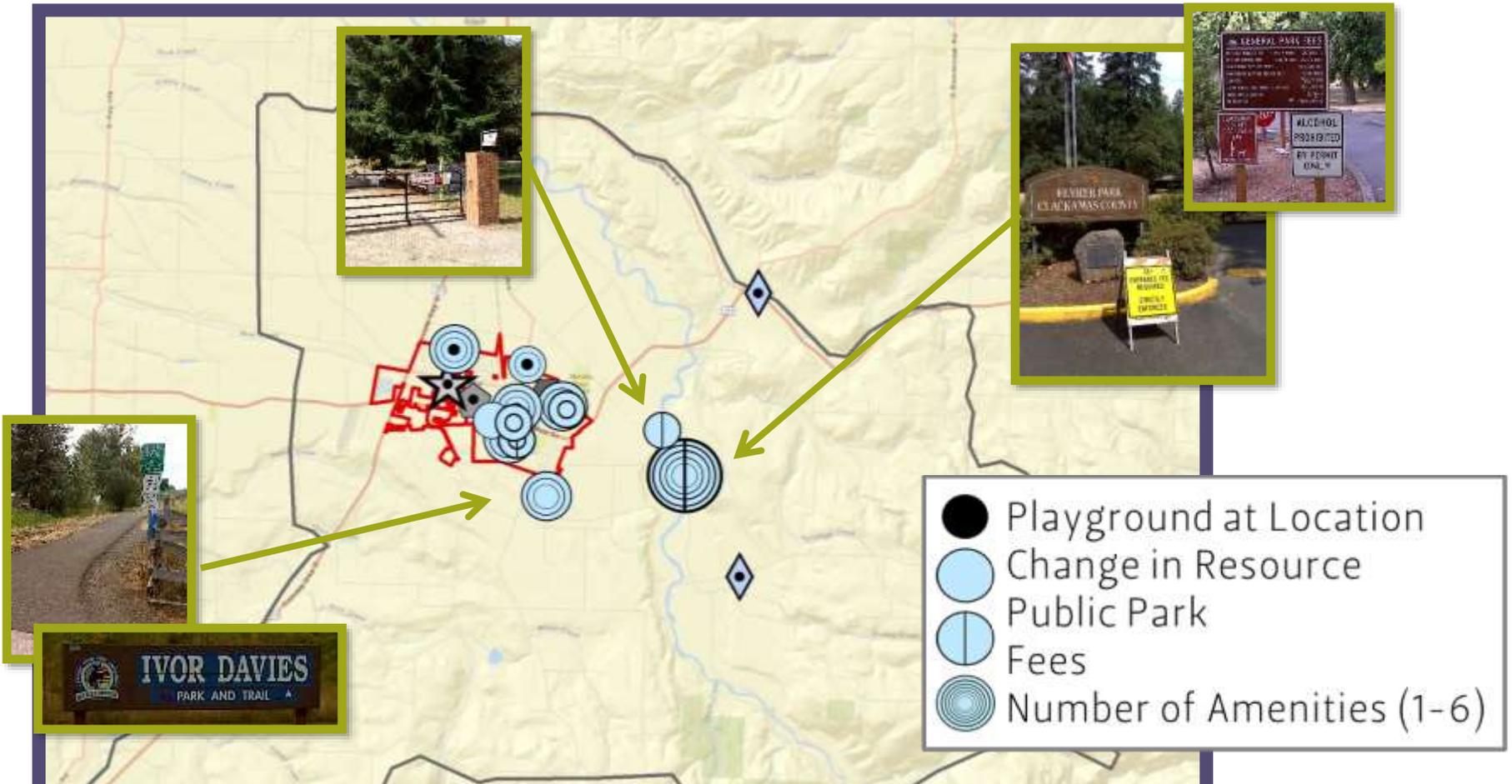
There are three Public Parks that lie outside of city limits, with a variety of amenities: Beaches/Waterways for boating or swimming, paved trails for walking, biking, or dog walking, overnight camping, and picnic shelters. There are entrance fees or fees for use of amenities at some locations

Resources and Amenities for Public Parks and Playgrounds Shown by Location

New

New

Playground at Location
Change in Resource
Public Park
Fees
Number of Amenities (1-6)
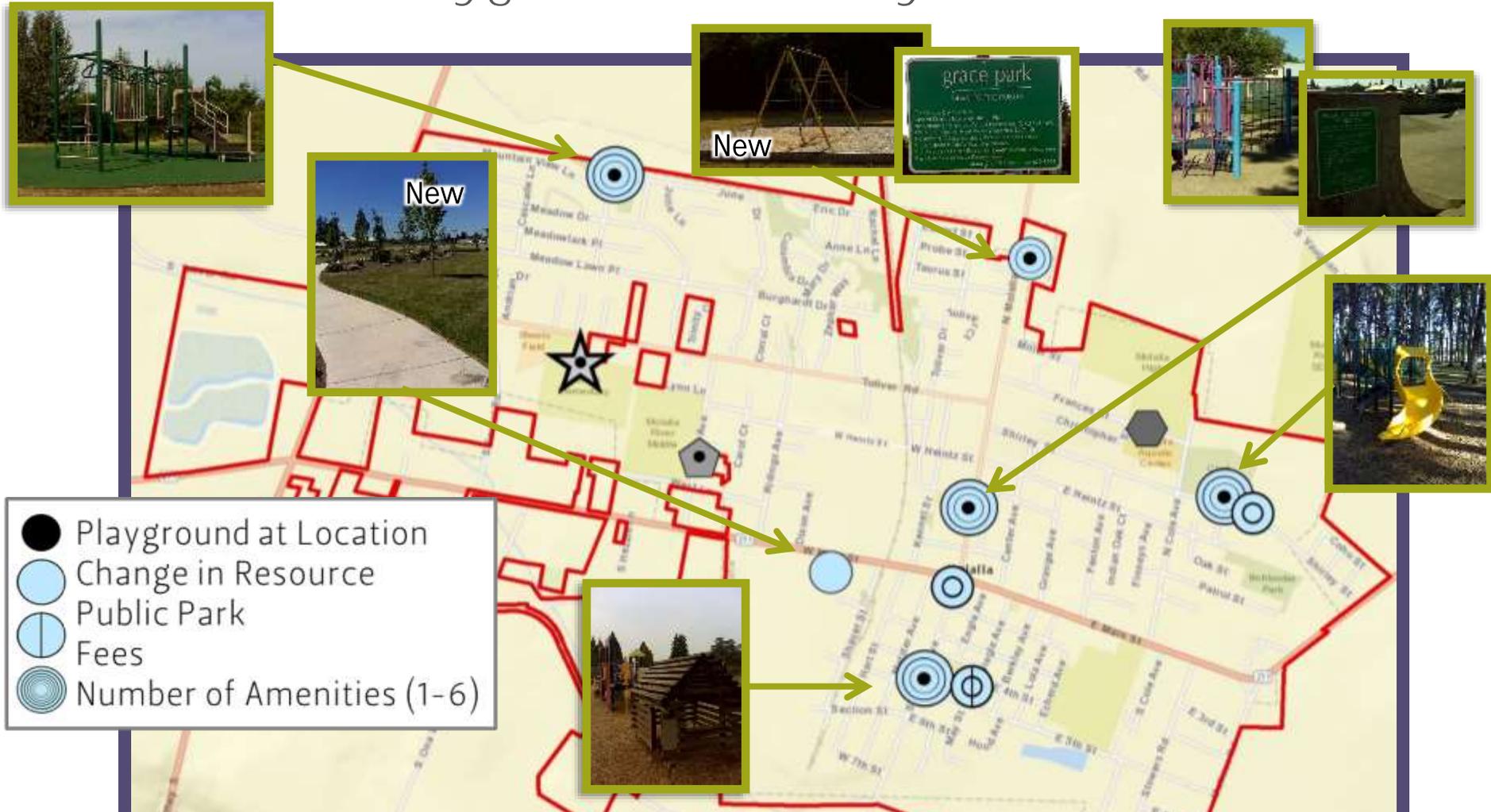
Resources and Amenities include: Picnic Shelters, Areas to walk dogs, Playgrounds, Sports/Playing Fields and Courts, A Skate Park, and Restrooms. Most are free, but some have fees to reserve park amenities. Molalla has gained two new parks since the 2014 Audit: one located on church property has a playground and sports/playing fields and the other located on city property and offers area for dog walking.

Changes to Other Physical Activity Resources

Molalla has a variety of other physical activity options (this includes previously mentioned amenities at public parks), that may or may not have fees associated with them. These are mainly outdoor resources located both within and outside of city limits.

Changes since 2014 include new fitness classes and new ownership/management of some resources, the closure of two low/no cost resources, as well as the addition of a number of story walks, which will be shown on a separate map.
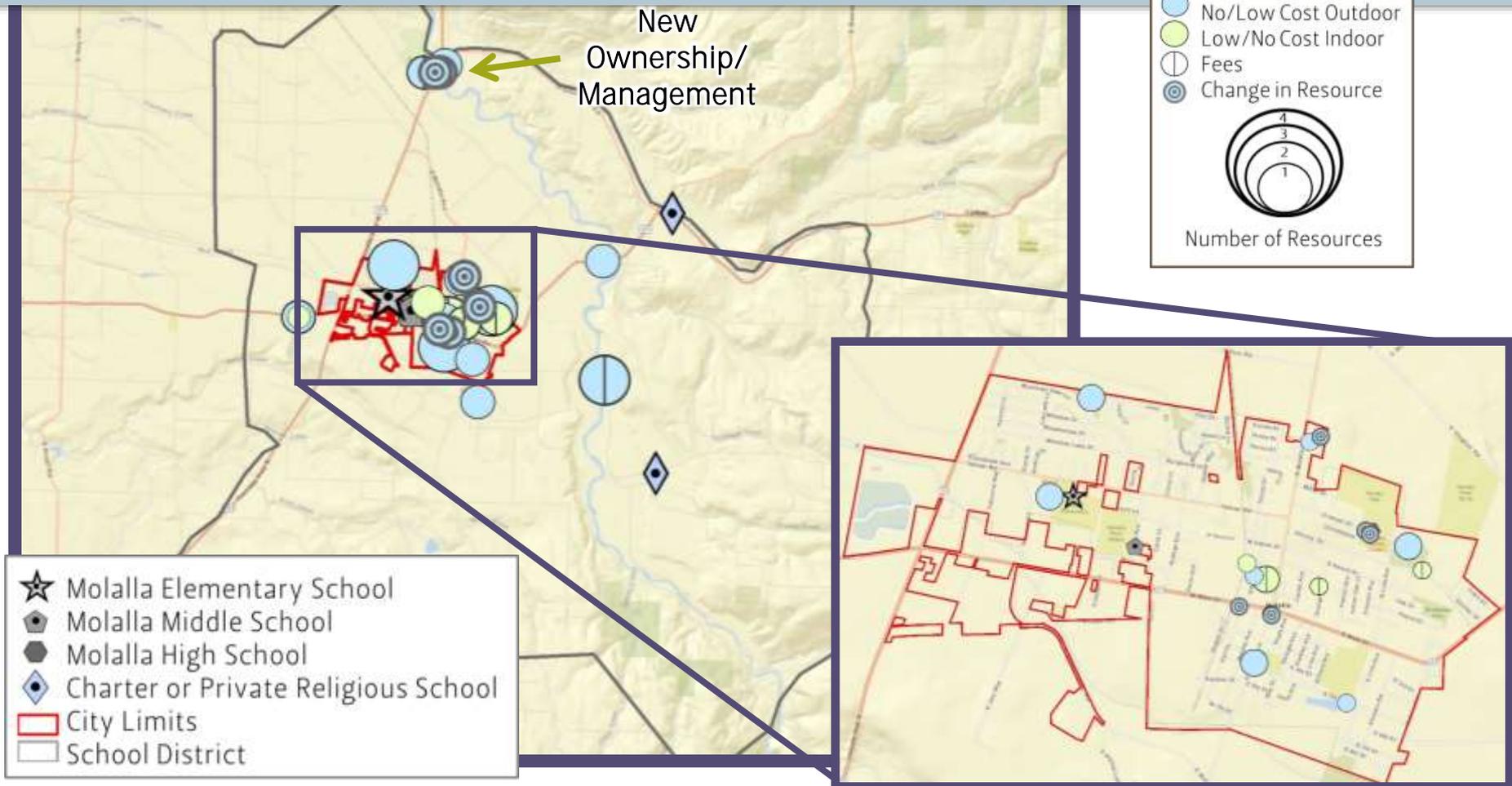
Changes to Other Physical Activity Resources

Since 2014, Dolce Dance studio and the Molalla Adult community center have added fitness or dance classes like Zumba and a local church has opened a public park that includes a playground and sports/playing fields. Due to budgetary constraints the community pool and garden have been closed since the first audit.

New Sports/Playing Field

Community Pool and Garden Closed

New Dance/Fitness classes

No/Low Cost Outdoor
Low/No Cost Indoor
Fees
Change in Resource

Number of Resources

Resources for Other PA Shown by Location

Golf Course, Swimming Pool, and Fitness Club

Beaches/Waterways and Trailheads

Molalla has a variety of resources located outside of city limits: two beaches/waterways for boating or swimming, a golf course, which includes a fitness center and swimming pool, three trailheads and a sky diving operation.

No/Low Cost Outdoor
Low/No Cost Indoor
Fees
Change in Resource

Number of Resources

Resources for Other PA Shown by Location

Within city limits, Molalla has a number of trails (including Story Walks), a skate park, BMX track and four sports/playing fields or courts, all of which are located outdoor. There are a number of fee based indoor resources as well: a bowling alley, two dance studios, and an exercise gym. The only indoor recreation resource that has low/no fees is the Molalla Adult Community Center.

- ◯ No/Low Cost Outdoor
- ◯ Low/No Cost Indoor
- ⬭ Fees
- ◎ Change in Resource

Number of Resources
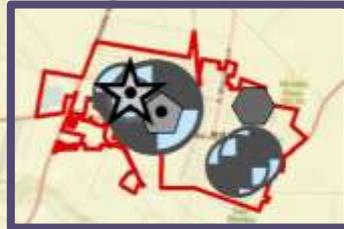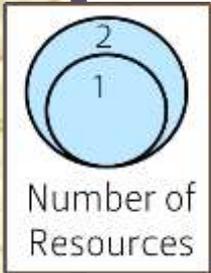
School Physical Activity Resources

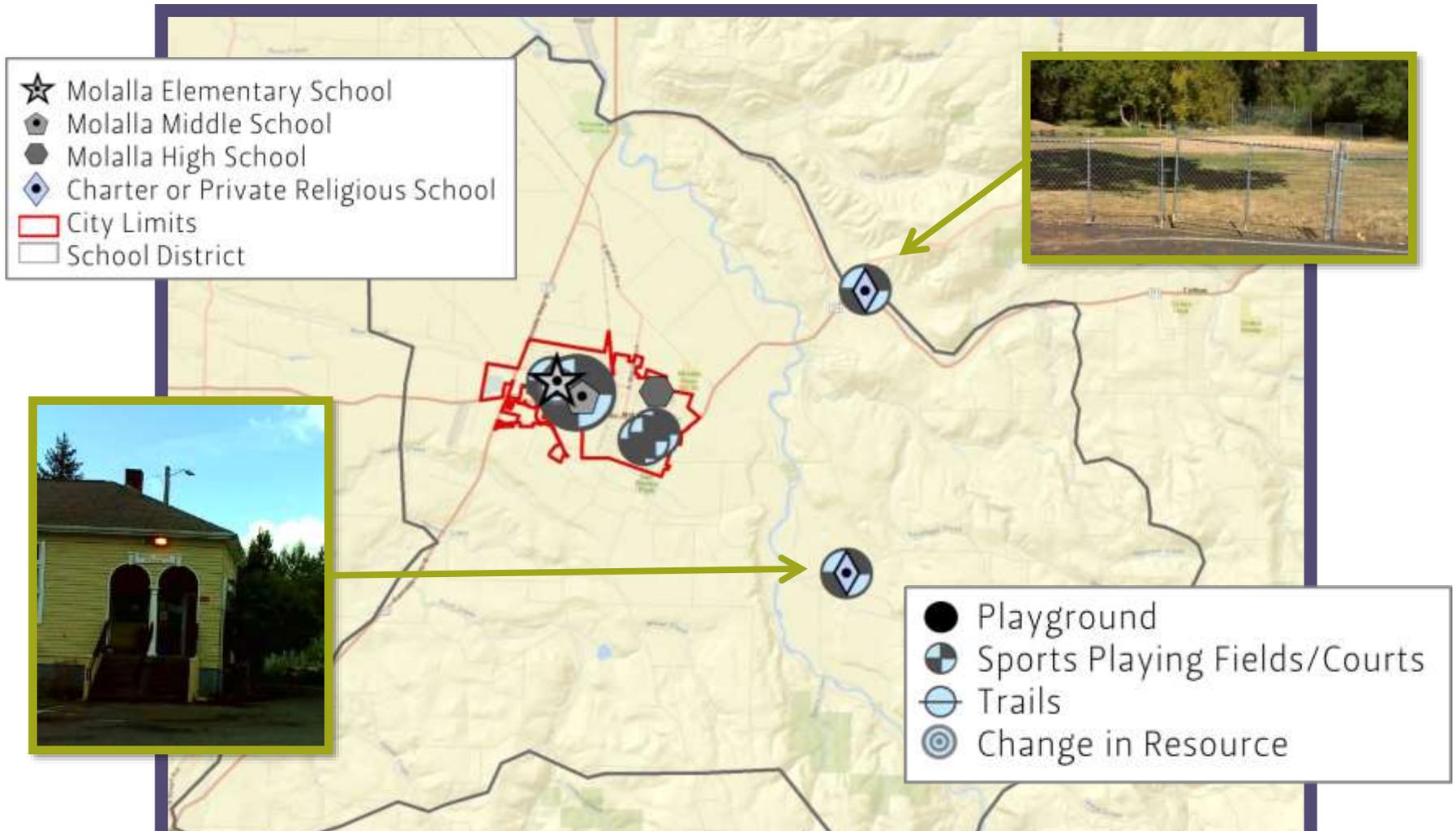The Molalla School District allows public access to Playgrounds, Sports/Playing Fields and Trails. Since 2014, access to trails and additional sports/fields courts has been added.

Playground
Sports Playing Fields/Courts
Trails
Change in Resource

2
1
Number of Resources

Molalla Elementary School
Molalla Middle School
Molalla High School
Charter or Private Religious School
City Limits
School District

Resources for School Physical Activity Shown by Location

Legend:
- ☆ Molalla Elementary School
- ⬠ Molalla Middle School
- ⬡ Molalla High School
- ◈ Charter or Private Religious School
- ▭ City Limits
- ▢ School District

- ● Playground
- ◑ Sports Playing Fields/Courts
- ⊖ Trails
- ◎ Change in Resource

Both of the schools located outside of Molalla city limits allow public access to their playgrounds and sports/playing fields or courts.

Resources for School Physical Activity Shown by Location

Legend:
- ☆ Molalla Elementary School
- ⬠ Molalla Middle School
- ⬡ Molalla High School
- ◈ Charter or Private Religious School
- ▢ City Limits
- ▢ School District

- ● Playground
- ◔ Sports Playing Fields/Courts
- ⊖ Trails
- ◎ Change in Resource

The Molalla River School District offers public access to gymnasiums, fitness trails, basketball and tennis courts, as well as other sports fields.

Resources for Story Walks

Molalla Elementary
School Story Walk

Ivor Davis Park
Story Walk

Fox Park
Story Walk

Molalla River
Academy
Story Walk

Since the start of GROW and the first Audit in 2014, Molalla has added at least four story walks. A story walk is a walking trail that includes kiosks associated with particular sections of a children's book. The idea is to walk along the route and read the book (via the kiosks) as you go!

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.

- Resources have been aggregated into 6 categories: o Low/No Cost Outdoor PA, o Low/No Cost Indoor PA, o Fee-Based Outdoor PA, o Fee-Based Indoor PA, o Local Agriculture, Grocery and Food Assistance, o Fast Food/Convenience Store and Restaurant

*PA=Physical Activity

Low/No Cost PA Resources	Fee-Based PA Resources	Local Agriculture
Community Centers	Golf Courses	Farm stands/U-picks
Public lands/Parks & Playgrounds	Equestrian centers	Farmer's markets
Sports Fields/Courts	Exercise/Fitness centers	Home-based sales (Eggs, Milk, Veggies)
		Hunting/Fishing/Gleaning Supports

Ease of Access to Food and Physical Activity Resources ✳

More than 60% have easy access to the most abundant PA Resources

Less than 50% have easy access to the most healthy food options

Less than 20% have easy access to any Indoor PA Resource

Legend: % Population, # Resources

Y-axis: % Population/ # of Resources (0, 25, 50, 75, 100)

Resource Categories (X-axis): Low/No Cost Outdoor PA, Fee Based Indoor PA, Low/No Cost Indoor PA, Fee Based Outdoor PA, Restaurants, Fast Food & Convenience Stores, Local Ag, Grocery, & Food Assistance

X-axis label: Resource Category

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

Molalla's ease of access to resources remained relatively stable with some nominal changes: a 7% increase in access for Low/No cost Outdoor PA, a 10 % increase for Low/No cost Indoor PA, and a 7% increase in easy access to Local Agriculture, Grocery, and Food Assistance resources. Still, less than 50% have easy access to these most heathy food sources, and less than 20% have easy access to any Indoor PA resource.

*PA=Physical Activity

Change in Number of Food and Physical Activity Resources

Overall, there were no aggregate changes in the number of resources for Grocery Stores, Fee-Based In and Outdoor PA, and Fast Food. The largest changes in resources were found in the Low/No Cost Outdoor PA, Food Assistance, and Local Food and Agriculture resource categories – due to the addition of two new parks, with a variety of amenities, summer lunch sites, a number of food banks, and local agriculture resources like seasonal farm stands. There were a number of changes in the Café/Deli/Restaurant resources; most of these were the result of new ownership or name changes but there was one new restaurant added. Finally, Molalla Lost one Low/No Cost Indoor PA resource when the community pool closed.

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.

Food Resources

PA Resources

City Limits
School Catchment Area
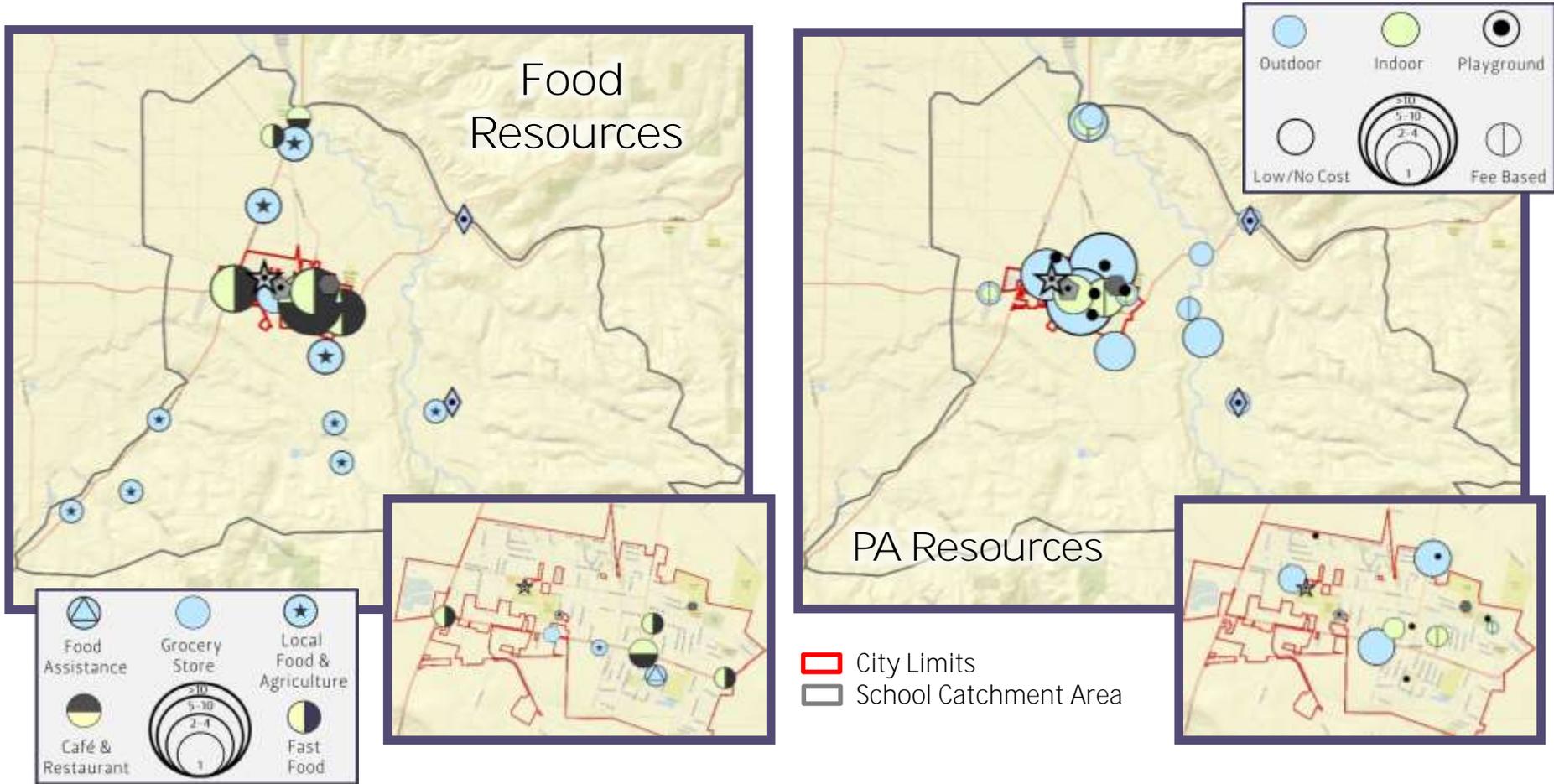
Resources are available, but mainly located within city limits, leaving those who live in more rural areas without easy access. Supports need to be affordable and accessible from where people live and work.