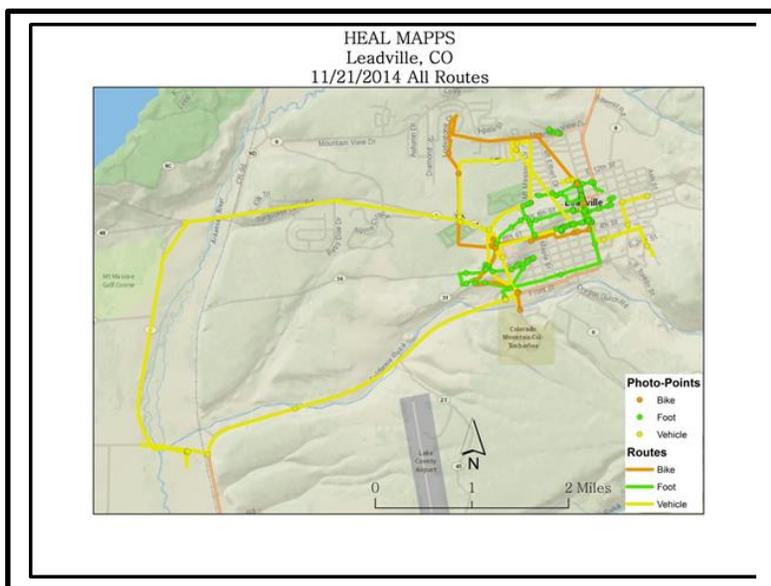


Leadville Community HEAL MAPPS™ Report

Leadville is a rural city located in Lake County, Colorado. Situated in the heart of the Rocky Mountains, Leadville was once a silver mining town, whose economy was long sustained by mining. The city is situated at 10,152 feet and is the highest incorporated city in the United States.¹ The annual average temperature in Leadville is 35 degrees Fahrenheit. Average annual precipitation is approximately 12 inches, and average annual snowfall can reach to over 200 inches.² The total population of Leadville is 2,821, which is comprised of 84% white, 0.14% African American, 1.3% Native American, 0.32% Asian, 0.11% Pacific Islander, 12% other races, and 2.3% from two or more races. Hispanic or Latino of any race accounts for 25-45% of the total population.³

The Lake County School District includes 4 schools that serve the community of Leadville: The Center Early Childhood Programs (Preschool), West Park Elementary School (Grades K-2nd), Lake County Intermediate School (Grades 3rd-6th), and Lake County High School (Grades 7th-12th)⁴ Leadville is also home to St. Vincent General Hospital, a 25-bed critical access hospital providing a variety of services.⁵ There are a plethora of recreational activities available in Leadville including hiking, biking, fishing, golfing, racing, marathons, skiing, and snowshoeing. To give one example, the Mineral Belt trail is an 11.6 mile non-motorized multi-use paved pathway that makes its way through the historic Leadville Mining District.³



Generating Rural Options for Weight Healthy Kids and Communities (GROW HKC) is a USDA-funded, participatory childhood obesity prevention study conducted by Oregon State University's Extension researchers in partnership with rural residents and communities. GROW HKC and the Leadville community have partnered to map features of the local environment and

¹ http://en.wikipedia.org/wiki/Leadville,_Colorado

² <http://www.usclimatedata.com/climate/leadville/colorado/united-states/usco0235>

³ http://www.cityofleadville.com/#!__demographics

⁴ <http://www.lakecountyschools.net/about-us/>

⁵ <http://www.svghd.org/about-us>

discuss residents' perceptions of the community supports and barriers to regularly eating healthy and being physically active, particularly for children and families. Community members were mobilized and trained to use HEAL MAPPS™ (Healthy Eating Active Living: Mapping Attributes using Participatory Photographic Surveys), our community resource and readiness tool, to assess community resources for and readiness to improve and implement healthy eating and physical activity supports – environmental and policy actions to make easier these obesity preventing behaviors.

HEAL MAPPS™ projects conducted in partnership with rural communities across several Western States (CO, ID, NM, NV, OR, WA) will provide evidence and insights that will drive the development of a rural obesity prevention model. The model will be used as a framework for rural community actions aimed to promote healthy eating and physical activity behaviors, environments, and policies to prevent overweight and obesity among children and families.

The problem of obesity in children is in the forefront of nationwide research efforts and there are documented physical and mental health outcomes associated with childhood obesity that contribute to lifelong chronic health problems which may disproportionately affect people living in rural places. Rural residency tends to increase the risk of overweight and obesity for children and adults; the prevalence of childhood overweight and obesity is higher among children living in rural areas.

To date, most evidence-based strategies to combat the childhood obesity epidemic have been developed and tested in non-rural settings and target either individuals or environments. The overall goal of the GROW Healthy Kids and Communities (HKC) project is to learn more about the factors influencing health behaviors in rural places in order to prevent obesity in rural children **by improving their behavioral environments – at home, in school, and in the community** – to make healthy eating and activity options their easy and preferred choice.

Relevance for Leadville Community

According to the US Census Bureau, 49% of family households in Leadville have children under the age of 18.⁶ The median household income is \$39,976, and approximately 7% of the population is below the poverty line. The obesity rate for adults in Lake County is 17% and for the whole of Region 13 of Colorado the rate is 22.7%, compared to the state average of 20%. The obesity rate for children aged 2-14 in Region 13 is 19% compared to the state average of 15%. In 2012, nearly 50% of children aged 1-14 ate fast food one or more times in the past week, and 23% consumed sugar-sweetened beverages one or more times per day. While

⁶ <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>

physical activity data is lacking for children in this region and county, data shows that just under half of all adults in Lake County are not getting the recommended amount of daily physical activity.⁷

Helping children develop healthy habits and providing healthy eating and activity supports to balance their energy intake with energy expenditure is an important aspect to maintaining healthy weight, preventing overweight and obesity, and minimizing chronic disease risk. Because obesity prevention among rural populations requires an understanding of the supports and barriers to healthy eating and active living within and among rural communities, we are pleased to provide this report of resources and readiness to prevent childhood obesity for the community of Leadville.

Methods and Preliminary Results

A HEAL MAPPS™ team (n=11) comprised of Leadville community members with an interest in creating a healthier community volunteered and were first trained to individually photograph and map the Leadville community features that they perceived as either supports or barriers to eating healthy and being physically active most every day. Collectively, over 117 photographs were taken and mapped along 12 routes that represented the community's active (i.e. walking, bicycling, skateboarding, etc.) and motor vehicle transportation system. The 'mappers' covered approximately 43 road miles included within the 1.1 square miles of the city of Leadville and included features in the surrounding unincorporated areas (see Figure 1).⁸ The HEAL MAPPS™ team reconvened to discuss the photographs and maps during a focus group meeting. The most relevant 36 photographs, based on group consensus, were included in a presentation to provoke a larger community conversation. Leadville residents and stakeholders attended and participated in a community dinner and discussion held at the Colorado Community College on January 15, 2015. The community conversation was facilitated by a member of the GROW HKC team trained to conduct HEAL MAPPS™ processes. Following the community dinner, photographs were displayed, approximately a dozen participants were polled as to whether the feature made eating healthy or being physically active easier or harder for themselves or others in the community, and discussed their thoughts and feelings that led to their ratings. Child care was generously provided by Allison Collins and Tatyana Bartik.

⁷<http://www.chd.dphe.state.co.us/HealthIndicators/indicators.aspx?did=5&sdID=32&cID=65&rID=13>

⁸ The 'mappers' individually determined the community boundaries as within the city and unincorporated land approximately served by the Leadville school district.

Community Readiness

Communities differ in many ways including their readiness to take action on an issue and implement relevant programs. The level of community readiness is a major factor in determining whether a particular program can be effectively implemented and supported by a community. Assessing the level of readiness for obesity prevention efforts is thereby a critical component of obesity prevention program planning and evaluation.

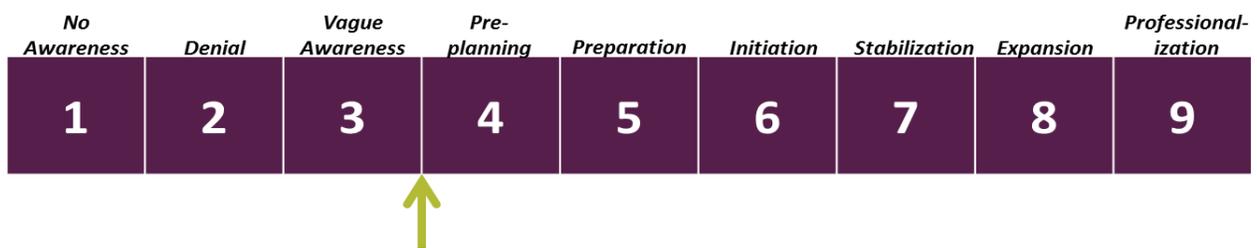
The Community Readiness Assessment Model is a tool we used to gain an understanding of the Leadville community's resources and readiness for obesity prevention efforts. The assessment is divided into six dimensions that explain where a community is situated in inclination to take action on an issue. The six dimensions are: community knowledge about the issue, community efforts, community knowledge of the efforts, local leadership, community climate, and local resources related to the issue. Questions representing each dimension were asked during the Leadville Community Conversation and the participants shared their perception of Leadville readiness and preparedness for change. Each dimension was then scored by two independent evaluators and combined to identify the overall stage of readiness.

To better understand the local resources and community efforts related to the issue of environmental factors that influence rural weight health, photographs and community conversation narratives were coded into "food/healthy eating" and "physical activity;" "supports" and "barriers." Several Leadville community organizations emerged as supports for healthy eating and physical activity. Of note were the efforts by the schools to address food and physical activity issues using the school wellness programs and school wellness teams, as well as measuring school health policies and practices. Also mentioned were several health non-profit groups conducting healthy eating active living surveys and program evaluations in the community (e.g. Colorado Health, Live Well, etc.). Other efforts that emerged as supports for eating healthy and being physically active were afterschool programs (e.g. swim club, youth hockey, basketball) as well as various outdoor recreation areas (e.g. mineral belt trail, sports fields, San Isabel National Forest). The level of supports for healthy eating and physical activity is reflected positively in Leadville's overall community readiness score.

Barriers, most specifically in terms of the existing community resources and community climate, contributed negatively to Leadville's overall readiness score. Leadville community members discussed their interest in eating healthy and explained efforts aimed at increasing local access to fresh produce. However, community members acknowledged that not all community members have easy access to healthy food and fresh produce. Transportation and distance to healthy food access, as well as the variety of options, were cited as major barriers to eating healthy for Leadville residents. Lack of transportation options resulting in a dependence on a personal motor vehicle was also cited as a barrier to daily physically active for some residents.

While some people were interested in growing produce at home, the high altitude climate and extremely short growing season was acknowledged as less than optimal for efforts such as those. Climate was also cited as a seasonal barrier for physical activity: during the winter months the trails and sidewalks are snow covered or icy. Lack of maintenance and/or funding for maintenance of resources was also cited as a barrier. Walking into town was discussed as an enjoyable activity by some community members. Generally, the absence of or unmaintained sidewalks and lack of traffic calming features emerged as barriers to walking for transportation or physical activity for many in the community. A community cultural barrier that emerged from the narrative was explained as low levels of community engagement, perceived as stemming from a lack of education, interest or time.

Stages of Community Readiness



Leadville’s overall stage of readiness to implement environmental and policy strategies to support weight healthy lifestyles and reduce rural obesity risk falls somewhere between Stage 3, Vague Awareness, and Stage 4, Pre-planning for Action, as indicated by the arrow on the graph. Based on the Community Readiness Model stage-matched strategies, community efforts should focus on: 1) raising awareness that the community can do something about the problem, and gathering/using existing information about the obesity problem, especially childhood obesity, the local food environment and physical activity resources in order to plan community actions; 2) providing suggestions, based on resident input and reliable data (e.g. identifying barriers) as to where and how efforts should be focused. Information should be presented at local community events, at events initiated by weight health stakeholders and partners, and information on the issue shared with unrelated groups; a media campaign - post flyers, posters, and billboards – should be used to spread the message. Work with academic and health partners, like Colorado State University and Extension, to gather additional information from other community residents and groups, write and publish newspaper articles and opinion editorials with general information related to local situation. Raise awareness that efforts to address childhood obesity are happening in Leadville and 3) start planning how to evaluate the successes of your efforts to change the context for weight health. For example, conduct height-weight assessments with youth recreation programs to track obesity risk among young people; sponsor a community picnic or fun-run to kick off the weight healthy community campaign; conduct public forums to develop strategies from the grassroots level; utilize key

leaders and influential people to speak to groups and participate in local radio and television. Build and communicate Leadville's capacity to change – "Our community can GROW Healthy Kids!"

For more information about the Community Readiness Model, stages of community readiness and stage-based strategies to increase community readiness to address health issues visit: <http://www.colostate.edu/Dept/TEC/article3.htm>.

Summary of Results based on Leadville Community Conversation coded into Thematic Categories

Physical Activity (41 references)

Supports –23 references

Schools

- *Team in schools that addresses food and physical activity*
- *Get the lead out campaign*
- *After school programs: swimming club, soccer and basketball programs, youth hockey, ice skating*
- *School sports fields*

Active Recreation

- *Pool*
- *Mineral belt trail both for all season activities*
- *Park*
- *Recreation department programs*
- *Soccer fields, basketball courts*
- *Winter sports areas*
- *Open trail space in natural areas (car free?)*
- *San Isabel National Forest*
- *Leadville outdoor shop*

Active Transportation

- *Bike racks*
- *Bike club*
- *Paved trails*
- *Some traffic calming features (signals, signs, and crosswalks)*

Supportive Partners and Technologies

- *Websites, visitor center, and the newspaper for access to information*
- *Small groups evaluating and surveying programs (e.g. Colorado Health Grant, Live Well, etc.)*
- *“Build a generation” initiative*
- *Community champion*

Barriers –18 references

Structures/infrastructure

- *Hot tub is closed*
- *No big indoor space for seniors*

Transportation/automobile dependence

- *Lack of transportation to senior center*
- *Lack of sidewalks lack of connectivity and sidewalks are covered in ice/snow in winter*
- *Lack of traffic calming features on some roads*
- *Lack of transport for some*
- *Lack of traffic calming features (crosswalks) or they are ignored*
- *Lack of berm, bike lane or space to share the road*
- *Limited walkability/connectivity to town*

Economy/funding

- *Lack of maintenance at some resources (trash, old equipment)*
- *Lack of sidewalks or sidewalk maintenance (broken, ice covered etc.)*
- *Lack of funding for maintenance of facilities or for programs*

Communications/information systems

- *Lack of bilingual materials*
- *Lack of signage to promote road sharing*
- *Remoteness/spatial*
- *Very far from anything so getting someone who knows how to fix or maintain things is difficult*
- *Winter rec is equipment heavy and expensive*
- *Winter weather makes it difficult to walk/ride bikes*
- *Some community members adverse to change*

Healthy Eating (27 references)

Supports – 16 references

Schools

- *wellness program*
- *Team in schools that addresses food and physical activity*
- *School lunches include healthier foods*
- *Scratch cooking at school program*
- *School districts efforts to measure health policy and practice and put that information out*

Supportive Partners and Technologies

- *Building efforts towards bringing more fresh produce into town*
- *Community members are increasing interested in eating healthy*
- *Community members lend their expertise on nutrition*
- *Library gardening program*
- *Small groups evaluating and surveying programs (e.g. Colorado Health Grant, Live Well, etc.)*
- *Websites, visitor center, and the newspaper for access to information*
- *Build a generation*
- *Some community businesses offer healthy food options*

Barriers –11 references

Transportation/automobile dependence

- *Need to drive outside of town to get most groceries*
- *Lack of demand in community for healthy foods because people end of shopping where they work (outside of town).*
- *Access to, and variety of, healthy food is somewhat limited*
- *Lack of transportation to access healthy food*

Climate

- *Community members do not know how to eat healthy*
- *Community members do not have time to engage with schools or education.*
- *Lack of bilingual communication*
- *Climate is a barrier to growing food*

Economy/Funding

- *Lack of funding to support programs*
- *Lack of education supports*

Resident-Informed Recommendations for Community Change

The following recommendations, represented as paraphrased statements, emerged from the data generated during the **Leadville** community conversation and represent those of the **Leadville** community members who shared their ideas during the facilitated discussion of the photographed community features. These recommendations do not represent those of the GROW Healthy Kids and Communities or Oregon State University; nor do they represent Colorado State University or CSU Cooperative Extension.

Participating residents and community leaders proclaimed:

Structural Changes

Sidewalks would help

In the winter [they] bike racks are completely buried under snow. The bike racks are not near the entrance. We would love to see more of this around town.

Beautifying streets (trees) and adding traffic calming features (bump-outs)

More bike racks or bike supports

Community Engagement

People need to attend meetings to express their opinion. Voices need to be heard, elected officials need to hear.

Collaboration

When people come together and talk about bike-ability and walkability, to collaborate and figure out what a solution would be, together we figure out how to make that happen. So often what we can do is get together with people to create solutions.

Academic-Community Partnerships

With all of the grants, etc. we need evaluation with everything.

Other organizations might be the best answer to this solution. They just need more man power.

Education

A huge portion of this community doesn't know how to eat healthy as it is. We need more education in the community.

More education in terms of healthy eating

Cultural Tailoring

Bilingual rec sports material and newspapers needed

Transportation/funding

*Transportation is limited for some (seniors/folks with limited means)
Need ongoing funding for after school programs and to maintain facilities like the pool, hotub*

Figures 1 through 4 represent the routes navigated by local residents as they mapped the physical features of the **Leadville** community using participatory photographic survey methods.

Figure 1. Represents all routes generated by the Leadville, CO community mappers.

HEAL MAPPS
Leadville, CO
11/21/2014 All Routes

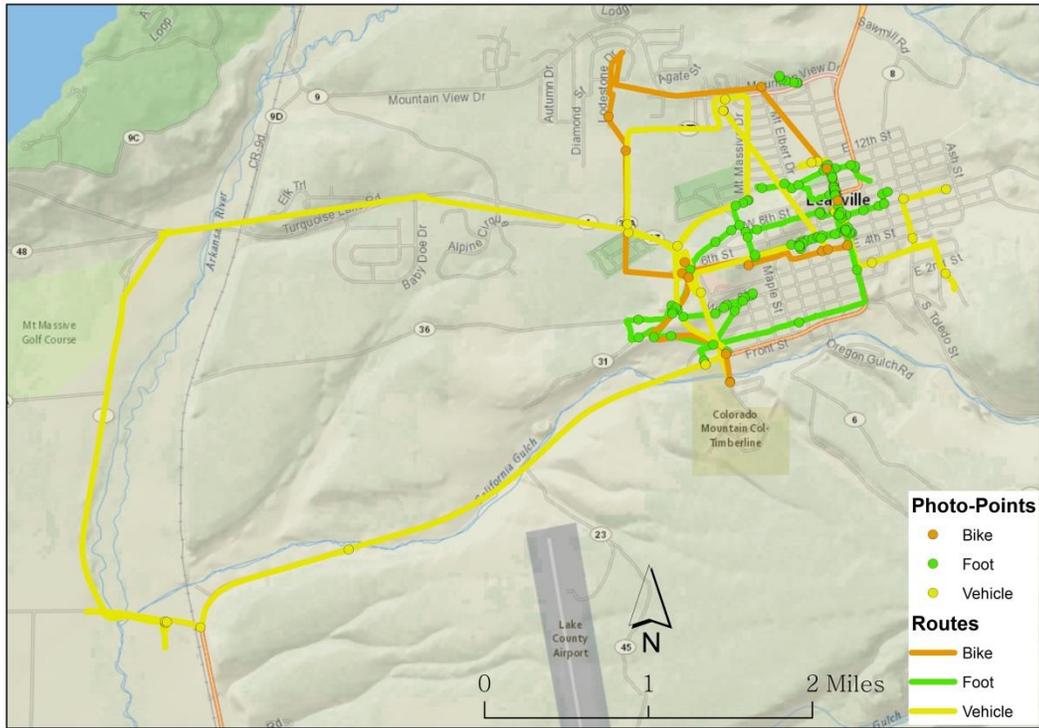


Figure 2. Represents an example of a route generated while using a personal motorized vehicle.

HEAL MAPPS
Leadville, CO
11/21/2014 Vehicle Routes

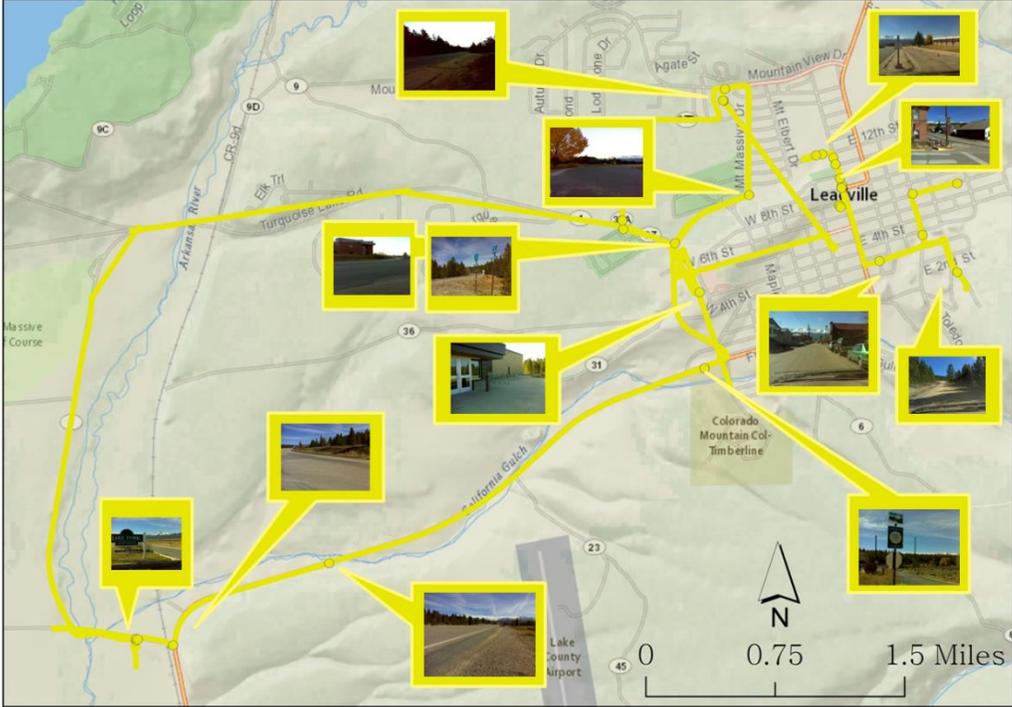


Figure 3. Represents a walking route and the features encountered along the route that enable or hinder healthy eating and/or physical activity.

HEAL MAPPS
Leadville, CO
11/21/2014 Foot Routes



Figure 4. Represents a bicycle route and the features encountered along the route that enable or hinder healthy eating and/or physical activity.

