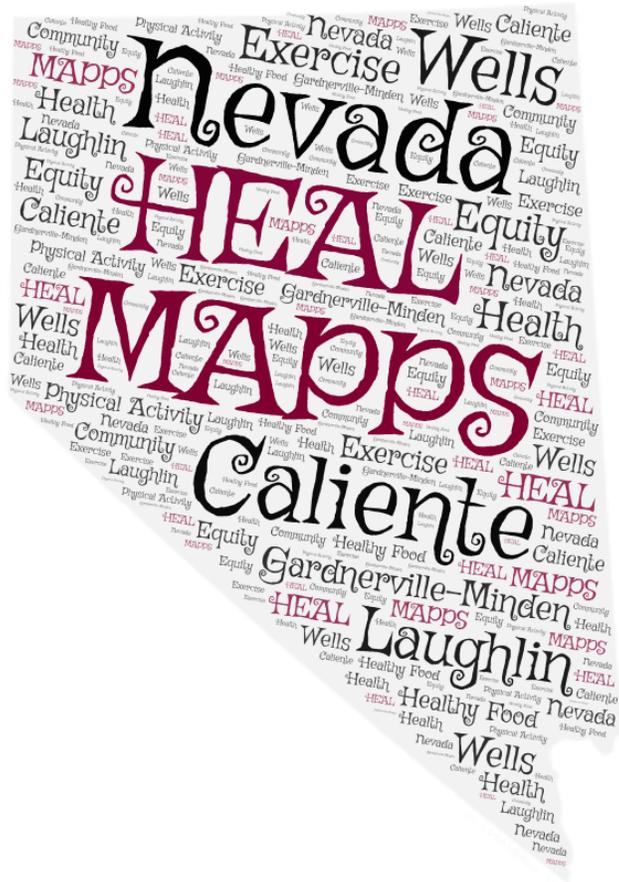


# Nevada

## HEAL MAPPST<sup>TM</sup>

### Community Reports



Nevada State University Cooperative Extension, in partnership with Oregon State University Extension Family and Community Health (FCH), and Oregon State University College of Public Health and Human Sciences' Generating Rural Options for Weight Healthy Kids and Communities (GROW HKC) program and the individual communities collectively supported these impacts.

Using data collected during the HEAL MAPPST<sup>TM</sup> processes, these reports provided findings and recommendations to the community residents and decision-makers that were leveraged to maintain community actions to change the obesogenic context, create a culture of weight health, and prevent a rise in childhood obesity prevalence. This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award John and Gunter 2011-68001-30020.

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## Caliente Community HEAL MAPPS™ Report

Caliente is a rural town located in the southern portion of Nevada and the only incorporated community in Lincoln County. This historic railroad town has a total area of 1.9 square miles and a population of about 1,320<sup>1</sup>. The demographic profile of Caliente is 86.6% white, 1.3% black, 8.8% American Indian/Alaska Native, 1% Asian, 0.3% Native Hawaiian/Pacific Islander, and 11.5% Hispanic/Latino ethnicity. The median household income is \$24,695, which is lower than the national average of \$52,762. Caliente has a relatively high senior population with 18% of residents over 65 years of age.<sup>1</sup>

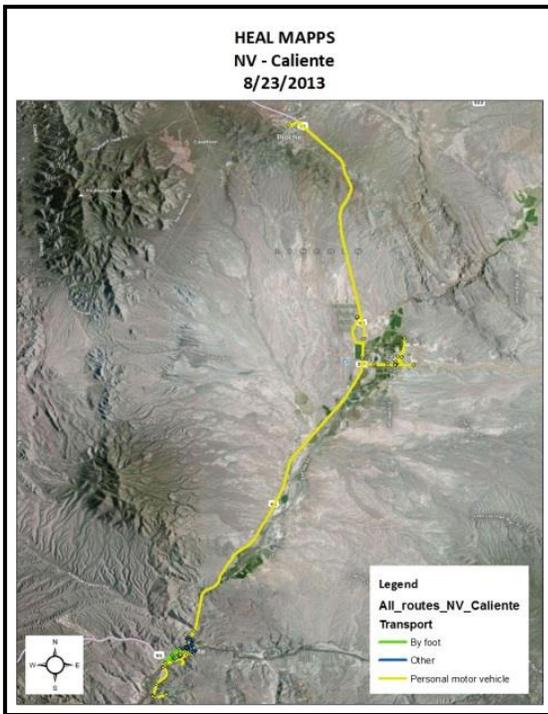
Caliente has benefited in the last 5 years by receiving over six million dollars in grant funding for park improvements. Before this investment, the community lacked walkways, sidewalks and had poor access to old facilities. Unlike most high poverty rural areas, Caliente now has new ball fields, exercise paths, treed walkways and a new swimming pool being constructed. Before these improvements, it was unusual to see people walking a few blocks to work. However, this significant investment into quality recreation facilities has expanded community interest in physical activity, resulting in many community members becoming avid walkers and runners.

Caliente is part of a cluster of communities. There are two small towns, Panaca and Pioche, just 15 and 25 minutes respectively to the north. The middle and high schools, and their sports facilities, are located in Panaca. Pioche is the county seat and is where the DMV is located. The limited number of commercial stores is located in Caliente. The two towns and the city of Caliente combine to provide basic services for the residents in the area.

Caliente, nestled in a green valley in the high desert, is surrounded by extensive public land areas (BLM) that are used for recreation. One particular area, located just two miles south of Caliente, is Kershaw Ryan State Park inside of Rainbow Canyon. This park offers campgrounds, volleyball courts, a natural swimming pool and great hiking trails with American Indian petroglyphs hand carved by native peoples over 1500 years ago. There are four other state parks to the north which offer recreation activities like hiking, cycling and fishing.

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<sup>1</sup> U.S. Census Bureau. (2010). Caliente Demographic Profile.



**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 Caliente community have partnered to map features of the local environment and 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 (AZ, CO, NM, NV, OR, WA) will provide evidence and insights that will drive the development of a rural obesity prevention model. This model will be used as a framework for rural community actions aimed to promote healthy eating, 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. These problems may disproportionately affect people living in rural places, as rural residency tends to increase the risk of overweight and obesity for children and adults.

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 environmental factors influencing health behaviors in rural places in order to prevent the

onset of overweight and obesity in rural children. GROW HKC aims to **improve the behavioral environments – at home, in school, and in the community** – to make healthy eating and activity options the easy and preferred choice for rural children and families.

### **Relevance for Caliente Community**

Part of the Lincoln County School District, Caliente Elementary School has about 135 students in pre-kindergarten through sixth grade. About 51% of students qualify for free or reduced lunch; about the same as the school district average<sup>2</sup>. This is significant for childhood obesity rates, as food insecurity has been associated with overweight and obesity<sup>3</sup>. The schools have indicated concern with not offering education on healthy eating and a willingness to introduce this content.

For adults in Lincoln County, the obesity rate in 2009 was 25.2% and the diabetes rate was 12.2%<sup>4</sup>. Childhood obesity rates for rural Nevada counties range from 19 to 20.3%<sup>5</sup> although national survey data reflect lower prevalence, between 5 and 10% from 2009-2011<sup>6</sup>, for Lincoln County children and 8.6%<sup>4</sup> for low income preschoolers, which may reflect a self-report bias in survey data vs. body mass index calculated from height weight measurements.

Regardless, helping children develop and sustain healthy habits, by 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 Caliente.

### **Methods and Preliminary Results**

A HEAL MAPPS™ team (n=8) comprised of community members from Caliente, Panaca, and Pioche with an interest in creating a healthier community volunteered and were first trained to individually photograph and map the features in Caliente and surrounding community places

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<sup>2</sup> Lincoln County, Caliente Elementary School 2011-2012 School Accountability Report.

<sup>3</sup> Casey, P., Simpson, P., Gossett, J., Connell, C., Harsha, D., et al. The association of child and household food insecurity with childhood overweight status. *Pediatrics*, 118(5).

<sup>4</sup> USDA Food Environment Atlas. Retrieved September 12, 2013 from <http://www.ers.usda.gov/data-products/food-environment-atlas>

<sup>5</sup> Health Status of Children Entering Kindergarten in Nevada, Results of the 2011-2012 Nevada Kindergarten Health Survey, March 2012.

<sup>6</sup> CDC. (2013). Childhood Obesity Data. Retrieved September 12, 2013 from <http://www.cdc.gov/obesity/data/childhood.html>

that they perceived as either supporting or hindering the development and maintenance of habitual healthy eating, physical activity, and active transportation behaviors. Collectively, over 80 photographs were taken and mapped along 8 routes that represented the community's active (i.e. walking, bicycling, skateboarding, etc.) and motor vehicle transportation system. The 'mappers' covered the area including the 1.9 square miles of Caliente, 3.3 square miles of Panaca, and 6.1 square miles of Pioche and photomapped features in the surrounding unincorporated areas (see Figure 1).<sup>7</sup> The HEAL MAPPS™ team reconvened for a focus group to discuss the photographs and maps and make decisions on which photographs were most representative of the community conditions. The HEAL MAPPS™ team selected 30 photographs, based on group consensus, which were included in a presentation used to provoke a larger community conversation. Over 25 community residents and stakeholders attended and participated in a community dinner and discussion held at Pioneer Pizza on August 29, 2013. 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, 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 lived experiences of the local food and activity environment that informed their opinions.

### **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 environmentally-based obesity prevention efforts – improving availability and accessibility of healthy eating and activity options 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 Caliente community's resources and readiness for creating an obesity preventing environment. The assessment is divided into six dimensions that influence a community's readiness 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 Caliente Community Conversation and the participants shared their perception of Caliente's readiness and preparedness for change. Each dimension was then scored by an evaluator to identify the overall stage of readiness.

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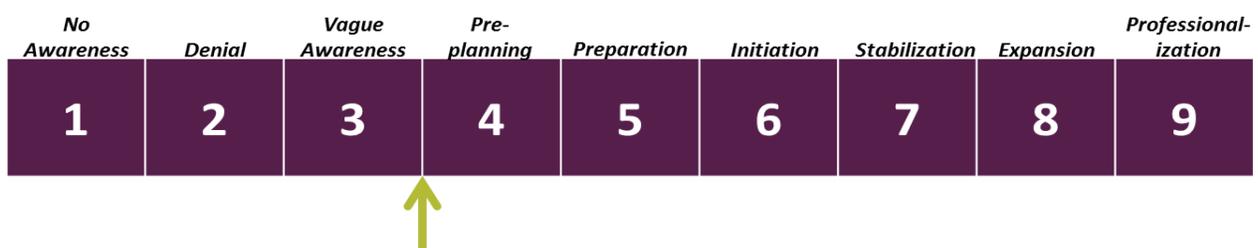
<sup>7</sup> The 'mappers' individually determined the community boundaries as within the city and unincorporated land approximately served by the Caliente school district.

## Results

Several Caliente community efforts to improve the food and physical activity environment were noted, efforts by civic and community leaders including many recreational supports (walking paths, parks and a swimming pool) and grant funds to support a free summer lunch program at the school. These efforts and evidence of leadership involvement contributed positively to the community readiness score given to the community.

Perceived barriers to healthy eating and physical activity included: lack of bike lanes, strong reliance on personal motor vehicle and perceived disinterest from local food retailers to serve local produce. Though the schools host after-school programs and activities, many students are unable to participate because there is no late bus option and the distance between the schools and the community is around 15 miles. There are many resources that exist in and around Caliente, but many are not accessible for everyone due to fees, distance (including a lack of active transportation supports) and lack of advertisement (indicates lack of knowledge about resources). The issue of accessibility was frequently mentioned, especially considering Caliente is part of a cluster of communities which collectively provide resources and services for residents in the area. The community is interested in providing resources to support healthy eating and physical activity, but it seems community members are only mildly concerned about the issue of childhood obesity. Instead, the attention and concern of the community is focused around other issues, such as ensuring the community is accessible for older adults and disabled residents.

### Stages of Community Readiness



Caliente stage of readiness to implement environmental and policy strategies to prevent obesity emerged as between stage 3 (vague awareness) and stage 4 (preplanning), as indicated by the arrow on the Stages of Readiness graph.

Based on the Community Readiness Assessment Model, community efforts should focus on:

1) Use data to provide suggestions on where and how efforts should be focused based on resident input and identified barriers. Present information about the issue – obesity and the

rural environment and results of HEAL MAPPS™ at local community events and to unrelated groups; participate in event planning where information about obesity prevention can be integrated into the program; launch a media campaign - post flyers, posters, and billboards to raise awareness about the issue.

2) Gather additional existing data and new information, particularly at the local level, about childhood obesity, the food environment, and physical activity resources in order to plan data-driven strategies to address the community environment and make available and accessible healthy eating and active living options for all residents.

3) Begin to plan for community action and develop an evaluation plan of community efforts. Build and communicate Caliente's capacity to change – adopt the motto, *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 – Community Physical Activity and Healthy Eating Resources and Community Efforts (Supports or Barriers) emerging from Caliente Community Conversation**

#### ***Physical Activity***

##### Supports

- Outdoor trails and parks that are well maintained, including public parks and playgrounds and walking paths.
- Active recreation supports include baseball field, skate park, and new swimming pool.
- School-based activity programs include some structured physical education, and after-school physical activity and sports programs, such as the 100 mile walking club.

##### Barriers

- Impediments to active transportation supports include a lack of road shoulders, bike lanes, and a strong dependence on personal motorized vehicle due to the vast distances between work, school and place of residence.
- Some of the outdoor trails and parks are not very accessible due to a lack of bike lanes and distance from town to the parks.
- Lack of advertisement for recreational programs, groups, and services.

- Lack of available and accessible (across demographic groups) exercise facilities; affordability of existing exercise facilities – fee structure hinders accessibility for some community members.
- School-based barriers include no late bus option for after school programs; physical education is offered as an elective, and dependent on whether a teacher is available and able to teach it.

## ***Healthy Eating***

### Supports

- Local food resource centers bridging local food production with distribution.
- Food retailers, such as a grocery store and a few food delivery services, support local availability of healthy food options.

### Barriers

- Limited access to fresh fruits and vegetables – the grocery store “runs out of food;” seasonal influence on availability of locally grown/produced foods.
- Perceived “disinterest” of local food retailers to serve local produce; policies that regulate or restrict restaurants from offering local foods.
- No community-based educational programs to increase knowledge and skills required for healthy food and nutrition behavior for children, families, or food service organizations.

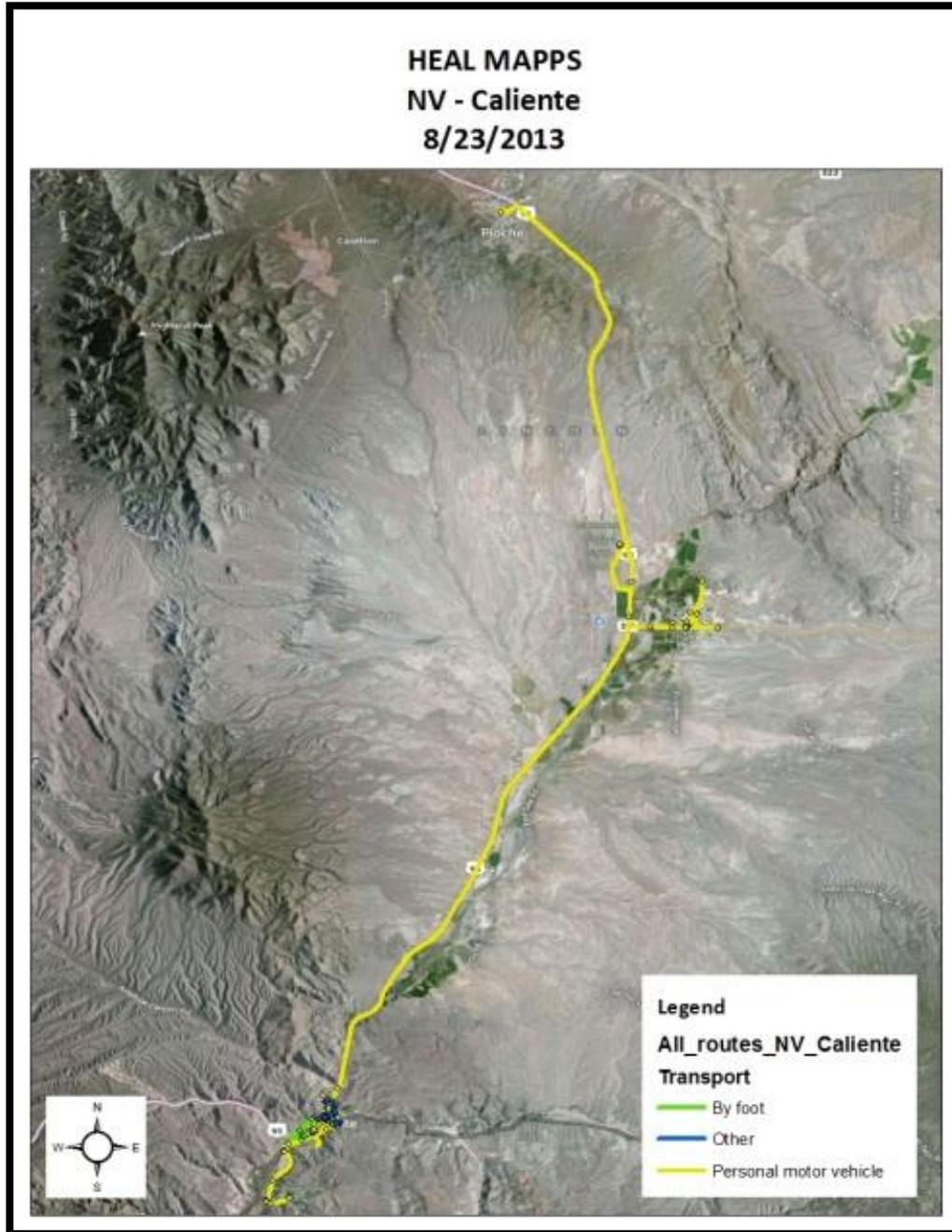
## **Resident-Informed Recommendations for Community Change**

The following recommendations emerged from the data generated during the Caliente community conversation and represent those of the Caliente 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 team or Oregon State University.

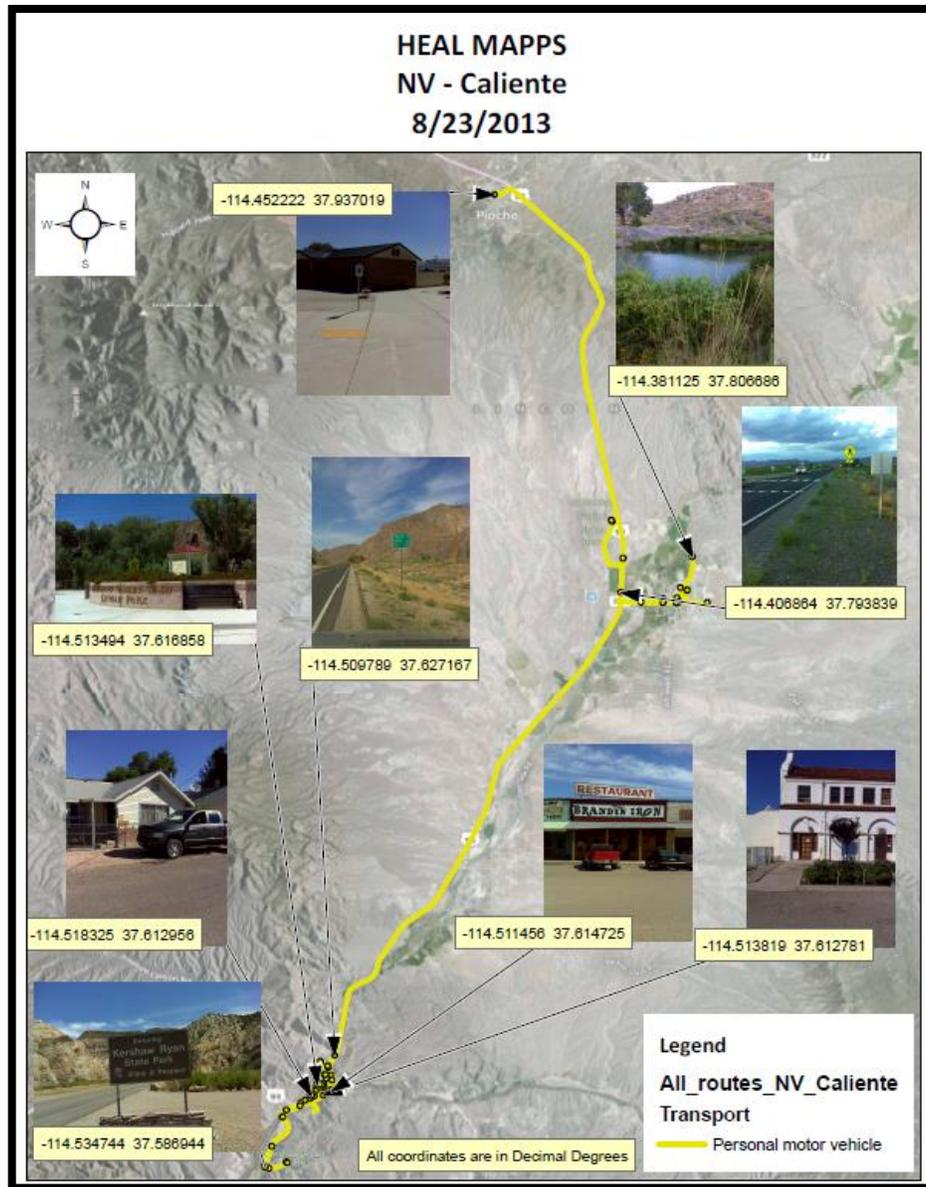
- Establish a community recreation facility (e.g. community center/YMCA) that makes available low-cost indoor recreation/exercise options.
- Construct bike paths from Caliente to the state parks to improve accessibility and safe, active transportation options.

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

Figure 1. Represents all routes generated by the Caliente community mappers.



**Figure 2.** Represents an example of a route generated while using a personal motorized vehicle. All photograph location coordinates are in decimal degrees.



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

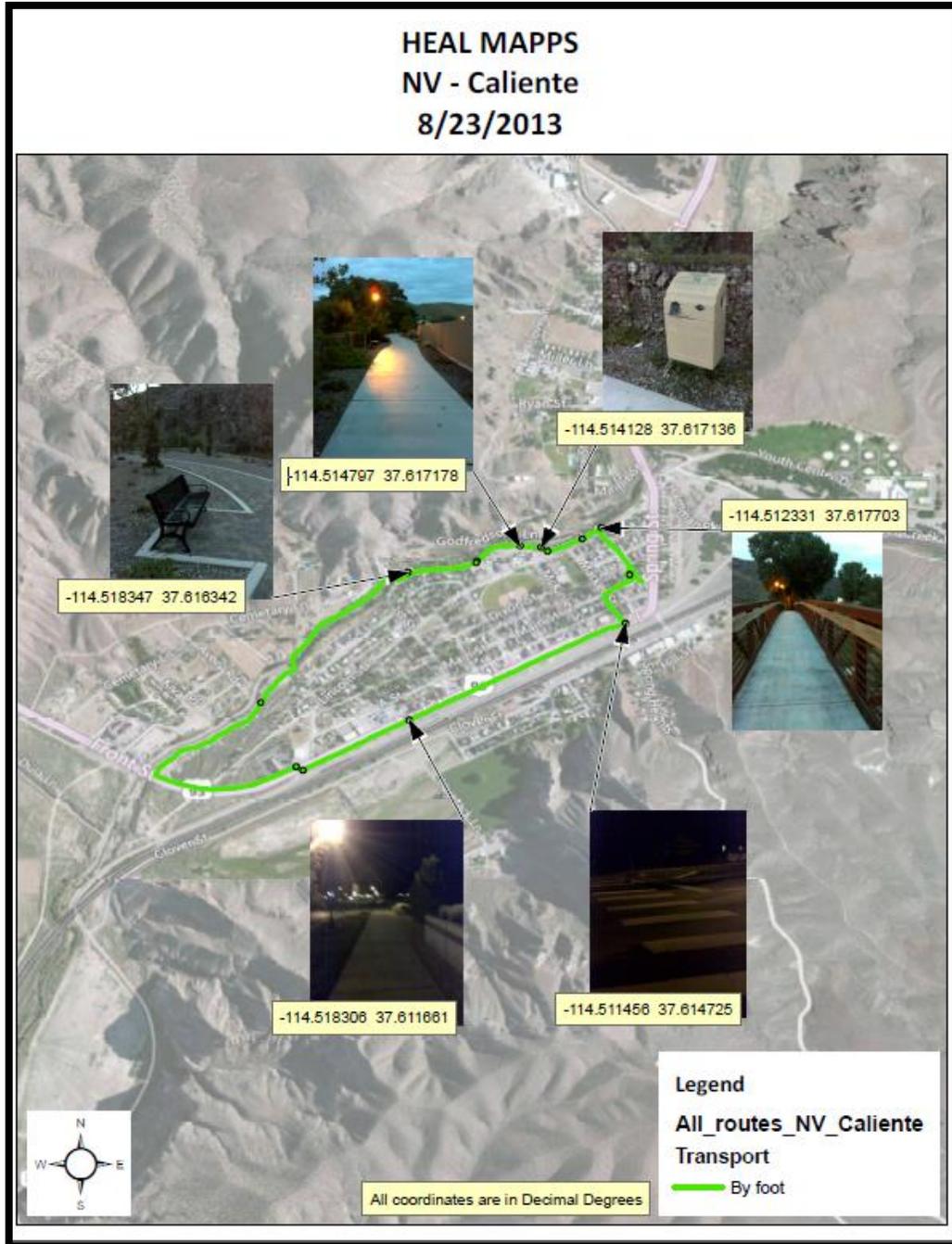
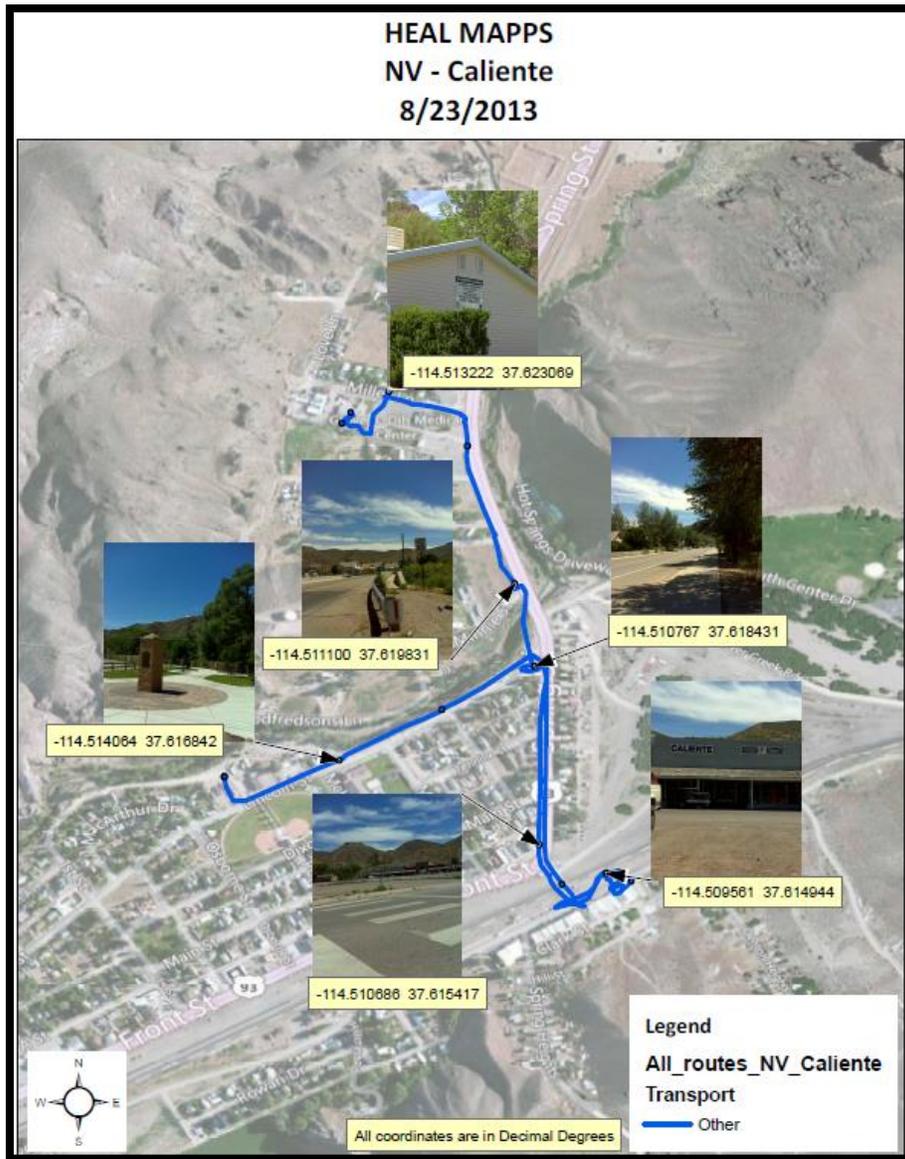


Figure 4. Represents routes in which the mode of transportation was not identified.





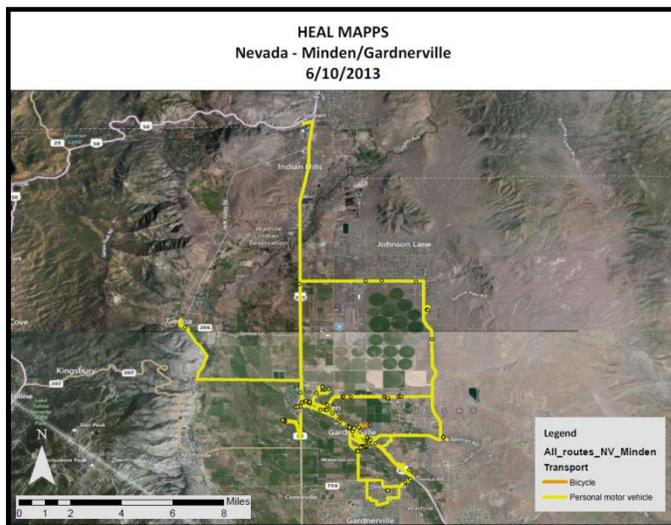


## Carson Valley Community HEAL MAPPS™ Report

Gardnerville is a rural town located in the Carson Valley in Douglas County, NV. Located approximately 50 miles south of Reno, NV on the western border of the state, the Carson Valley is surrounded by the Carson Range of the Sierra Nevada to the west and the Pinenut Mountains to the east. At about 4,700 feet in elevation, the Carson Valley has 4 distinct seasons<sup>8</sup>. Given this geography and climate the Carson Valley is an oasis for many outdoor recreational activities including fishing, hiking and biking.

The Carson Valley has a rich agricultural history and contains over 100 Centennial Farms and Ranches. A few of the current agricultural commodities include alfalfa, grass hay, cows/calves, horses, garlic seed, and pumpkins.<sup>9</sup>

The population within the Gardnerville-Minden census county division (CCD) is about 31,500 with over 95% of current residents report being born there<sup>10</sup>. The majority of residents are white (89.4%), followed by two or more races (3.6%), American Indian and Alaska Natives (2.8%), Asian (1.4%), and Native or Pacific Islander (0.1%), with 2.3% reporting other races<sup>11</sup>. Gardnerville-Minden contains 5 elementary schools, 2 middle schools, and 1 high school.<sup>12</sup> The high school graduation rate is 92.5%, and 22.3% of residents have a bachelor's degree or greater.<sup>13</sup>



### 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 Carson Valley community have partnered to map features of the local environment and 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 engaged, trained, and mobilized to use HEAL MAPPS™ (Healthy Eating Active Living: Mapping Attributes using Participatory Photographic Surveys), a participatory assessment and action tool, to assess community resources for, and readiness to, improve and implement healthy eating and physical

<sup>8</sup> Carson Valley Chamber of Commerce. About Carson Valley. Retrieved June 3, 2013 from <http://www.carsonvalleynv.org/pages/AboutCarsonValley/>

<sup>9</sup> Douglas County Farm Bureau. Retrieved June 5, 2013 from <http://nvfb.org/douglas.html>

<sup>10</sup> U.S. Census Bureau. ACS 5 year estimates (2011). Select social characteristics.

<sup>11</sup> U.S. Census Bureau. ACS 5 year estimates (2011). Demographic and housing estimates.

<sup>12</sup> Douglas County School District. Retrieved June 5, 2013 from <http://dcsd.k12.nv.us/main.aspx?pageid=96>

<sup>13</sup> U.S. Census Bureau. ACS 5 year estimates (2011). Selected economic characteristics.

activity supports and determine environmental and policy actions to make easier these obesity preventing behaviors.

HEAL MAPPS™ projects conducted in partnership with rural communities across several Western States (AZ, CO, NM, NV, OR, WA) will provide evidence and insights that will drive the development of a rural obesity prevention model. This model will be used as a framework for rural community actions aimed at promoting 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 at 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. Recent research has shown a correlation between rural residency and an increased risk of overweight and obesity in both children and adults.

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 communities 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 the Carson Valley Community**

A little over sixty percent of Nevada adults and 33.2% of children are overweight or obese. Childhood overweight and obesity rates are higher than the national average of 31.3%.<sup>14</sup> In Douglas County, NV 21.7% of adults were obese in 2009 and 10.7% of low income children entering preschool were obese<sup>15</sup>. The median household income in Gardnerville-Minden (CCD) is \$59,361<sup>16</sup>, and an average of 15.3% of households were food insecure between 2009 and 2011.<sup>17</sup> This is concerning, as we know that food insecurity is linked to overweight and obesity.<sup>18</sup>

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<sup>14</sup> The child and adolescent health measurement initiative. (2012). National Survey of children's health. Retrieved June 3, 2013 from

<http://www.childhealthdata.org/browse/survey/results?q=2415&r=30&r2=1>

<sup>15</sup> USDA Food Atlas Data. (2009). Retrieved June 5, 2013 from <http://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas.aspx>

<sup>16</sup> U.S. Census Bureau. ACS 5 year estimates (2011). Selected economic characteristics.

<sup>17</sup> USDA Food Atlas Data. (2009). Retrieved June 5, 2013 from <http://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas.aspx>

<sup>18</sup> Dinour, L., Bergen, D., & Yeh, M. (2007). The food insecurity-obesity paradox: A review of the literature and role the food stamps may play. *Journal of the American Dietetic Association*, 107(11), 1952-1961.

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 Carson Valley community.

### **Methods and Preliminary Results**

A HEAL MAPPS™ team (n=8) comprised of Carson Valley community members with an interest in creating a healthier community volunteered and were first trained to individually photograph and map the Carson Valley community features that they perceived as either supports or barriers to eating healthy and being physically active most every day. Collectively, over 120 photographs were taken and mapped along 10 routes that represented the community's active (i.e. walking, bicycling, skateboarding, etc.) and motor vehicle transportation system. The 'mappers' covered approximately 10% of the land area included within the 80 square miles of the towns of Carson Valley and included features in the surrounding unincorporated areas (see Figure 1).<sup>19</sup> The HEAL MAPPS™ team reconvened to discuss the photographs and maps during a focus group meeting. The most relevant 37 photographs, based on group consensus, were included in a presentation to provoke a larger community conversation. Twenty five Carson Valley residents and stakeholders attended and participated in a community dinner and discussion held at the CVIC Hall on June 18, 2013. 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 and 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.

### **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 Carson Valley community's resources and readiness for obesity prevention efforts. The assessment is divided into six dimensions that influence a community's readiness 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 Carson Valley Community Conversation. Participants were polled and prompted with follow up questions to elaborate their opinions. During the

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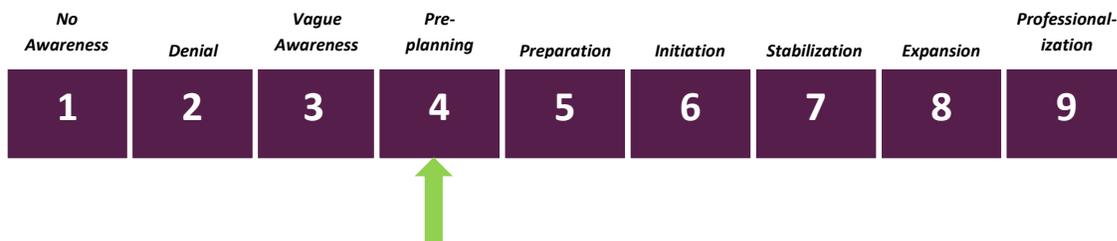
<sup>19</sup> The 'mappers' individually determined the community boundaries as within the city and unincorporated land approximately served by the Douglas County school district.

Community Conversation, participants shared their experiences of the Carson Valley resources and perception of Carson Valley readiness and preparedness for change. The Community Conversation was transcribed verbatim, the narrative content was coded using iterative processes by two coders, data were organized into six dimension categories, and each dimension was scored by an independent evaluator to identify the overall stage of readiness.

Several Carson Valley community organizations and local efforts such as the Road Bumps Task Force, Carson Valley Trail Association and the community garden, emerged as supports for healthy eating and physical activity, which contributed positively to the community readiness score given to the community. Several efforts are underway in Carson Valley to increase community physical activity resources such as the new community center, plans to develop a trail system from Lampe Park to Minden, and an initiative by the Road Bumps Task Force to identify funds to fix the roads. There are many resources in Carson Valley to support healthy eating and physical activity such as multiple parks, a swim center, tennis court, and a community garden. Though there are recreational opportunities available, there seem to be few recreational resources or programs specifically for adults. Also, there was little mention of resources or efforts by the local schools or school administration to improve the food and physical activity environment within the schools; rather, participants suggested the school food environment is one that makes it hard for children to eat healthy.

Perceived barriers to healthy eating and physical activity include a lack of active transportation supports (such as bike lanes and sidewalks) and a strong dependence on personal motor vehicle due to the vast distances between home, school and work. Other perceived barriers include limited access and availability of affordable, healthy food and beverage options in Carson Valley. Participants exhibited knowledge regarding the role of the environment in supporting or hindering physical activity and healthy eating; additionally, the conversational emphasis was on the role of the social environment in stimulating healthy behavior rather than the community built environment alone. Participants further suggested that a community culture of promoting and engaging in habitual physical activity and healthy eating could be developed and adopted.

### Stages of Community Readiness



Carson Valley stage of readiness to implement environmental and policy strategies to prevent obesity is around stage 4, preplanning, as indicated by the arrow on the Stages of Readiness graph.

Based on the Community Readiness Assessment Model, community efforts should focus on:

- 1) Decisions for where and how current and future efforts to improve community and neighborhood conditions should be prioritized based on resident input and identified barriers.
  - a. Conduct public forums to develop strategies from the grassroots level;
  - b. Utilize key leaders and influential people to speak to groups and participate in local media, including newspaper, radio and television;
  - c. Utilize report to support data-driven planning, preparations, and actions.
- 2) Direct efforts towards increasing social opportunities for residents to engage in physical activity and healthy eating, for example, establish a local running/walking club, intergenerational community garden programs.
- 3) Raise awareness that efforts to address childhood obesity are happening in Carson Valley by launching a media campaign, i.e. post flyers, posters, and billboards to advertise current efforts.
- 4) Start planning how to evaluate the success of efforts and include effort-specific assessments of immediate and sustained outcomes.
- 5) Work with the NV GROW Healthy Kids and Communities HEAL MAPPS™ team and utilize Extension GROW HKC, HEAL MAPPS™ and other resources.
  - a. Gather additional and ongoing input from others, including diverse groups of residents and community sectors;
  - b. Publish newspaper articles and editorials with general information related to the local food and physical activity situation and context;
  - c. Build and communicate Carson Valley'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://triethniccenter.colostate.edu/communityReadiness.htm>

## **Summary of Results based on Carson Valley Community Conversation**

### ***Physical Activity***

#### Supports

- Outdoor trails and parks are well maintained and resourced, including public parks and playgrounds.
- Active leisure supports include the swim center, basketball and tennis courts and the new community center.
- Some active transportation supports such as bike racks.

#### Barriers

- Few school recreation programs/initiatives, PE is non-existent in elementary schools.
- Lack of active transportation supports such as bike lanes or road shoulders, roads are poorly maintained and there is a strong dependence on personal motorized vehicles.
- Impediments to walkability due to a lack of sidewalks.

## **Healthy Eating**

### Supports

- Local food resource centers bridging local food production with distribution, including a farmer's market and a community garden.
- Food retailers which serve healthy food include Raley's and Subway, among others.

### Barriers

- Lack of neighborhood availability of affordable, healthy food and beverage options.
- Participants perceive few school environmental supports, issues such as short lunch period and school meals needing improvement.

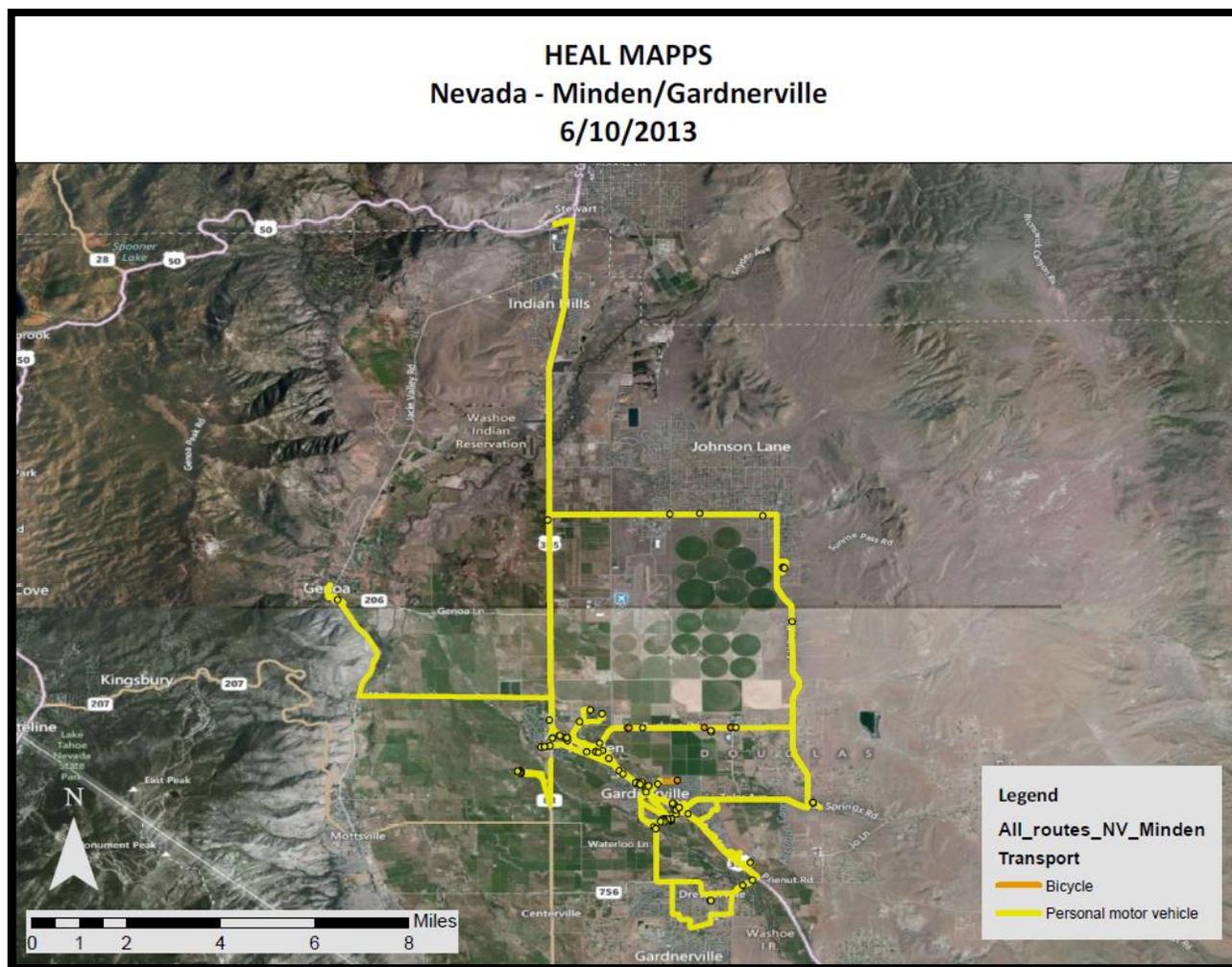
## **Resident-Informed Recommendations for Community Change**

The following recommendations emerged from the data generated during the Carson Valley community conversation and represent those of the Carson Valley community members who shared their ideas during the facilitated discussion of the photographed community features. These recommendations do not represent those of the GROW HKC project members or Oregon State University.

- Establish a consolidated list, possibly online, of community events and resources for physical activity and healthy eating.
- Incorporate and promote physical activity and healthy eating in the community social environment.
- Consider education as a means to increase passion and motivation around healthy lifestyles. Likewise, integrate and adapt other community's efforts and successes.
- Food retailers should change the store layout and food placement to encourage healthier purchases.

Figures 1 through 3 represent the routes navigated by local residents as they mapped the physical features of the Carson Valley community using participatory photographic survey methods.

Figure 1. Represents all routes generated by the Carson Valley community mappers.



**Figure 2.** Represents an example of a route generated while using a personal motorized vehicle, with barriers and supports encountered. All photograph location coordinates are in decimal degrees.

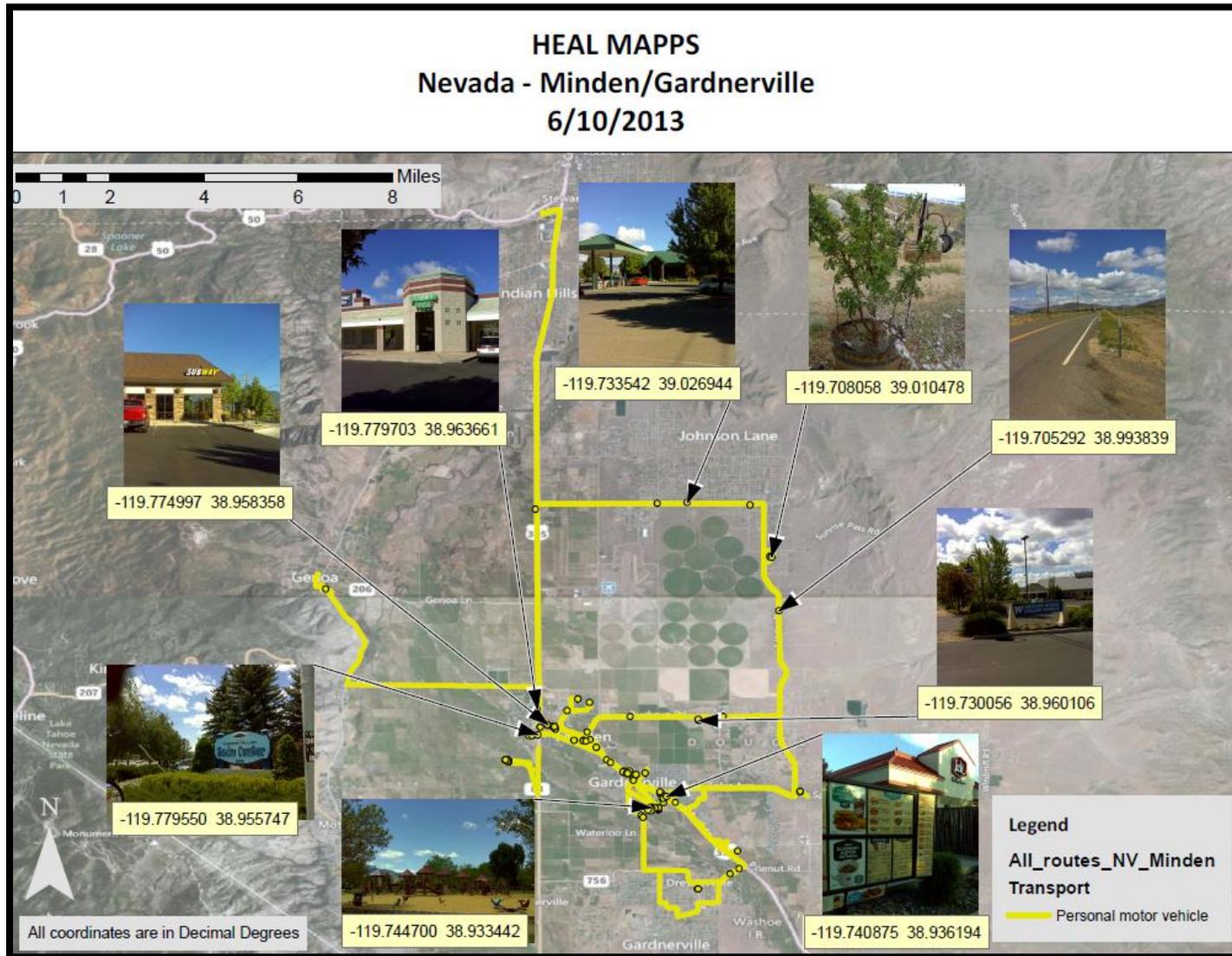
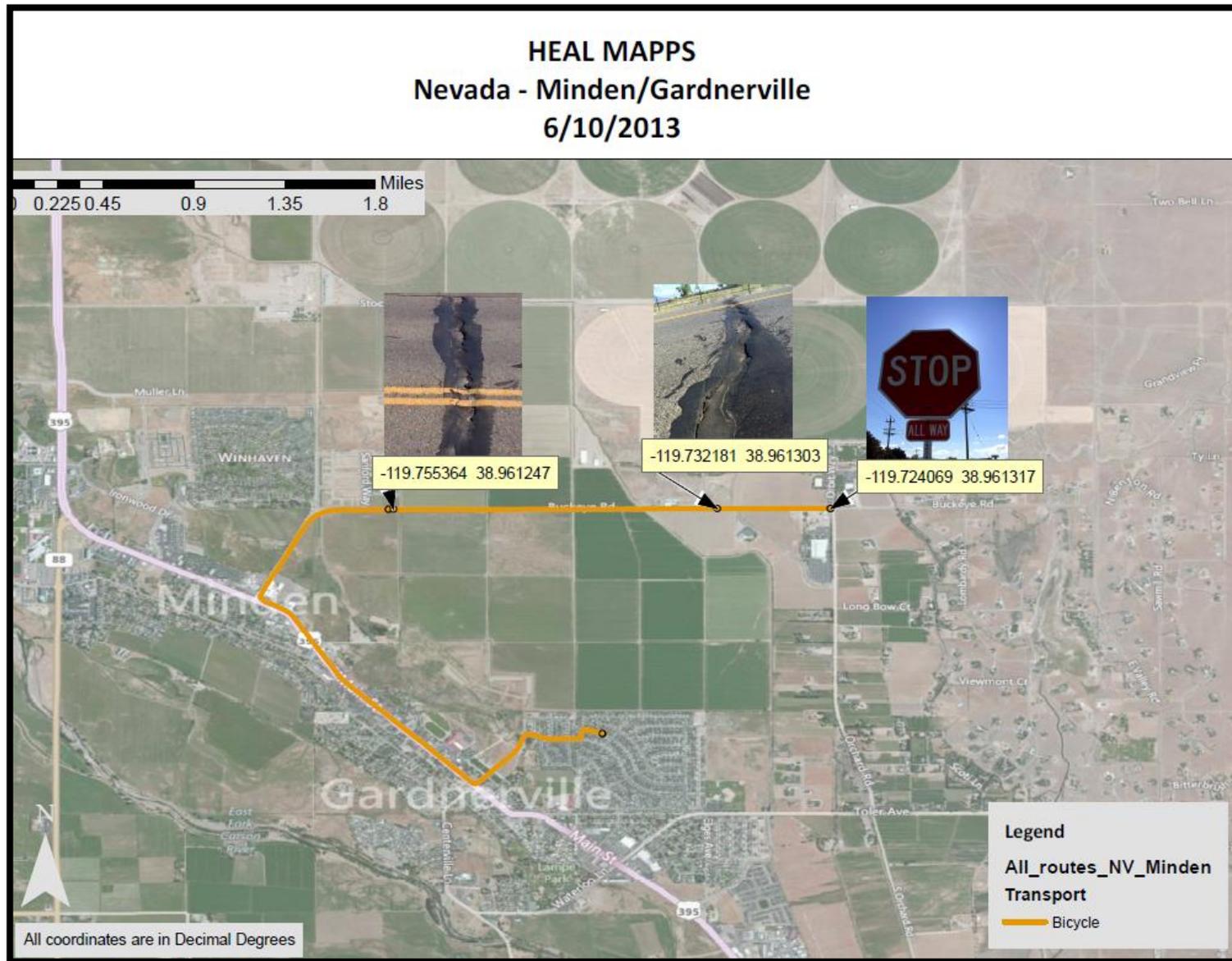


Figure 3. Represents a bicycle route, with barriers and supports encountered.



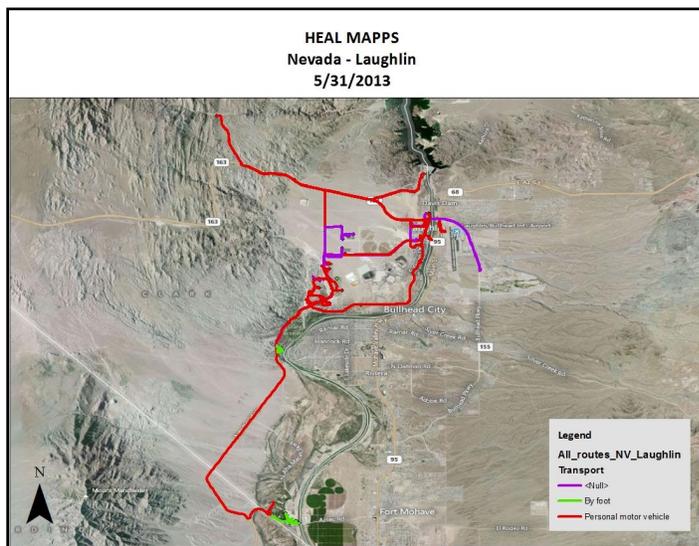




## Laughlin Community HEAL MAPPS™ Report

Laughlin is a rural city located in the southern tip of Clark County, NV. Situated just 90 miles south of Las Vegas, Laughlin is bordered by Arizona and California. The arid desert climate provides mild temperatures most of the year with over 300 days of sunshine and an average annual rainfall of about 6 inches<sup>20</sup>. Temperatures average 109°F in the summer months and 65°F in the winter months. With its rugged mountain terrain and proximity to the Colorado River, Laughlin is a not only a destination for gaming, but also attracts tourist for hiking and water sports. The total population of Laughlin at the 2010 Census was 7,232 with the race and ethnicity breakdown of 85% White, 3.1% African American, 2.1% Asian, 1.2% Native American, 0.4% Native Hawaiian or other Pacific Islander, 4.4% some other race, and 3.8% of 2 or more races<sup>21</sup>. Laughlin has a large retiree population with 55.4% of the population not in the labor force<sup>22</sup>.

Laughlin's public schools are part of the Clark County School District and they include **William G. Bennett Elementary School with approximately 300 students and Laughlin Middle/Senior High School with approximately 400 students**<sup>23</sup>.



**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 Laughlin community have partnered to map features of the local environment and 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). HEAL MAPPS™ is our community resource and readiness tool which is used to assess community resources for, and readiness to, improve and

<sup>20</sup> The Weather Channel. (2013). Averages for Laughlin, NV. <http://www.weather.com/weather/wxclimatology/monthly/USNV0051>

<sup>21</sup> U.S. Census Bureau. (2010). American Community Survey Demographic and Housing Estimates 2007-2011 5 year estimates; Laughlin CDP, NV.

<sup>22</sup> U.S. Census Bureau. (2010). American Community Survey Selected Economic and Housing Estimates 2007-2011 5 year estimates; Laughlin CDP, NV.

<sup>23</sup> Laughlin Chamber of Commerce. Retrieved April 29, 2013 from <http://laughlinchamber.org/relocation.html>

implement healthy eating and physical activity supports along with environmental and policy actions to make easier these obesity preventing behaviors.

HEAL MAPPS™ projects conducted in partnership with rural communities across several Western States (AZ, CO, NM, NV, OR, WA) will provide evidence and insights that will drive the development of a rural obesity prevention model. This 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 at the forefront of nationwide research efforts. 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.

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 Laughlin Community**

In Clark County, 37.3% of adults are overweight and 23.1% are obese;<sup>24</sup> 12.9% of high school students are overweight and 12.3% are obese<sup>25</sup>. Over 76% of Clark County adults do not consume the recommended five servings of fruits and vegetables per day<sup>26</sup>. According to the U.S. Census Bureau, 17.6% of households have children less than 18 years of age; 24% of these families have a median household income below the poverty level. Of the children in Laughlin schools, 72% receive free or reduced lunch. The median household income for Laughlin residents is \$37,593<sup>27</sup>; this is below the national median household income level of \$50,502. This is concerning, as low income adults and children are more likely to be obese. 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

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<sup>24</sup> Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010.

<sup>25</sup> Centers for Disease Control and Prevention (CDC). Community profile: Clark County, NV. Retrieved April 29, 2013 from <http://www.cdc.gov/CommunitiesPuttingPreventiontoWork/communities/profile>

<sup>26</sup> Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2009.

<sup>27</sup> U.S. Census Bureau. (2010). American Community Survey Selected Economic and Housing Estimates 2007-2011 5 year estimates; Laughlin CDP, NV.

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 Laughlin.

## **Methods and Preliminary Results**

A HEAL MAPPS™ team (n=9) comprised of Laughlin community members with an interest in creating a healthier community volunteered and were first trained to individually photograph and map the Laughlin community features that they perceived as either supports or barriers to eating healthy and being physically active most every day. Collectively, over 130 photographs were taken and mapped along 9 routes that represented the community's active (i.e. walking, bicycling, skateboarding, etc.) and motor vehicle transportation system. The 'mappers' covered the land area within the 90 land miles of the city of Laughlin and included features in the surrounding unincorporated areas (see Figure 1).<sup>28</sup> The HEAL MAPPS™ team reconvened to discuss the photographs and maps during a focus group meeting. The most relevant 33 photographs, based on group consensus, were included in a presentation to provoke a larger community conversation. Over 20 Laughlin residents and stakeholders attended and participated in a community dinner and discussion held at the Laughlin Government Center on October 17, 2013. 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 and 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 followed by a discussion of their thoughts and feelings that led to their ratings.

## **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.

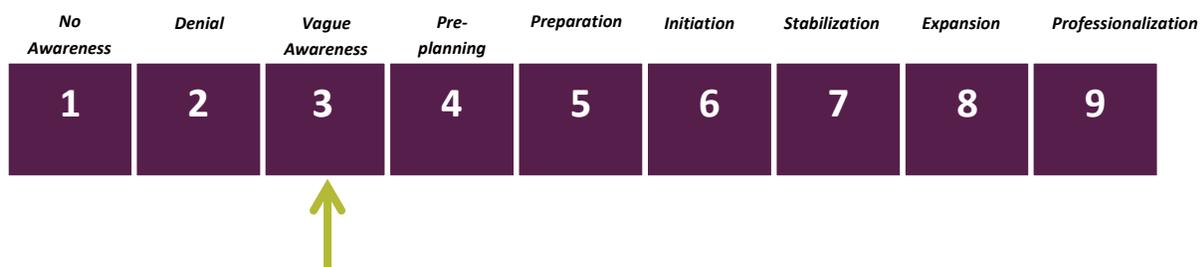
The Community Readiness Model (CRM) is a tool we used to gain an understanding of the Laughlin community's resources and readiness for obesity prevention efforts. The model is comprised of six dimensions that influence a community's readiness to take action on an issue. The six dimensions are: community knowledge about the issue, community efforts; community knowledge of the efforts, local leadership, community climate, and local resources related to the issue. Community readiness is issue specific, can vary across dimensions and community sectors. During the Laughlin Community Conversation, an Extension educator posed questions related to each of the dimensions and prompted discussion around Laughlin's resources as supports or barriers to weight healthy behaviors. The entire

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<sup>28</sup> The 'mappers' individually determined the community boundaries as within the city and unincorporated land approximately served by the Laughlin school district.

conversation narrative was scribed verbatim and coded for themes by independent evaluators. The data related to each dimension was then scored by a researcher trained to utilize the CRM and combined to identify the overall stage of readiness.

### Stages of Community Readiness



Laughlin’s stage of readiness to implement environmental and policy strategies to prevent obesity is around stage 3, vague awareness, as indicated by the arrow on the Stages of Readiness graph.

Several Laughlin community organizations, such as the Parks and Recreation department and various food assistance groups, emerged as resources for healthy eating and physical activity. Supportive efforts to improve the food and physical activity environment were noted, including the development of an extensive community garden, expansion and addition of trails, and scholarships/fee assistance for physical activity programs in the community. These efforts, along with evidence of organizational support, contributed positively to the community readiness score given to the community.

Perceived barriers to healthy eating and physical activity included few walkability supports and limited access to healthy, affordable fresh fruits and vegetables. Though Laughlin has various resources available to support physical activity, residents expressed barriers to access and affordability, including fees, limited hours of operation, locked gates prohibiting entrance to public resources, and the need for an automobile due to difficult terrain and distance to resources. Thus, Laughlin has resources available; however, existing resources are inaccessible for many residents. Increasing access to resources is an opportunity for Laughlin leaders to demonstrate their support for efforts to promote healthy kids and communities, as many participants were unaware of leadership engagement in this domain.

General strategies for improving community readiness, based on the CRM include:

- 1) Raise awareness among sectors that the community can do something about the problem. Engage local leaders in this awareness campaign at every level.
- 2) Use objective, local data to identify where and how efforts should be focused, and provide suggestions based on resident input and identified barriers. Present information about the “problem” of obesity and the rural context that makes it hard for residents to develop and maintain healthy lifestyle habits. Share results of HEAL MAPPS™ at local community events and to unrelated groups; participate in event planning where information about obesity prevention can be integrated into the program; launch

a media campaign-post flyers, posters, and billboards to raise awareness about the problem and solutions.

3.) Work with GROW Healthy Kids and Communities team in Nevada to add to the conversation and gather more information from community groups who are not represented in this report. Publish newspaper articles and editorials with general information related to local situation. Build and communicate Laughlin's capacity to change – adopt the motto, *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://triethniccenter.colostate.edu/communityReadiness.htm>

## **Summary of Results based on Laughlin Community Conversation**

### ***Physical Activity***

#### Supports

- Outdoor trails and parks are well maintained and resourced.
- Public transportation.
- Fee assistance offered for some recreational programs.
- Active leisure supports include skate park and aquatic center
- Fitness classes and activities offered through the community and senior center.

#### Barriers

- Public transportation barriers include a lack of features such as shade covers and bus bays.
- Lack of available and accessible (across demographic groups) recreational programs and facilities; affordability of existing programs/facilities-fee structure hinders accessibility for some community members.
- Some parks and natural landscape features are inaccessible due to reliance on automobile, limited parking, limited hours of operation, and other restrictions (e.g. gates, difficult terrain).
- Few walkability supports like crosswalks, sidewalks and traffic calming features; existing crosswalks are unmaintained.

### ***Healthy Eating***

#### Supports

- Food assistance programs such as the food bank and mobile food pantry.
- Addition of an expansive community garden.

#### Barriers

- Limited access to affordable, fresh fruits and vegetables.

- Few/no healthy food retail options.

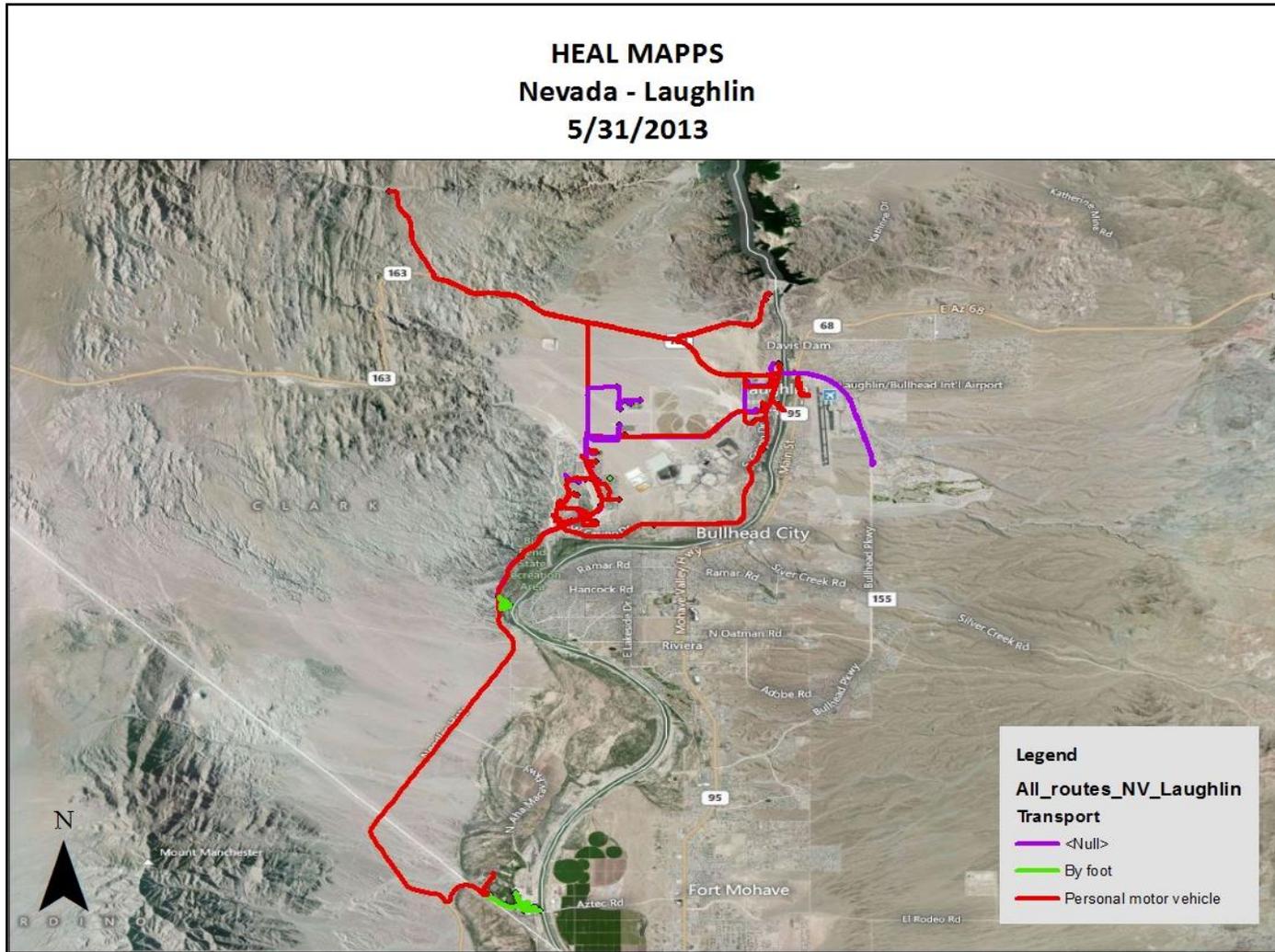
### **Resident-Informed Recommendations for Community Change**

The following recommendations emerged from the data generated during the Laughlin community conversation and represent those of the Laughlin 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 project members or Oregon State University.

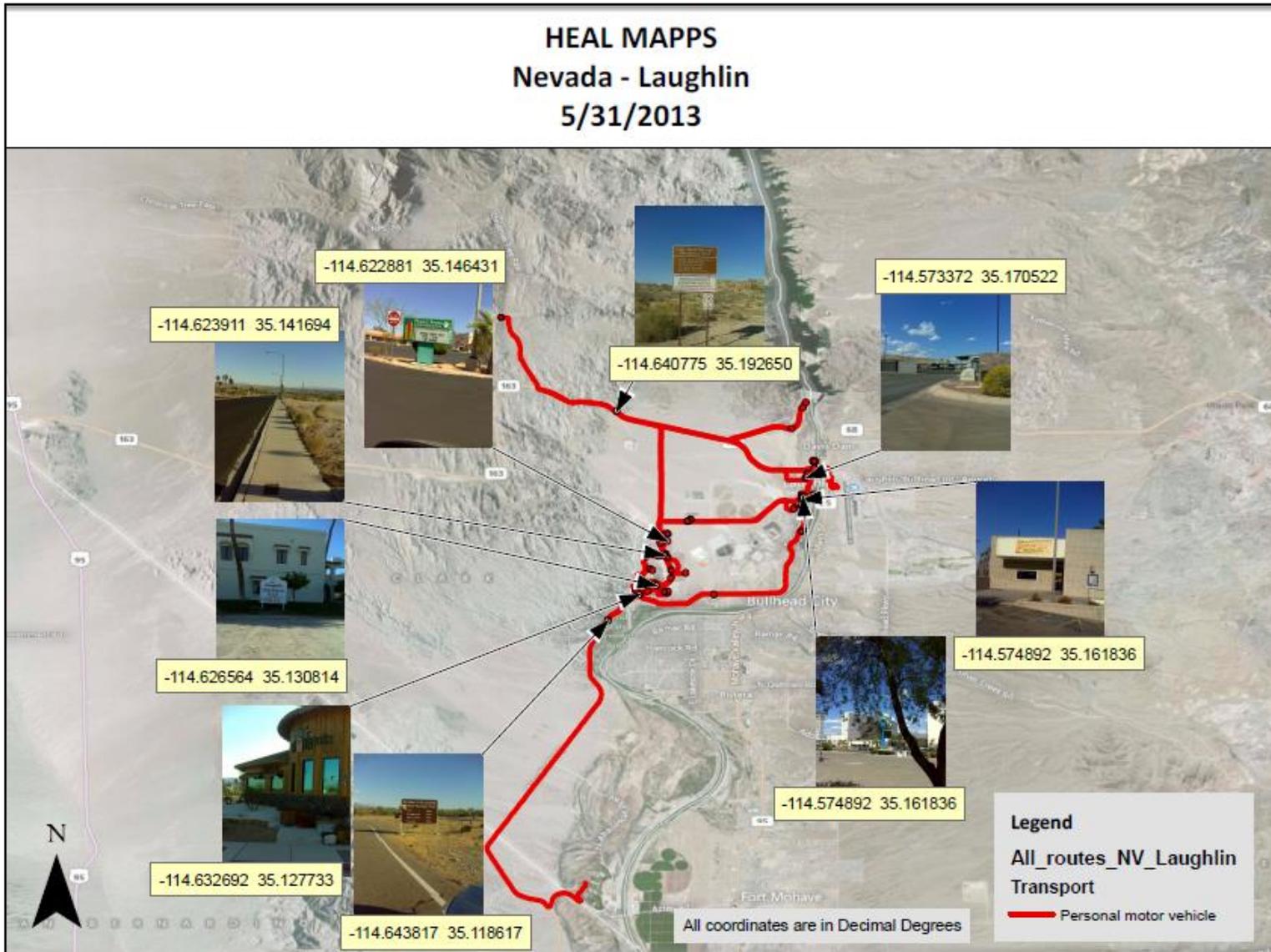
- Establish a commercial kitchen at the senior or community center to host nutrition classes for community members.
- Start community clubs/fitness classes taught by community members.

Figures 1 through 4 represent the routes navigated by local residents as they mapped the physical features of the Laughlin community using participatory photographic survey methods. Include one route from each different mode of transportation the mappers used.

Figure 1. Represents all routes generated by the Laughlin community mappers.



**Figure 2.** Represents an example of a route generated while using a personal motorized vehicle, with barriers and supports encountered. All photograph location coordinates are in decimal degrees.



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

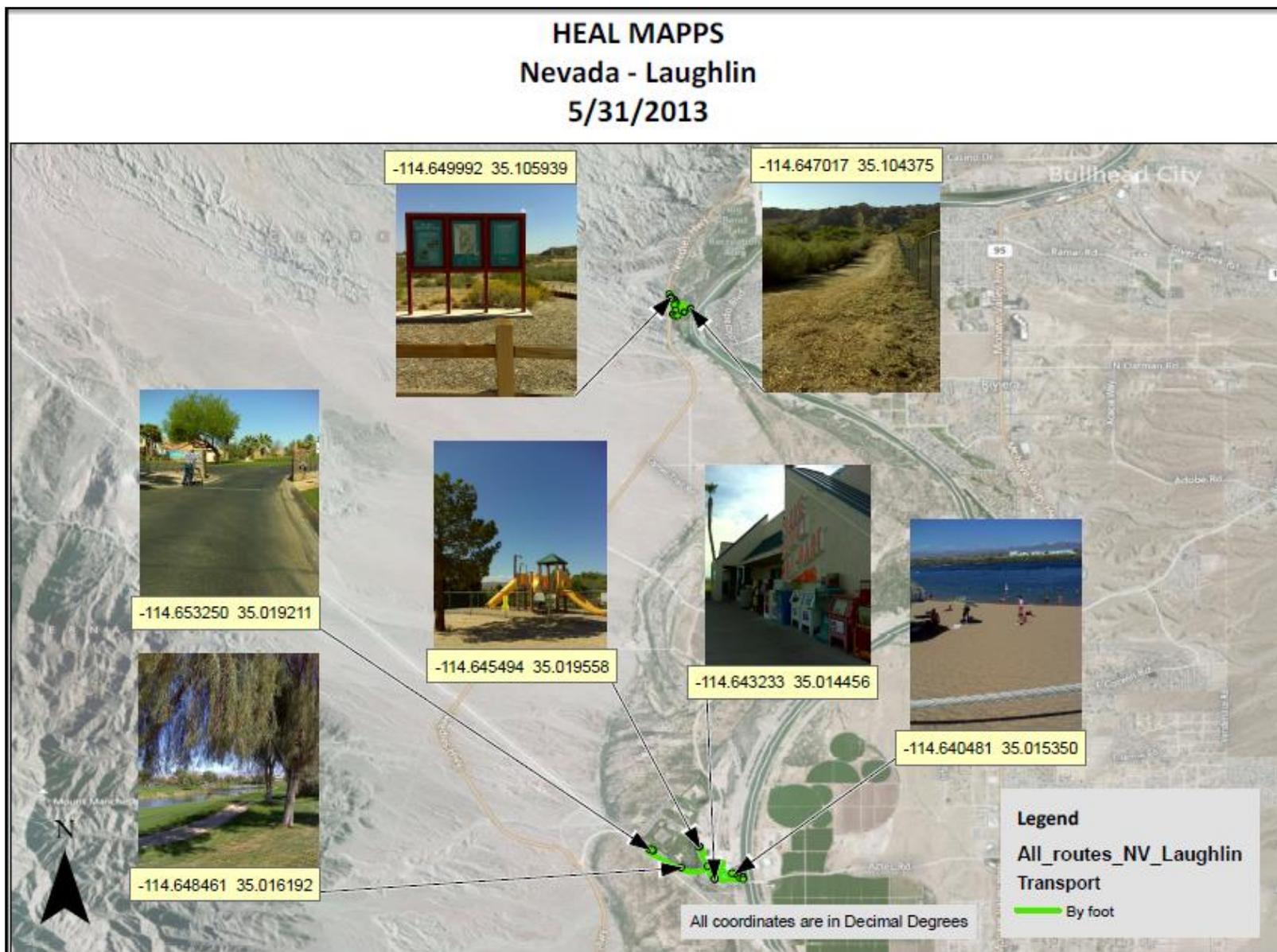
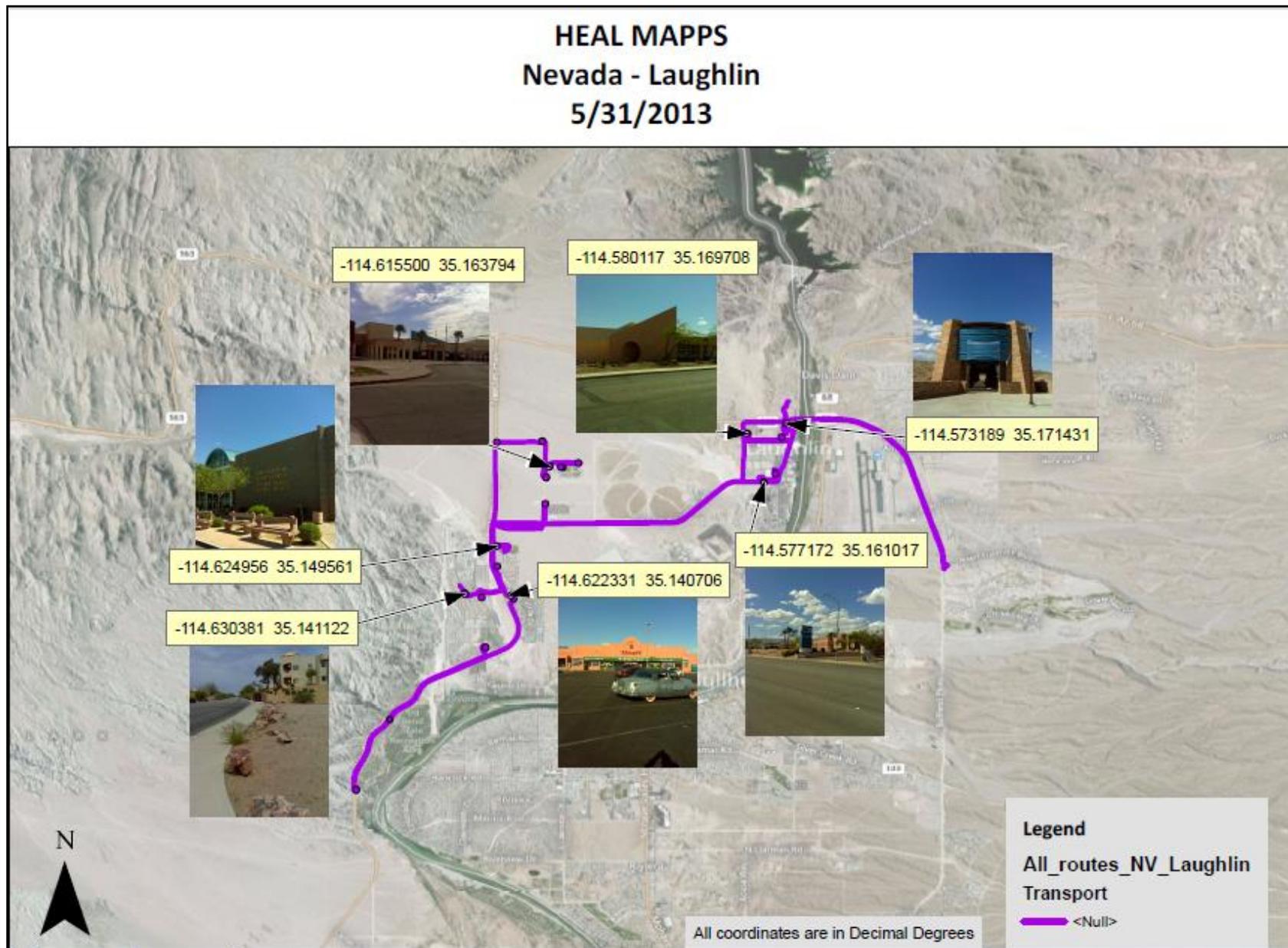


Figure 4. Represents a route in which the mode of transportation was not identified





# Wells, NV

## HEAL MAPPSTM

### Community Report



This reported was generated by Jill Tingey<sup>1</sup>, Courtney Coughenour<sup>2</sup>, PhD, Anne Lindsay<sup>1</sup>, MS, Deborah John<sup>3</sup>, PhD, and Kathy Gunter<sup>3</sup>, PhD, in partnership with Generating Rural Options for Weight Healthy Kids and Communities (GROW HKC) using data collected during the HEAL MAPPSTM processes and provided to the Wells Community to support the community's initiative to prevent childhood obesity.

<sup>1</sup>University of Nevada Cooperative Extension, <sup>2</sup>University of Nevada, Las Vegas, <sup>3</sup>Oregon State University Extension, Family and Community Health

## Wells Community HEAL MAPPS™ Report

Wells is a rural city located in Elko County, Nevada. The town of Wells was founded in 1869 by the Central Pacific Railroad; however, the use of Humboldt Wells dates back thousands of years to the Western Shoshone, who still live in a colony overlooking the town.<sup>29</sup>

Located in northeast Nevada, the population of Wells is about 1,900. The median age of the population is 39 years with a median household income of \$56,548. The demographics of the community are 92.2% white, of which 21% are of Hispanic or Latino ethnicity, 5.1% American Indian and Alaska Native, and 1.4% African American, and 0.3% Asian.

Wells Combined School had a total enrollment of 370 students for the 2012-2013 school year, with 197 of them being elementary students. The Junior High School has an enrollment of 56 students and the High School has 117 students. Residents of Wells are serviced by one grocery store, Roy's Market, 4 convenience stores, 9 restaurants and 1 park. Attractions in Wells include the 49'er Trail Center, Angel Lake, Secret Pass and Metropolis ghost town; The Ruby Mountains, and other locations where community members can hunt, fish, and hike; a new indoor pool and a local golf course; community festivals like Art in the Park, Christmas Bazaar, Festival of Trees, Nevada State Fiddle Contest, Race to the Angel (1/2 marathon), rodeos, fishing derby, golf tournaments, 4<sup>th</sup> of July Family Picnic and the Ruby Mountain Relay Race.



**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 Wells community have partnered to map features of the local environment and 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

<sup>29</sup>Wells NV Chamber of Commerce. *About Wells*. Retrieved on December 10, 2013 from <http://www.wellsnevada.com/about.shtml>

eating and physical activity supports along with environmental and policy actions to make easier these obesity preventing behaviors.

HEAL MAPPS™ projects conducted in partnership with rural communities across several Western States (OR, WA, ID, NV, CO, NM) 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. In fact, rural residency tends to increase the risk and prevalence of overweight and obesity for children and adults<sup>30</sup>.

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 the easy and preferred choice.

### **Relevance for Wells Community**

According the U.S. Census bureau, 27.6% of the population living in Wells has children under the age of 18 years<sup>31</sup>, 4.2% of the population is living below the poverty level and about 37% of students are receiving free or reduced lunch<sup>32</sup>. According to a study conducted by the Nevada Institute for Children's Research and Policy, 29.6% of Nevada children entering kindergarten are overweight or obese. 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 Wells.

### **Methods and Preliminary Results**

A HEAL MAPPS™ team (n= 8) comprised of Wells community members with an interest in creating a healthier community volunteered and were trained to individually photograph and map the Wells

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<sup>30</sup> Lutfiyya *et al.* (2012) Is rural residency a risk factor for Overweight and Obesity for U.S. Children. *Obesity*.15(9) <http://dx.doi.org/10.1038/oby.2007.278>

<sup>31</sup> U.S. Census Bureau. ACS 2008-2012 5 year estimates. Selected economic characteristics.

<sup>32</sup> Nevada Department of Education. Report Card, 2012-2013 Demographic profile.

community features that they perceived as either supports or barriers to eating healthy and being physically active most every day. Collectively, over 130 photographs were taken and mapped along 17 routes that represented the community's active (i.e. walking, bicycling, skateboarding, etc.) and motor vehicle transportation system. The 'mappers' covered the land area included within the 6.9 square miles of the city of Wells as well as features in the surrounding unincorporated areas (see Figure 1).<sup>33</sup> The HEAL MAPPS™ team reconvened to discuss the photographs and maps during a focus group meeting. The most relevant 60 photographs, based on group consensus, were included in a presentation to provoke a larger community conversation. A total of 15 Wells residents and stakeholders attended and participated in a community dinner and discussion held at the Wells Elementary School on November 7, 2013. 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, 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 University of Nevada Cooperative Extension (UNCE).

### **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 Model (CRM) was applied to the conversation narrative to gain an understanding of the Wells community's resources and readiness for obesity prevention efforts. The model is comprised of six dimensions that influence a community's readiness 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. Community readiness is issue specific and can vary across dimensions and community sectors. During the Wells Community Conversation, an Extension educator posed questions related to each of the dimensions and prompted discussion around Wells' resources as supports or barriers to weight healthy behaviors. The entire conversation narrative was transcribed verbatim and coded for themes by independent evaluators. The data related to each dimension was then scored by a researcher trained to utilize the CRM and combined to identify the overall stage of readiness.

Several Wells community organizations such as the Elko County School district/Wells Combined School and local churches, as well as programs such as Communities in School, emerged as supports for healthy eating and physical activity; these programs and organizations contributed positively to the community readiness score given to Wells. Wells Community Center, the Intertribal Council Gym, youth recreation

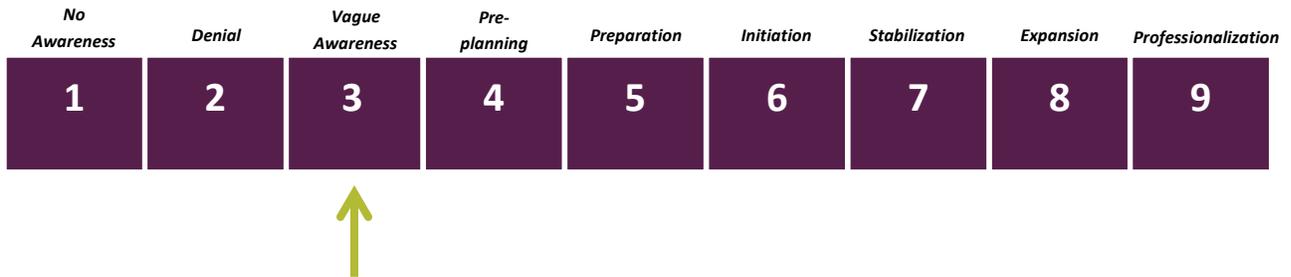
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<sup>33</sup> The 'mappers' individually determined the community boundaries as within the city and unincorporated land approximately served by the Elko County school district.

sports programs, and outdoor parks and trails support physical activity for community residents. The Wells schools, food assistance programs and local food co-ops provide some opportunities for healthy eating in Elko County. Perceived barriers to physical activity include safety concerns at public parks and trails due to a lack of lighting, sidewalks and fencing. Other barriers to physical activity were mentioned in regards to the affordability of existing programs/facilities due to fee-based recreation centers which limit accessibility for some community members. The lack of fresh food and the expense of produce were also noted as limits to accessing healthy food options in Wells.

Wells community members reflected confidence in the local leadership and in the leadership support for certain efforts. However, there was evidence to suggest the need for increased engagement from local leaders to address issues such as walkability barriers and removing restrictions on business licensure. Regarding improving or increasing resources to support physical activity and healthy eating, there are organizations, individuals and space that could be used as resources to support a healthy community. Furthermore, due to the rural aspects of Wells, efforts to address the issue may require creativity, strong support from the community and an attitude of community empowerment toward change. Wells’ stage of readiness to implement environmental and policy strategies to prevent obesity is at stage 3, vague awareness, as indicated by the arrow on the Stages of Readiness graph.

### Stages of Community Readiness



Based on the Community Readiness Assessment Model, community efforts should focus on:

- 1) Raise awareness that the community can do something about the problem by launching a media campaign, i.e. post flyers, posters, and billboard to advertise current efforts.
- 2) Provide suggestions on where and how efforts should be focused based on resident input and identified barriers, specifically as it relates to accessing and utilizing community resources.
- 3) Work with the Nevada GROW Healthy Kids and Communities HEAL MAPPS™ team and utilize Extension, GROW HKC, HEAL MAPPS™ and other resources.
  - a. Gather additional and ongoing input from others, including diverse groups of residents and community sectors.
  - b. Publish newspaper articles and editorials with general information related to the local food and physical activity situation and context.
  - c. Build and communicate Wells’ 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://triethniccenter.colostate.edu/communityReadiness.htm>

## **Summary of Results based on Wells Community Conversation**

### ***Physical Activity***

#### Supports

- Youth recreation sports programs run year round.
- Active leisure supports include multiple recreation facilities (i.e. community center, Intertribal council gym, Chimney Rock Golf Course).
- Outdoor trails and parks include Indian country, sports courts, and parks with playgrounds among others.
- School recreation programs and facilities include recess and after school sports programs.
- Some sidewalks in Wells.

#### Barriers

- Lack of sidewalks, existing sidewalks are unmaintained.
- Affordability of existing exercise facilities- fee structure hinders accessibility for some community members.
- Safety concerns at public parks and trails due to lack of lighting, fencing and safety protocol.
- Recreation facilities need updating and increased variety for usage.

### ***Healthy Eating***

#### Supports

- Food assistance programs offered through the school and Utah Food Bank.
- Supports to the school food environment include hot lunch served at the elementary school which is made available to the high school students and vending machines include healthy snacks.
- Some local produce is available through farmers and the food co-op.
- Some healthy food retail options available at the grocery store and at fast food restaurants (i.e. Subway).

#### Barriers

- Barriers to the school food environment include no hot lunch offered at the middle and high school; participants perceive food offered through the school food assistance program as unhealthy.

- Lack of local food production.
- Limited access to healthy, fresh fruits and vegetables, produce is costly due to a lack of local production.

### **Resident-Informed Recommendations for Community Change**

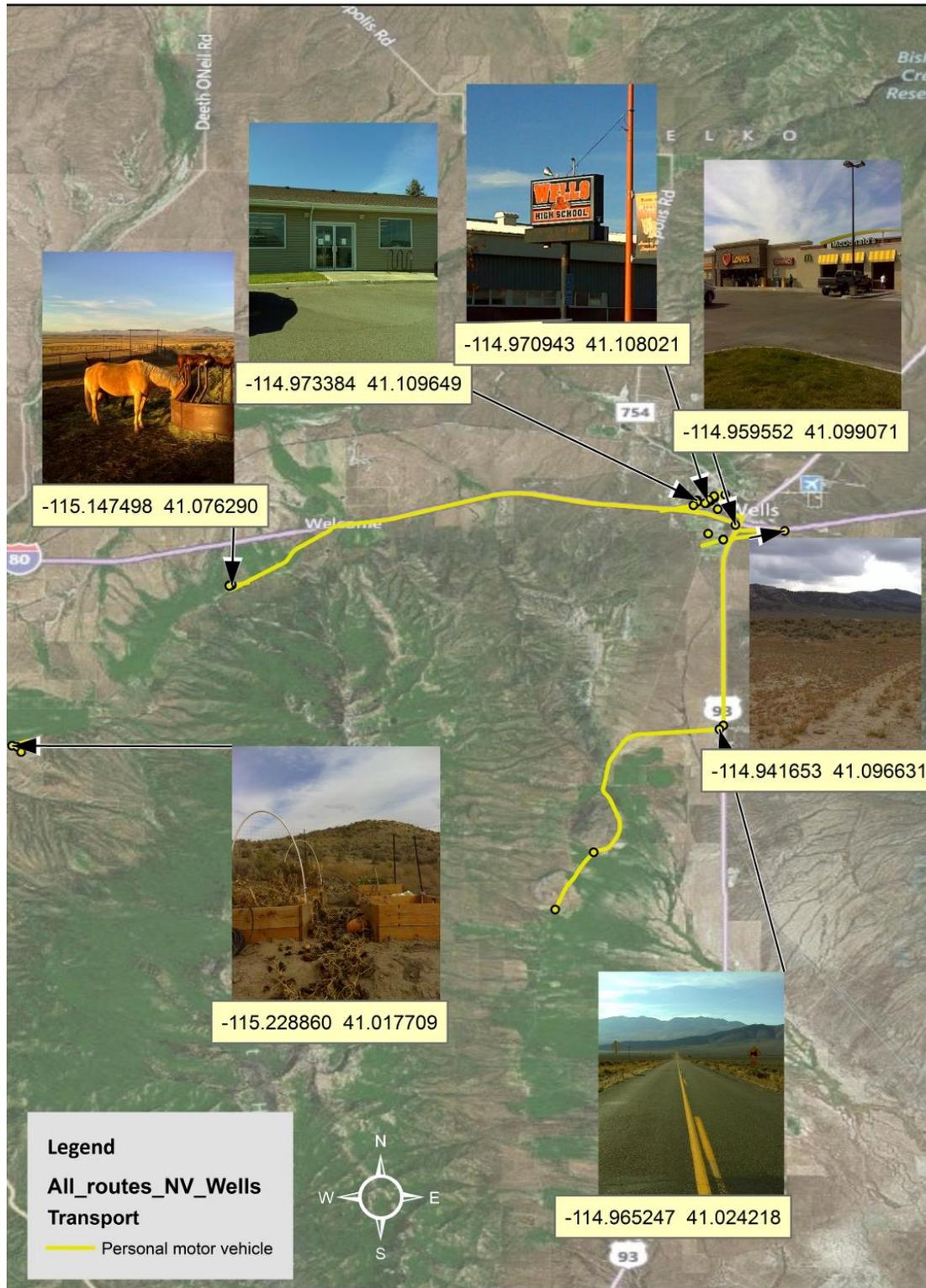
The following recommendations emerged from the data generated during the Wells community conversation and represent those of the Wells community members who shared their ideas during the facilitated discussion of the photographed community features. These recommendations do not represent those of the GROW Healthy Kids and Communities project members or Oregon State University.

- Offer a sliding scale or reduced fee for community members to utilize recreation facilities.
- Offer health awareness/health education classes for community members.

Figures 1 through 4 represent the routes navigated by local residents as they mapped the physical features of the Wells community using participatory photographic survey methods. Figure 1. Represents all routes generated Wells community mappers.



**Figure 2.** Represents an example of a route generated while using a personal motorized vehicle, with supports and barriers encountered. All photograph location coordinates are in decimal degrees



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

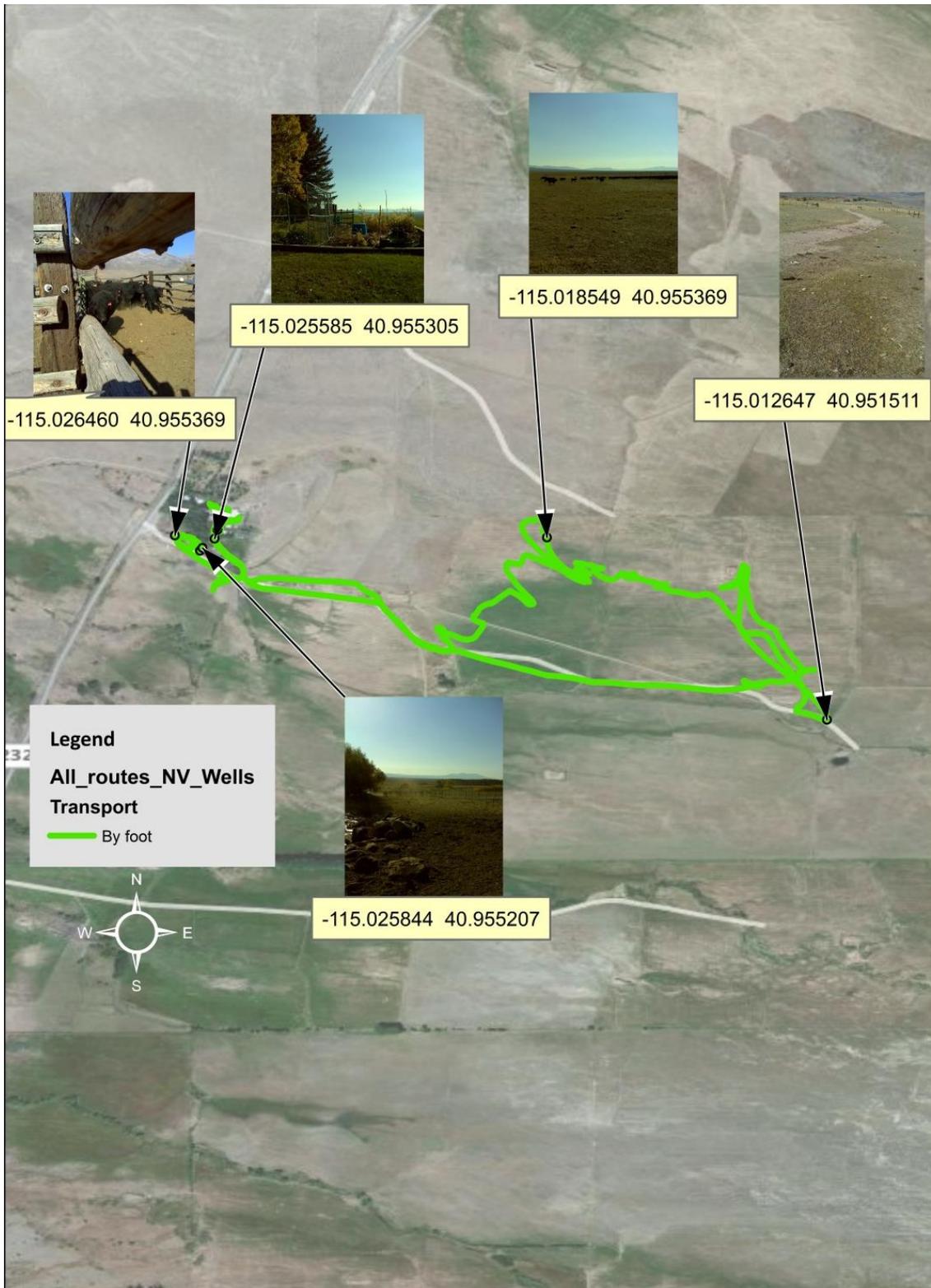


Figure 4. Represents a route with an unidentified mode of transportation.



