building a healthier community
Shasta County Public Health
www.shastapublichealth.net

Community Health Assessment: City of Shasta Lake

An application of the Healthy Development Measurement Tool (HDMT)

Shasta County Public Health

Date: July 2009

For more information, please contact:

Minnie Sagar, MPH Nutrition and Physical Activity Promotion, SCPH
530-225-5192 or msagar@co.shasta .ca.us

Introduction
Letter from the Director

July 2009

Dear Shasta Lake City Council Members, Planning Commissioners & Staff and Community Members:

Land is one of the most valuable resources in a community and there is a growing body of research that demonstrates that land use decisions can have a direct positive effect on physical and mental well being. In many communities throughout California, land use policies have fostered low density, auto-dependent land use patterns, resulting in an increase in vehicle miles traveled, reduced access to public transit, isolated recreational amenities, and a lack of safe and attractive infrastructure that encourages pedestrian and bicycle travel. This type of development comes at a price, the people's health; fosters a sedentary and isolated lifestyle and sedentary lifestyles have been linked to higher rates of obesity, cardiovascular disease, diabetes, asthma, injury, and a loss of mental well being.

In 2008, staff from your Planning Department, in a collaborative effort with staff from Shasta County Public Health, chose to avoid the historical mistakes of other communities by incorporating health considerations into your General Plan update. It is with great pleasure that I present to you the City of Shasta Lake Community Health Assessment, the first step in the process of making health a priority for Shasta Lake residents. The pages that follow provide a comprehensive look at current health conditions for the City of Shasta Lake. The health conditions highlighted in the document were chosen because research has shown links between them and land use/transportation policies. The document also recommends health policies that can guide your land use development and design decisions now and well into the future. Shasta County Public Health appreciates your openness to this cutting edge effort and applauds your commitment to creating healthy environments for healthy residents.

Sincerely,

Donnell Ewert, MPH
Director
Shasta County Public Health

Contents

Acknowledgements

Shasta County Department of Public Health (SCPH) staff involved in report analysis and editing:

Donnell Ewert, MPH, Director
Terri Fields Hosler, RD MPH, Deputy Director
Andrew Deckert, MD MPH, Health Officer
Gloria Espinosa Hall, RD MPH, Public Health Program Manager
Shellisa Moore, Community Development Coordinator Public Health
Joe Brouillard, Community Development Coordinator
Minnie Sagar, MPH, Program and Policy Analyst
Robin Schurig, MPH, Senior Staff Analyst

The following staff members from the City of Shasta Lake and their subcontractors contributed to the development and review of this report. Their contributions and time are greatly appreciated:

Carla L. Thompson, Development Services Director
Debbie Israel Messer, Senior Planner
Dawn Einwaiter, PhD, Project Manager EDAW
Jeff Goldman, AICP, Principal EDAW

1.0 EXECUTIVE SUMMARY

The City of Shasta Lake (CSL) became an incorporated city in July 1993 and adopted its first General Plan in 1999. It is one of three incorporated cities in Shasta County, and its history is centered on the building of the Shasta Dam. The City of Shasta Lake is a rural community consisting of approximately 10.8 square miles located just north of Redding and adjacent to Interstate 5. Its current population is 10,233.

In January of 2007, staff from Shasta County Public Health (SCPH) approached the City to see how the two organizations could work together to promote healthy behaviors among residents through local land use strategies. The result was a successful grant application funding an innovative GIS project. The project worked with city residents to create a non-motorized transportation/recreation GIS layer for the city. This data was used to create a "Shasta Lake Walks" Guide and provide crucial information for future general plan updates.

Since the completion of that project, the city has become a member of Healthy Shasta. This is a countywide collaborative made up of both public and private sector organizations throughout the county with the vision of creating a "community where the healthy choice is the easy choice." As part of the City's commitment to this collaborative, this city wide health assessment was conducted and can be used to generate baseline data and provide policy language for this year's (2009) general plan update.

The Healthy Development Measurement Tool is evidence based and a guide for decision-makers to use when considering health in land use planning. The tool was developed by the San Francisco Department of Public Health and uses a set of 114 indicators to assess the extent to which urban development projects, plans and policies affect health. However, since the City of Shasta Lake is rural in nature, and the original (HDMT) tool was designed for urban setting, it was necessary to identify and modify the most relevant indicators This report summarizes and analyzes data gathered for 44 indicators that were chosen, as well as additional health outcome related information. The indicators were gathered into four main health related areas: Chronic Disease, Injury Prevention, Mental Well Being and Respiratory Health.

There are three main data limitations for this project. First, many of the indicators require data outside the typical health outcome sources that Shasta County Public Health has access to. Therefore, the department relied on other county departments, the city and outside agencies for data on these topics. This can be a limitation because we don't have a complete understanding of how the data is collected or how often it is collected. This also limits our ability to examine the data by demographic or geographic subgroups. If information on city of residence or street address is not collected, it is impossible to separate the data about Shasta Lake residents from data about residents from the rest of the county or state.

The second overall limitation comes as a result of population size. There is more data available at the county level than at the city level, and even when Shasta Lake specific data is available, the numbers are often too small to establish a stable rate of a particular disease or health outcome. With small numbers it is difficult to tell whether a particular rate or a change in a rate over time is due merely to chance or whether the rate is reliable and the change is significant.

The third overall limitation was finding cities that one could compare to Shasta Lake. An example of this is when we tried comparing alcohol outlet data between the City of Shasta Lake and Anderson, although similar in population, Anderson, unlike Shasta Lake, has a truck stop along I-5, several restaurants and two large grocery stores that sell alcohol, all factors that would skew the alcohol outlet data. Furthermore, the HDMT is a fairly new tool and there are not many cities that have assessed these types of health indicators, in order to provide a meaningful comparison. Appendix (A) will provide more specific data limitations for each section, but it's important to keep in mind when going through the report that the data collected is for purposes of providing the city with baseline data only.

Creating communities that offer healthy and safe places for people to live, work, and play is a primary strategy in the prevention of childhood obesity, heart disease, stroke, some cancers, asthma and pedestrian and bicycle injuries. The pages that follow offer data for informed decision making and suggestions for ensuring that the City of Shasta Lake is a healthy community, now and in the future.

2.0 Chronic Disease

2.1 Health Based Rationale

Chronic diseases are the leading cause of death and disability in the United States accounting for over 80% of all deaths. Diseases like heart disease, cancer and diabetes create an emotional, physical and economic burden to both individuals and communities. For example, in Shasta County 37% of adults are overweight, a key risk factor for developing chronic diseases, and the economic burden to the county is approximately $79 million dollars per year, including medical care, workers compensation and lost productivity costs. [1] Research has shown that people can reduce their risk of acquiring a chronic disease by reducing their alcohol intake, eating more, eating a healthy diet, decreasing caloric intake, and increasing daily physical activity. While health behaviors are a result of personal choices, research has demonstrated that health outcomes are correlated to the "built environment" in which these choices are made. Throughout this report "built environment" is defined as the human-made surroundings that provide the setting for human activity, ranging from large-scale civic surroundings to personal places.

Land use decision makers have a significant role to play in whether or not a community fosters good health. Density of alcohol; location of schools; access to fruits, vegetables and other healthy foods; availability of low cost recreation opportunities; alternative transportation options; and zoning that allows for mixed use development, are all examples of land use decisions that play a role in preventing chronic disease. This section of the health assessment will evaluate land use policies within the current City of Shasta Lake general plan, and offer policy recommendations to be considered for this general plan update.

2.2 Existing Conditions

Table 1

Principal Diagnoses of Encounters at Shasta Lake Family Health Center 2007

Principal Diagnoses	Number of Encounters	Percent of all Encounters
Musculoskeletal System and Connective Tissue (e.g. arthritis)	651	11.1%
Endocrine, Nutritional, and Metabolic Diseases; and Immunity Disorders (e.g. diabetes)	437	7.5%
Circulatory System Diseases (e.g. heart disease)	380	6.5%
Neoplasms (e.g. cancers/tumors)	44	0.8%

Source: Office of Statewide Health Planning and Development 2007 report from Shasta Community Health Center

Figure I. NON-MOTORIZED TRANSPORTATION ALTERNATIVES

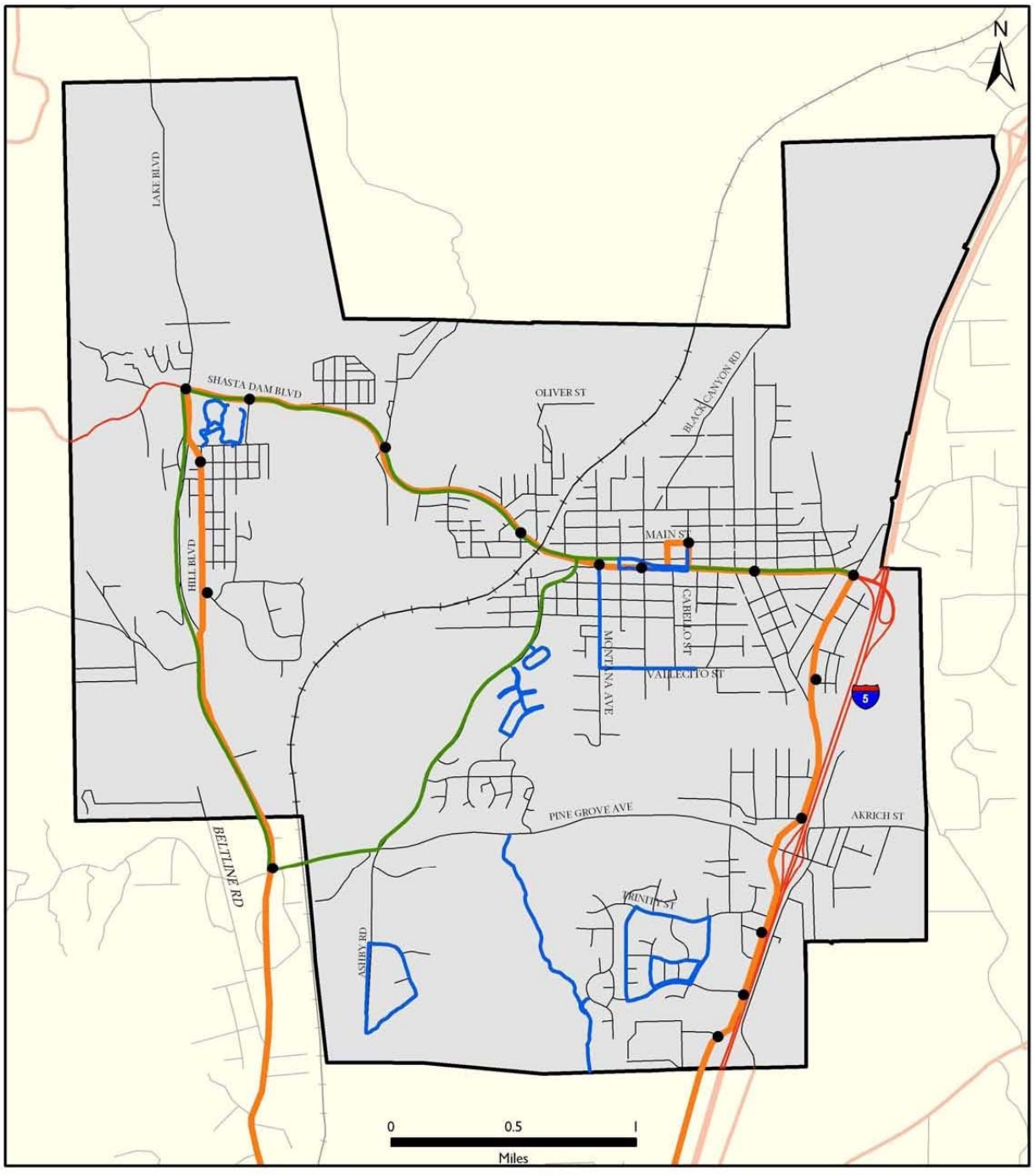
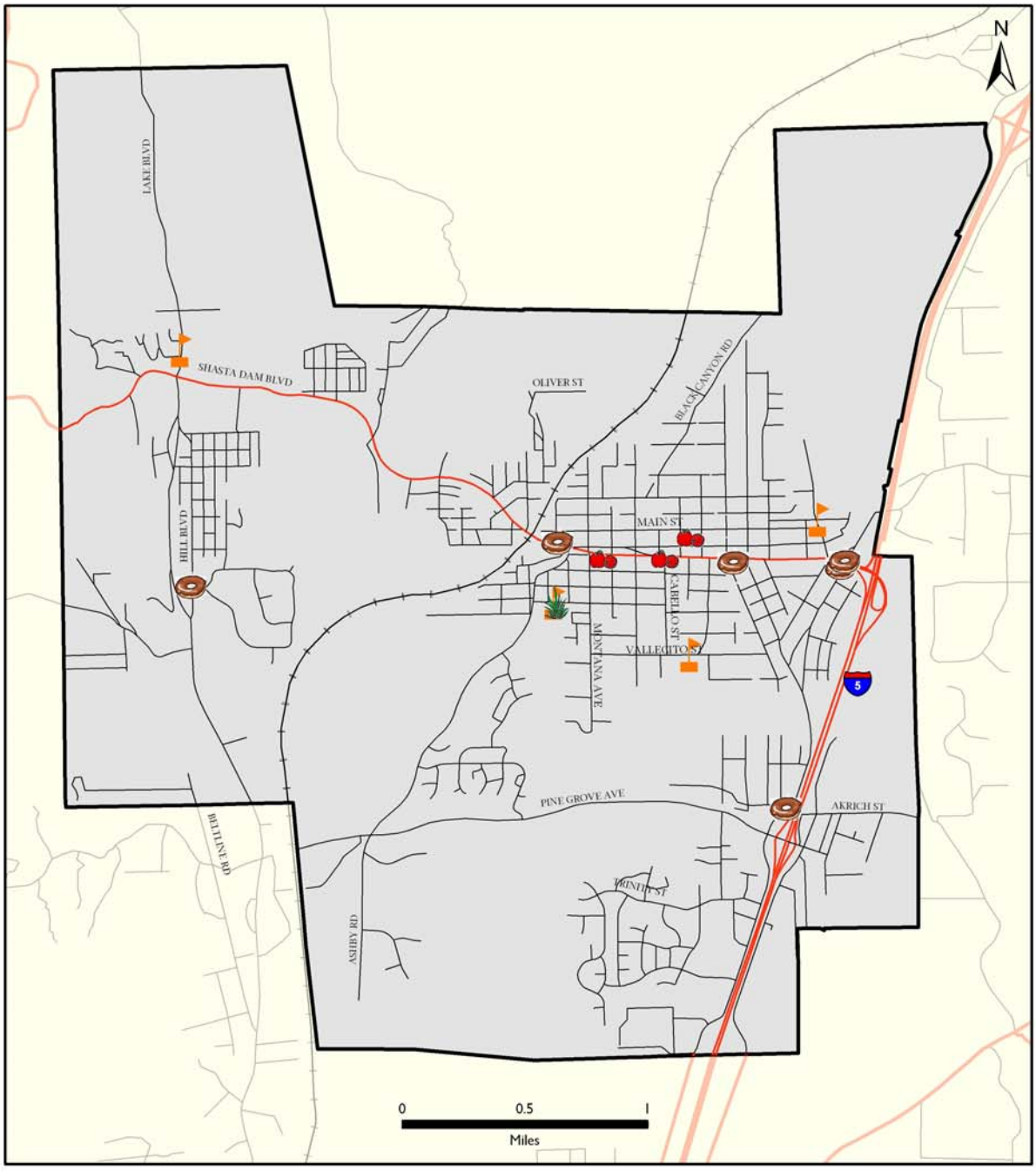


Figure 2. **FOOD SOURCES**



Community Garden

Convience Stores and Fast-Food Outlets

Schools

Grocerey Stores, Food Marts that sell produce, and Farmers Markets

Data Source: California Employment Development Department and the CIty of Shasta Lake

April, 2009

FOOD OUTLET LOCATIONS

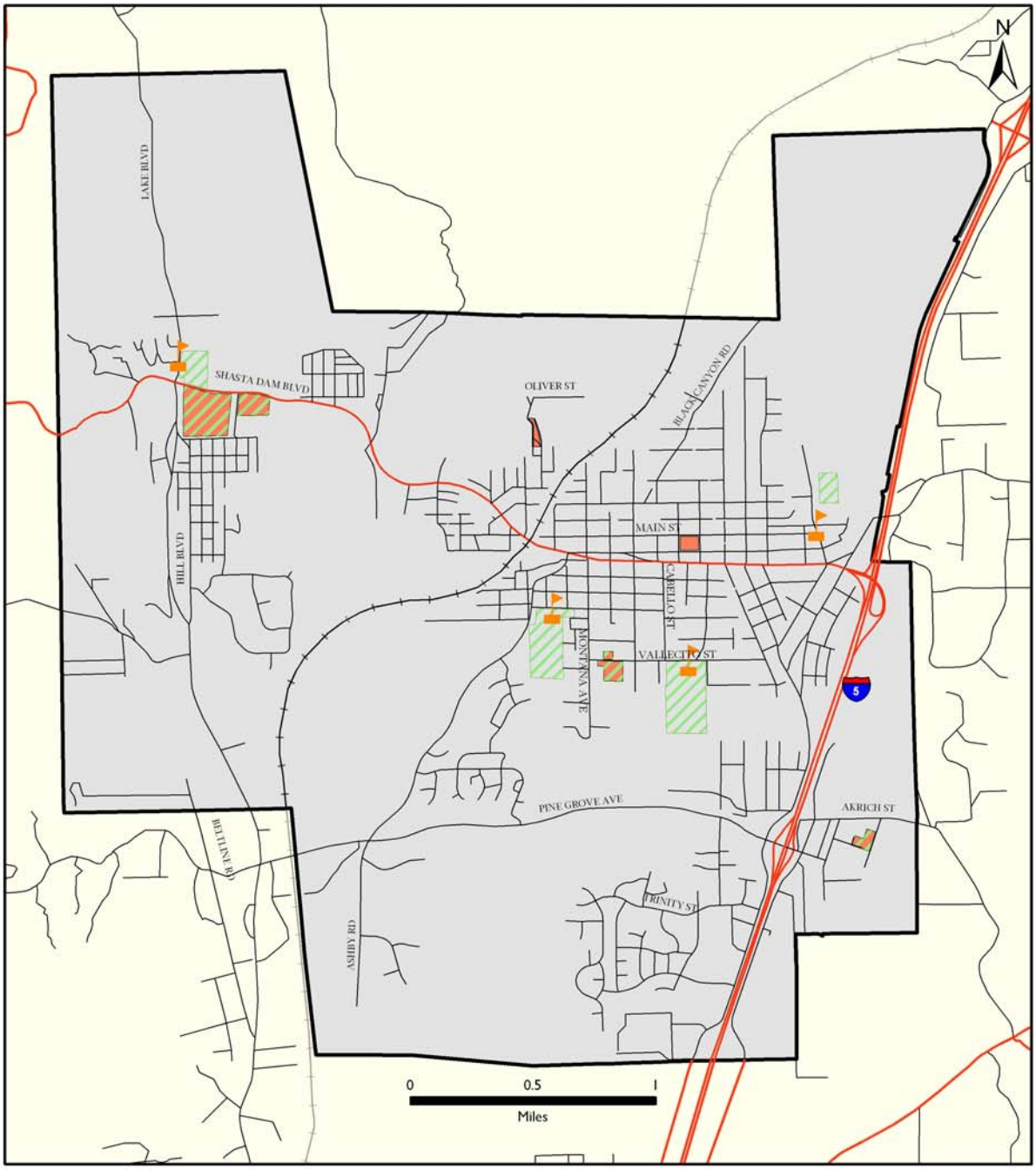
Table 2

Grocery Stores, Farmers Markets, and Community Gardens	
Farmers Sentry Supermarket	4525 Shasta Dam Blvd.
Sunshine Market	4265 Shasta Dam Blvd.
Farmers Market – Claire Engle Park	4650 Front Street
Community Garden-Central Valley High	4066 La Mesa Ave.

Table 3

Fast Food and Food Marts	
Burger King	1725 Cascade Blvd
McDonalds	1690 Cascade Blvd.
Taco Den	5248 Shasta Dam Blvd.
Drive in Market	13719 Hill Blvd
Sonny's Market	4100 Shasta Dam Blvd.
Circle K	4833 Shasta Dam Blvd
Pine Grove Food Mart 76	2725 Cascade Blvd.

Figure 3. **PHYSICAL ACTIVITY FACILITIES**



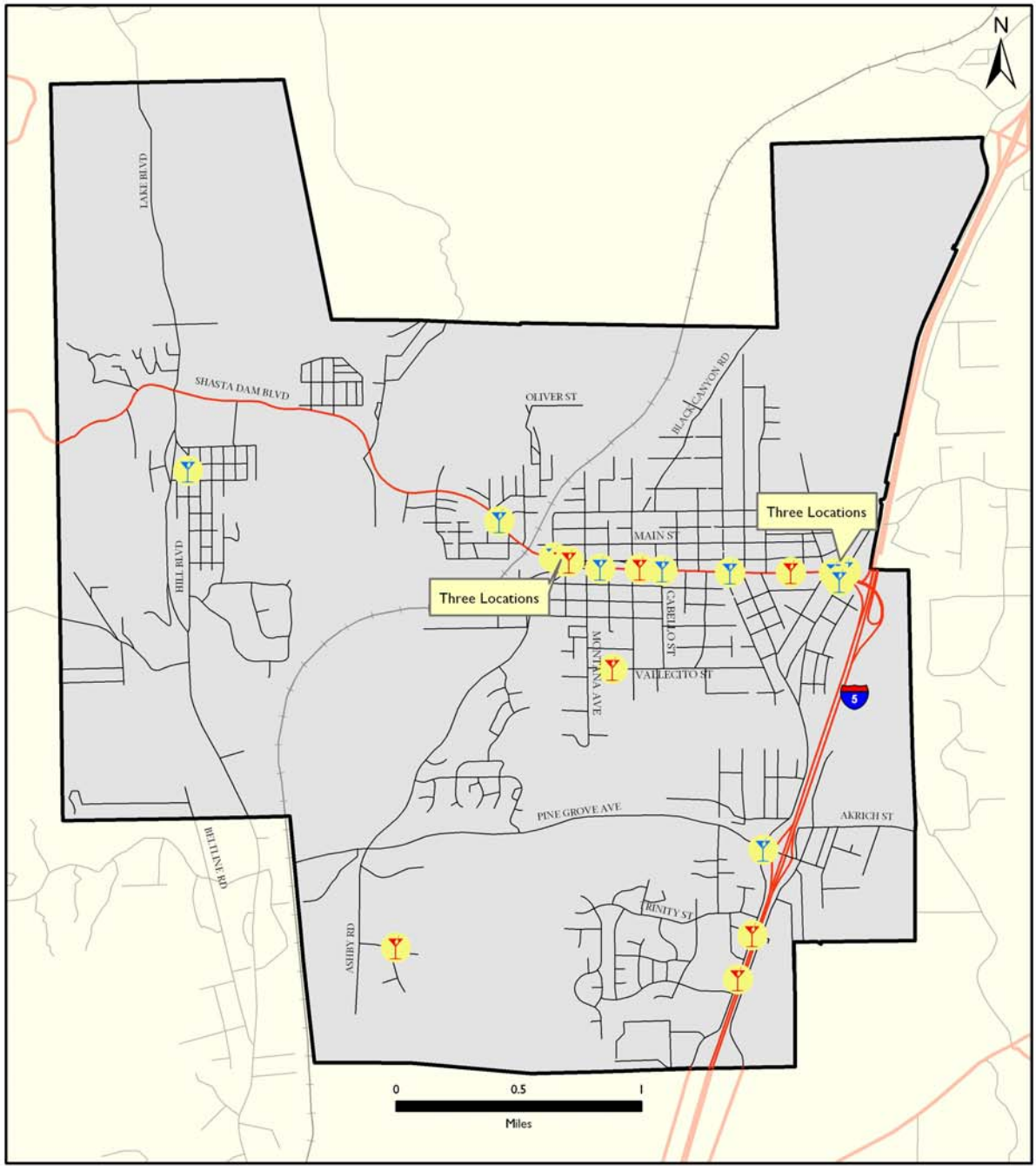
PHYSICAL ACTIVITY OUTLETS

Table 4

Recreation Facilities						
Name	Status	Acres	Facility One	Condition	Facility Two	Condition
Central Valley High School	School	24.2	Adult Softball Fields	Good	Lighted Football Field	Excellent
Toyon Elementary School	School	9.5	Soccer Fields	Good	Multi-use Field	Fair
Shasta Lake Middle School	School	30.6	Multi-use Field	Fair	Soccer Fields	Fair
Grand Oaks Elementary School	School	5.9	Multi-use Field	Fair		
Margaret V. Polf Park	Developed	21.9	Adult Softball Field	Good	Soccer Fields	Good
Wynee Price Field/Tennis Courts	Developed	5.2	Adult Baseball Field	Good	Tennis Courts	Good
Akard Park	Partially Developed	3.0	Multi-use Field	Poor		
Harold Bizz Johnson Park	Partially Developed	6.7	Youth Baseball Field	Fair	Multi-Use Field	Good
Parks						
Name	Status	Acres	Facility One	Condition	Facility Two	Condition
Margaret V. Polf Park	Developed	21.9	Adult Softball Field	Good	Soccer Fields	Good
Wynee Price Field/Tennis Courts	Developed	5.2	Adult Baseball Field	Good	Tennis Courts	Good
Akard Park	Partially Developed	3.0	Multi-use Field	Poor		
Clair Engle Park	Developed	2.8				
Blue Canyon Park	Partially Developed	1.4				
Harold Bizz Johnson Park	Partially Developed	6.7	Youth Baseball Field	Fair	Multi-Use Field	Good

Source: Shasta Lake Parks Master Plan 10/2005

Figure 4. **ALCOHOL OUTLET LOCATIONS**



Alcohol Outlets

Off Premise License

On Premise License

Data Source: California Alcoholic Beverage Control License Query System

April, 2009

ALCOHOL OUTLET LOCATIONS

Table 5

ADDRESS	BUSINESS	LICENSE TYPE
13719 Hill Blvd	Drive in Market	Off sale beer and wine
3844 Shasta Dam Blvd	The Fishen Hole	Off sale beer and wine
1666 Cascade Blvd	Shasta Lake Valero	Off sale beer and wine
4100 Shasta Dam Blvd	Sonny's Market	Off sale beer and wine
4833 Shasta Dam Blvd	Circle K 76	Off sale beer and wine
1725 Cascade Blvd	Shasta Lake Chevron	Off sale beer and wine
2725 Cascade Blvd	Pine Grove Food Mart	Off sale beer and wine
4525 Shasta Dam Blvd	Farmers Market Place	Off sale general
4265 Shasta Dam Blvd	Sunshine Market	Off sale general
5350 Shasta Dam Blvd	Rite Aide 6480	Off sale general
4132 Shasta Dam Blvd	Old Mill Eatery	On sale beer and wine
3256 Cascade Blvd	Rcs Bbq & Steak House	On sale beer and wine
4432 Shasta Dam Blvd	Shasta Lake Pizza Factory	On sale beer and wine
5232 Shasta Dam Blvd	Latinos Restaurant	On sale beer and wine
3104 Cascade Blvd	Joes Giant Orange Restaurant	On sale beer and wine
4157 Front St	Silver Dollar Club	On sale general public premises
3501 Iron Ct	Northstar Brewery	Small beer manufacturer
4309 Vallecito St	American Legion Post 720	Veterans club

Table 6

Healthy Development Measurement Tool--Chronic Disease		
Indicator Title	City of Shasta Lake	California
Proportion of households with at least one vehicle available*	93.2%	
Gross number of vehicle trips per resident per day	1.13	
Proportion of commute trips made by public transit*	1.8%	5.0%
Proportion of parcels within ¼ mile of access to local bus stop	62.1%	
Ratio of miles of bike lanes and paths to miles of road	8.5:100	
Proportion of commute trips made by walking or biking*	3.2%	2.8%
Proportion of sidewalk lengths with pedestrian scale lighting	0%	
Proportion of parcels within ½ mile of a public school	50.5%	
Proportion of parcels with ½ mile access to farmers market	27.7%	
Proportion of parcels with ¼ mile access to community garden	7.2%	
Proportion of public schools within ½ mile of a fast food restaurant	25.0%	
Proportion of parcels within ½ mile of a fast food restaurant	14.4%	
Proportion of parcels within ½ mile of a full-service grocery store	28.4%	
Proportion of parcels within ½ mile of a produce store or small food market	26.9%	
Proportion of parks that can support organized physical activity	66.7%	
Proportion of parcels within ¼ mile of a neighborhood park	29.3%	
Proportion of parcels within ¼ mile of a developed public recreation facility	33.6%	
Per capita annual public recreational and park funding**	$4.00	
Residential density	0.53 housing units per acre	Approx. 0.13
Density of alcohol outlets	1.66 per sq mile	

Source: *data from 2000 census

** Data an estimate from City of Shasta Lake Master Park Plan

Table 7

Physical Fitness Test Results, 2007-08 School Year						
County/District/School*	Percent in the Healthy Fitness Zone for Body Composition			Percent in the Healthy Fitness Zone for at least 5 of the 6 Fitness Areas		
	5th Grade	7th Grade	9th Grade	5th Grade	7th Grade	9th Grade
Shasta County	75.5	74.8	80.3	64.3	69.3	76.0
Gateway Unified School District	78.9	73.1	73.5	85.4	78.7	77.3
Buckeye School of the Arts	76.8	n/a	n/a	85.5	n/a	n/a
Central Valley High School	n/a	n/a	73.5	n/a	n/a	77.3
Grand Oaks Elementary School	88.7	n/a	n/a	92.5	n/a	n/a
Rocky Point Charter School	n/a	84.6	n/a	n/a	92.3	n/a
Shasta Lake School	71.4	73.2	n/a	77.6	79.5	n/a

Source: California Department of Education

* Schools with less than 10 students tested are not listed.

Table 8

Percent of Students Using Alcohol, by Grade												
Survey Question	Gateway Unified School District								Shasta County			
	2004				2006				2006			
	5th	7th	9th	11th	5th	7th	9th	11th	5th	7th	9th	11th
Ever used alcohol*	n/a	21	65	70	3	41	53	64	8	25	49	64
Ever been very drunk or sick after drinking	n/a	9	45	49	n/a	24	35	58	n/a	11	29	47
Binge drinking past month&	n/a	2	24	23	n/a	12	21	29	n/a	6	15	24
Ever been drunk or high on drugs at school	n/a	2	19	31	n/a	11	13	25	n/a	3	12	22

Source: California Healthy Kids Survey

n/a = the question was not asked of that grade level or the data was not available.

* Includes students who drank a full glass of alcohol, but not those who drank one or two sips.

& Binge drinking is defined as drinking five or more drinks within a couple of hours.

2.3 Analysis

Diagnosis data from the Shasta Lake Family Health Center, which is displayed in table 1 shows that about 11% were related to diagnoses of musculoskeletal system and connective tissue disorders (e.g., arthritis), 7.5% were related to endocrine, nutritional, and metabolic diseases and immunity disorders (e.g., diabetes), 6.5% were related to circulatory system diseases (e.g., heart disease), and about 1% were related to neoplasms (e.g., cancer and other tumors). These four categories combined accounts for more than a quarter of the encounters at the Health Center. Research shows that there is a strong correlation between obesity and these types of diseases.

Figure 1 shows the locations of bus stops within Shasta Lake, as well as walking routes and streets that accommodate bikes. Currently, only 3.2% of Shasta Lake commute trips are made by walking or bicycling, 62.1% of parcels in Shasta Lake are within ¼ mile of a bus stop with 50.5% of parcels being within ½ mile of a public school. When it comes to infrastructure, that supports walking and biking, there is less than one tenth of a mile (0.085) of bike lanes for every one mile of road, none of the sidewalks within the city are equipped with pedestrian scale lighting and many of the older sections of the city don't have sidewalks at all (Table 6). There is an opportunity to improve the infrastructure that supports alternative modes of transportation. Further support for pedestrian and bicycle-friendly infrastructure comes from the school Fitnessgram data which shows that almost 23% of Gateway School District students are not within the healthy fitness zone for five of the six fitness areas. Finally, almost 20% of the population within the city is over the age of 65. This is one subset of the population, along with the physically and developmentally disabled and people under the age of 16, who cannot or often do not choose to drive. With so many parcels being so close to a bus stop, there is an opportunity to increase RABA usage.

Figure 2 shows the spatial relationship between Shasta Lake schools and retail food outlets. In general, unhealthy food outlets are defined as fast-food restaurants or convenience stores and healthy food outlets are defined as grocery stores or produce vendors (for definition of unhealthy vs. healthy food see appendix A). There are three healthy food sources and seven unhealthy food sources in Shasta Lake, and all four of the public schools in Shasta Lake are within ½ mile of an unhealthy food source (Figure 2). This is a concern because 21-27% of Gateway District students do not meet the healthy fitness zone for body composition (the percentage of fat that your body contains). When it comes to accessing

healthy foods quality matters, and fresh locally grown produce is more nutritious and tastes better because the produce doesn't have to be transported from out of the area and has less shelf time. However, only 7.2% of the population lives near the community garden in the city and the farmers market is only available for two months out of the year. This makes accessing fresh produce a challenge for city residents. Decreasing the amount of unhealthy food outlets, or not adding any more, and increasing the accessibility to healthy food sources including grocery stores, is one way to address this serious health challenge.

Figure 3 shows the locations of neighborhood parks and recreation facilities. The Healthy Development Measurement Tool defines neighborhood parks as any developed or partially developed land designated as a park that is more than 0.5 acres in size; there are six parks that fit this criteria. Recreation facilities are defined as parks or public schools where a purpose-built field or court is present. There are four parks and four schools that have such facilities, resulting in a proportion of 66.7% of parks that can support organized physical activity (Table 4). Only 29.3% of parcels in Shasta Lake are within ¼ mile of a neighborhood park, and only 33.6% are within ¼ mile of a public recreation facility (Table 6). This presents an opportunity to implement the findings in the 2005 City of Shasta Lake Park System Master Plan [3] and to work with local schools to develop joint use agreements.

Figure 4 shows the locations of alcohol outlets and Table 5 lists their address and license type. These include both off premise alcohol outlets (businesses that sell alcohol to be consumed off the premises, e.g. liquor, grocery, and convenience stores) and on premise alcohol outlets (businesses that sell alcohol to be consumed on the premises, e.g., bars and restaurants). There are 18 alcohol outlets in Shasta Lake for a density of 1.66 outlets per square mile. Using estimated population figures from the California Department of Finance for 2008, there are 1.8 alcohol outlets per 1,000 people in Shasta Lake.

Rates of alcohol use among City of Shasta Lake 7th graders increased significantly from 2004 to 2006, indicating an apparent trend of younger alcohol use (Table 7). Moreover, in 2006, one out of eight seventh graders, one out of five ninth graders, and one out of three 11th graders in the Gateway Unified School District drank five or more drinks within two hours within the past month. This is a higher rate than both Shasta County and California. This is alarming because there is clear evidence that youth who drink before age 15 are more likely than those who begin drinking later, to have other substance abuse problems during adolescence, to engage in risky sexual behavior, and to be involved in car crashes, unintentional injuries, and physical fights. [4] These behaviors often follow into adulthood. Finally, alcoholism at any age has consequences both medically and economically. Chronic alcohol abuse can lead to depression, hypertension, cardiac and liver disease. Costs associated with alcoholism include medical care, workers compensation, lost productivity, and legal and social costs.

Although youth are most likely accessing alcohol from their home or an older relative, the high density of alcohol outlets in Shasta Lake makes it easy for adults to access alcohol especially for those who suffer from alcoholism. Shasta County currently has a moratorium on issuing additional Type 20 (beer and wine) licenses until 2010. This moratorium was mandated by the state because of the fact that the county ratio of outlets to population exceeds the state limit.

Alcohol accessibility can be addressed through adoption of zoning regulations that establish separation distances between alcohol outlets and residences, schools, parks and playgrounds; restricting the number and density of alcohol outlets; and requiring a conditional use permit for facilities that wish to begin selling alcohol, that limits the hours of operation.

2.4 Community Survey

In addition to the data outlined above, a community survey was conducted in October of 2008 (Appendix B). [5] It was sent out to 4,705 City of Shasta Lake residents in their utility bills, and 387 responded. The purpose of the survey was to assess residents' current access, use and interest in utilizing the healthy eating and physical activity infrastructure that already exists within the city.

When it comes to transportation, most of the survey respondents reported using a car to leave their home. Although 60% of respondents report there is a RABA stop within easy walking distance from their homes, nearly 70% have never ridden on RABA, primarily due to relying on their cars for transportation. Of those respondents who do ride RABA, most use it to go to doctor's appointments, some form of shopping, or work.

Over 98% of respondents reported not using the community garden at Central Valley High School. The most common reason given for not using the garden is that they did not know it existed. Of those who said they would use a garden, most would like it to be located in an area south of Shasta Dam Boulevard. Over two-thirds of respondents said there was not a farmer's market, grocery stand, or grocery store with fresh fruits and vegetables within easy walking distance from their homes. However, over two-thirds also felt it was important to have easy access (within walking distance) to fresh fruits and vegetables. Finally, one-third of respondents who participate in recreational activities claimed the most common activity was walking or riding trails, followed by festivals and concerts. For a full copy of this report, see Appendix B.

2.5 Health Promoting Mitigations

- Increase the number of residents that use public transit.
- Increase the number of residents who walk or bike to school or work.
- Increase the accessibility of fresh fruits and vegetables.
- Increase options for recreation opportunities.
- Decrease the accessibility of alcohol.

2.6 Existing Policies

Community Action Plan

In March of 1995 the City of Shasta Lake commissioned a consulting firm out of Washington State to develop a community action plan. [6] The bulk of the plan was focused on economic development strategies, but within that context there were some operating guidelines under Objective #8 "Improve the Tourism and Recreation-related Infrastructure" that benefited the health of the residents. Those guidelines included developing a multi-use path from Shasta Lake to the proposed Indian Center, creating a loop trail along the Sacramento River between Redding and Shasta Dam, and a greenway along Churn Creek. The City of Shasta Lake is rich in both history and culture, centered on Shasta Dam. Tapping into this amenity by connecting more recreational opportunities has both a positive economic impact from tourism as well as health benefits for residents.

Shasta Lake General Plan

The following objectives, policies and implementation measures in the current 1999 General Plan [7] are policies that help create environments that support the prevention of chronic diseases.

Table 9

General Plan Element	Objectives	Policies	Implementation Measures
Open Space Parks and Recreation	OSR-1 Conserve and manage the open-space and recreation resources of the City of Shasta Lake for the use and enjoyment by City residents and visitors both now and in the future. OSR-2 Provide public access to open-space and recreation resources consistent with the need to protect these resources and consider the rights of private property owners. OSR-3 Establish, integrate, and maintain "natural" and "man-made" greenbelt areas along existing creeks, floodplains, natural open space areas, certain roadways, bike and trail systems. OSR-4 Link existing and future development in a manner that provides open space and recreational opportunities. OSR-5 Provide sufficient park facilities to serve the City's population.	OSR-a Parks and Recreation systems, planning, acquisition, development, and operation should be coordinated among City, Shasta County, state and federal governments, as well as schools and special districts, and should take advantage of opportunities for linkages between publicly owned parks and publicly owned state and federal lands. OSR-e Provide for neighborhood parks. OSR-f Provide off-road pedestrian and non-motorized bike facilities, where feasible and practicable.	OSR-(1) Provide 5 acres of neighborhood, community, and creekside parks per 1,000 new residents. Strive to maintain a neighborhood park standard of at least 0.9 acres per 1,000 new residents OSR-(3) Evaluate the feasibility of developing smaller neighborhood parks, of about two acres, in selected areas where a landscape maintenance district or other funding mechanisms can be utilized and where the development pattern lends itself to such facilities. OSR-(5) Evaluate the establishment of a network of bike and trail systems extending throughout the City. The system will be a combination of the existing and future road and sidewalk system and through greenbelt areas along existing creeks, streams, floodplains, natural open space and ***NH*** and ***NP*** designated areas. Public access will be preserved through new and existing development to enable future use of such trails…

Table 10

General Plan Element	Objectives	Policies	Implementation Measures
Land Use	LU-8 To establish a sense of community "village" quality and character throughout the City. LU-9 To improve existing neighborhood aesthetics.	NA	LU-(4) Distribute shopping centers so that new neighborhood centers are located at least one mile away from existing major shopping centers. LU-(5) For development along Cascade and Twin View Boulevards, adopt appropriate standards to improve the character of these corridors, including but not limited to site access, building and off-street parking orientation to street, building height, on-site lighting, transitional requirements adjacent to residential uses, and incentives to encourage office/residential mixed use. LU-(11) Prepare Area Plans for those areas identified in ***Policies LU-w*** and ***LU-x*** that will specifically address the following in a narrative and diagram form *(Not all items listed)*: ▪ Master Development Plan ▪ The services and facilities necessary to serve the identified area based on ultimate development. Services and facilities include, but are not limited to roads, water, sewer, storm drainage, power, law enforcement, fire protection, schools, parks, and trail system. LU-(13) Application of the Design Review overlay district shall be limited to properties that have unique natural and development attributes and/or that have special circumstances that warrant discretionary review by the Planning Commission. Specific design objectives, guidelines, and development standards shall be developed and adopted by the City.

Table 11

General Plan Element	Objectives	Policies	Implementation Measures
Public Services and Facilities	PF-10 Develop a land use pattern that can be adequately served with community facilities such as schools, libraries, and community recreation facilities.	PF-e The City will cooperate and coordinate its planning with the Gateway Unified School District and develop plans that respond to the growth of the City.	

Table 12

GENERAL PLAN ELEMENT	Objectives	Policies	Implementation Measures
Circulation	C-2 Promote alternative travel modes, including transit, pedestrian and bicycle circulation systems and Transportation Demand Management (TDM) programs.	C-c Provide for adequate, safe, and direct, and if necessary, alternative access to public facilities, schools, parks and shopping areas. C-e Encourage the continued development and expansion of local and regional public transit systems. C-f Encourage bicycle and pedestrian transportation, both on- and off-street. C-g Construct, improve and maintain the system of curb, gutters, sidewalks and crosswalks for pedestrian circulation safety and drainage control.	C-(6) Complete a "Safe Route to School" study to determine requirements for new walkways, school crossings, traffic control and roadway improvements. C-(18) Provide crosswalks at signalized intersections. C-(19) Require sidewalks in all new public and private developments. C-(20) Implement a program to install handicapped ramps at all intersections as street improvements are being installed. C-(22) Review proposed designs for large traffic generating uses with transit service in mind, and require minor arterial and collector streets to be improved to provide bus loading and unloading without disruption of through traffic.

In the state of California, and throughout the nation, there is a movement to strengthen the health aspects of general plan policies. The following recommendations for the city's 2009 general plan update is based on a review of the chronic disease related health outcome and health indicator data for the City of Shasta Lake.

2.7 Policy Recommendations

Chronic Disease Prevention Goal: Prevent obesity and reduce the incidence of associated chronic diseases, like heart disease, diabetes and cancer, among the residents of the City of Shasta Lake.

Chronic Disease Prevention Objective #1: Ensure that 50% of residents have the opportunity to walk or bike to meet their daily needs.

Policies

1. Increase the ratio of bike lanes and paths to miles of road.
2. Increase ridership of RABA by local residents
3. Provide pedestrian corridors in heavy traffic areas and incorporate design elements such as shade trees and other plantings, street furniture, attractive building frontages and other pedestrian oriented elements.
4. Provide incentives for mixed use, pedestrian and transit-oriented development.
5. Provide incentives for urban infill development.

Implementation Measures

1. Update the city's bike plan.
2. Provide greater opportunities for variety in urban experiences for pedestrians.
3. Give mixed use development priority in application processing.
4. Adopt mixed-use residential, commercial, and office zoning where appropriate to encourage walkability.
5. Encourage walking and bicycling activities, especially walking to and from jobs, thus reducing automobile dependency and demands upon the transportation system.
6. Work with RABA to survey residents to identify what incentives and changes are needed to increase ridership,

Chronic Disease Prevention Objective #2: 75% of all new neighborhoods built will be attractive places for recreational exercise.

Policies

1. Establish and fund a Parks and Recreation Department.
2. Ensure that the city has adequate recreational facilities and programs.
3. Encourage the development of multiuse trails that connect to regional trails and link neighborhoods to downtown, schools and other commercial areas.

Implementation Measures

1. Increase and market the diversity of recreational programs offered to residents.
2. Institute a Landscaping and Lighting district to fund new parks based on incoming development.
3. Consider use of redevelopment funds and grants to improve existing parks.
4. Incorporate trail easements into new developments.

Chronic Disease Prevention Objective #3: All new school locations will be developed as an integral part of the community.

Policies

1. Encourage future school sites to be centrally located near neighborhoods.
2. Promote joint-use projects to facilitate Parks and Recreation programs in collaboration with the School District.

Implementation Measures

1. Re-use existing infrastructure and renovate buildings to be used as future school sites.
2. Encourage combining schoolyards with county or city parks and allow school facilities for after school use by the community after school hours for recreational, cultural, and other compatible uses.

Chronic Disease Prevention Objective #4: The number of opportunities for residents to purchase fresh fruits and vegetables will be increased by 25% by ensuring that sources of healthy foods are accessible to all neighborhoods.

Policies

1. Encourage the creation and operation of one community garden of no less than one acre for every *2,500 households*. Identify neighborhoods that do not meet this standard and prioritize the establishment of new gardens in neighborhoods that are underserved by other open space and healthy eating opportunities.
2. Encourage the operation of at least one farmers' market in the City of Shasta Lake at least two times per week from April to October.
3. Promote farmers' market, farm stands, and community gardens in the city.
4. Enhance the viability and sustainability of agriculture within the region.

Implementation Measures

1. Ensure that 75% of households in the city live within a half mile of a full-service grocery store, fresh produce market, an ethnic market or a convenience store that stocks fresh produce.
2. Conduct an assessment of prime agriculture lands that will be affected by current and projected development trends.
3. Prepare comprehensive and neighborhood plans that recognize community gardens and other forms of urban agriculture, farm/garden stands, and farmers' markets, as desirable civic uses in neighborhoods, and provide sufficient space, infrastructure, and inter-modal transportation access for such uses. Ensure that zoning barriers to these activities are addressed and removed.
4. Identify existing and potential community garden sites on public property, including parks; recreation and senior centers; public easements and right-of-ways; and surplus property, and give high priority to community gardens in appropriate locations.
5. Adopt zoning regulations that establish community gardens as a permitted use in appropriate locations.
6. Identify potential farmers' market sites on public property, including parks, school and other institutions; on private property, including medical clinics and commercial centers; and, where feasible, on streets using street closures.

Chronic Disease Prevention Objective #5: A concentration of unhealthy food providers within neighborhoods will be avoided.

Policies

1. Decrease the density of fast food chains in the city
2. Encourage restaurants that serve healthy food options.

Implementation Measures

1. Through the development approval process, limit the number of fast food chains allowed in the city and encourage healthier retail food outlets.

Chronic Disease Prevention Objective #6: Chronic diseases associated with problem drinking will be reduced among all age groups in the City of Shasta Lake.

Policies

1. Reduce the density of retail alcohol outlets.
2. Reduce the availability of alcohol to minors.

Implementation Measures

1. Adopt zoning regulations that require separation between alcohol outlets and residences, schools, parks and playgrounds.
2. Require conditional use permits for facilities that wish to begin selling alcohol, including limiting the hours of operation.
3. Collaborate with law enforcement programs to reduce sales to already intoxicated patrons.
4. Adopt a social host ordinance (a city law that would hold youth and adults accountable for allowing underage drinking parties on their premises).

3.0 Injury Prevention

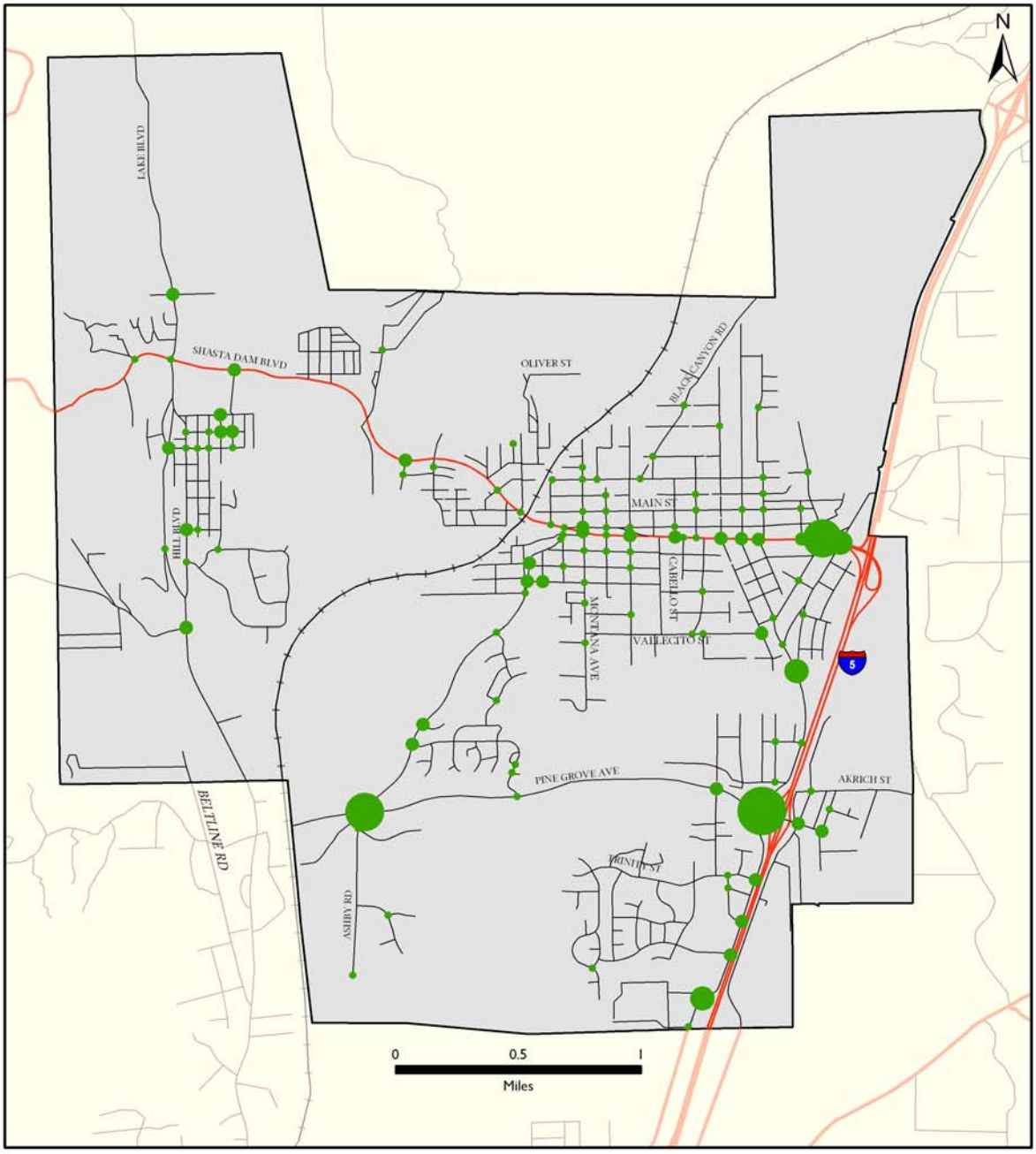
3.1 Health Based Rationale

Chronic disease prevention is not the only area of health that can be impacted by land use decisions. In the United States, 4784 pedestrians died from traffic-related injuries in 2006. In Shasta County during the years of 1990-2001, 90% of bicycle-related deaths and 10% of non-fatal bicycle related injuries involved a motor vehicle. Research has shown that traffic crashes and fatalities can be attributed in part to traffic volume, the street environment and vehicle speed.

Key points from this research are that the risk of injury to child pedestrians is strongly associated with traffic speed and volume. Lower speeds give drivers more time to react and reduce the severity of impact when collisions do occur. Furthermore, when the street design supports more people out walking and biking, then crashes with motor vehicles are less likely. This section of the health assessment will look at baseline data regarding injury in the City of Shasta Lake and offer policy recommendations.

3.2 Existing Conditions

Figure 5. TRAFFIC COLLISIONS, 2003-2007



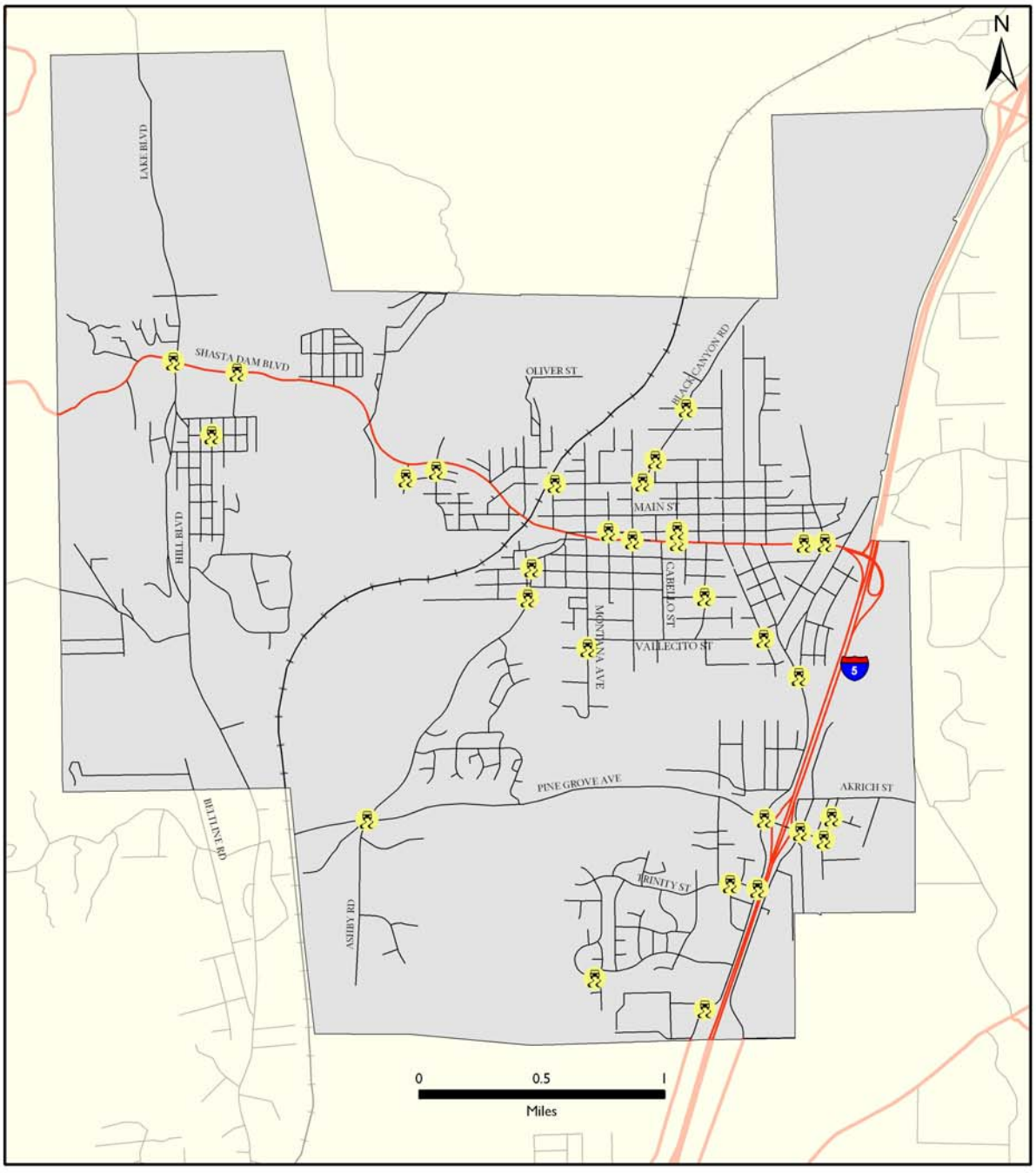
Number of Traffic Collisions per Location

1 | 2 - 4 | 5 - 7 | 8 - 9 | 10 - 17

Data Source: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS)

April, 2009

Figure 6. ALCOHOL RELATED COLLISIONS

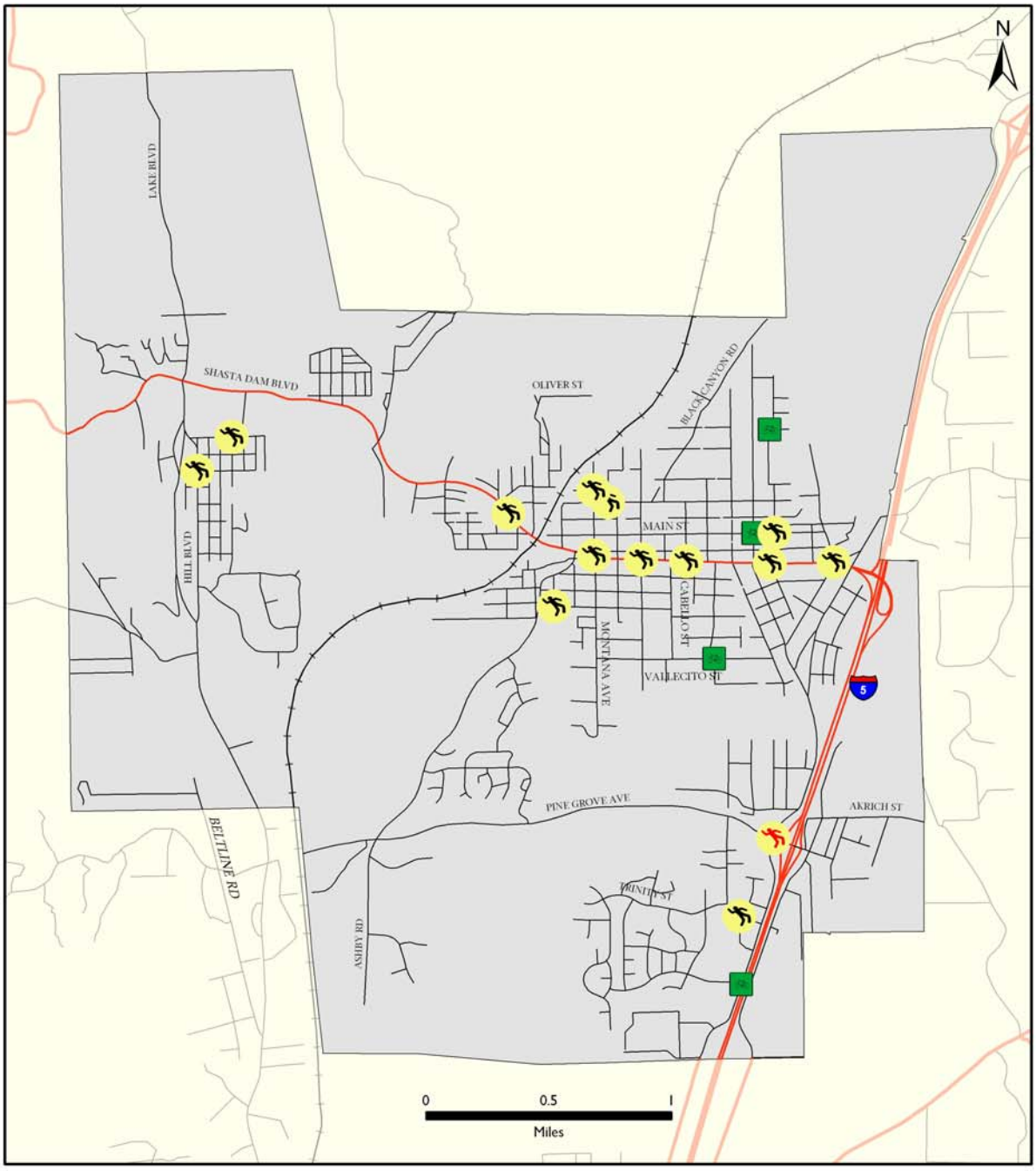


Alcohol Related Collision

Data Source: California Alcoholic Beverage Control License Query System and the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS)

April, 2009

Figure 7. PEDESTRIAN AND BICYCLE INJURIES, 2003-2007



Pedestrian Injury
Pedestrian Fatality
Bicycle Injury

Data Source: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS)

April, 2009

Table 13

Healthy Development Measurement Tool--Injury	
Indicator Title	City of Shasta Lake
Number of Police Officers per capita	1.8 officers per 1,000 pop.
Number of Motor Vehicle Crashes 2003 to 2007	232
Number of Pedestrian Injury Collisions, 2003 to 2007	14, with 1 Fatality
Number of Bicycle Collisions, 2003 to 2007	4
Intersections where most Injury Collisions occur, 2003 to 2007	Pinegrove Ave. & Cascade Blvd. (5), Shasta Dam Blvd. & Hardenbrook Ave. (3)

3.3 Analysis

Diagnosis data from the Shasta Lake Family Health Center indicates that 3% of patient visits in 2007 were related to injury and poisonings. The maps are related to motor vehicle crashes. There were a total of 232 motor vehicle collisions in Shasta Lake between 2003-2007 (Figure 5); 33 (14.2%) of these were known to be related to alcohol, four resulting in bicyclist injuries, 14 resulting in pedestrian injuries, and one resulting in a pedestrian fatality. There were 47 collisions that occurred in an intersection, and the majority of these intersections only had one or two injury collisions associated with them. However, there were some exceptions: the intersection of Pinegrove Avenue and Cascade Boulevard, where five injury collisions occurred, and the intersection of Shasta Dam Boulevard and Hardenbrook Avenue, where three injury collisions occurred. The intersection of Pine Grove Avenue and Cascade Boulevard is of particular concern. Not only was it the location of the highest number of injury collisions, but it was the intersection closest to the highest number of collisions overall, including a pedestrian fatality. It's important to note that several alcohol- related incidents occurred in several of the high traffic collision areas. At the five most collision prone general vicinities, the two most common primary collision factors were automobile right-of-way and unsafe speed. One potential solution would be to conduct studies to re-evaluate the design of those intersections.

There were a total of 33 reported alcohol-related collisions over a five year period (Figure 6). Although there is a lack of data as to where the driver had been drinking when the crash occurred. It's no mystery that alcohol use impairs driver judgment and there is much research that shows strong links between alcohol use and motor vehicle accidents. According to the Institute for Highway Safety, the relative risk of death for drivers in single-vehicle crashes with a high BAC (blood alcohol content) is 385 times that of a zero-BAC driver. As mentioned in the chronic disease section, one way to address this is to adopt zoning regulations that require separation distances between alcohol outlets and residences, schools, parks and playgrounds; restrict the number and density of alcohol outlets; and require a conditional use permit for facilities that wish to begin selling alcohol, which could include limiting the hours of operation. Another contribution to a solution would be to increase enforcement and DUI checks, and pass and implement a social host ordinance to hold adults accountable for permitting underage drinking parties on their premises.

Over a four year period, there were a total of 14 pedestrian collision injuries and one fatality and four bicycle collision injuries (Figure 7). Three of the four bicycle-related injuries occurred on local streets and six of the 14 pedestrian injuries occurred along Shasta Dam Boulevard. In the previous chapter on

Chronic Disease, several strategies around pedestrian and bicycle-friendly infrastructure were recommended. In addition to those strategies, cities can institute traffic calming measures in the street design to encourage more walking and biking.

3.4 Health Promoting Mitigations

- Consider conducting traffic studies at the intersection where the most collisions took place.
- Encourage traffic calming measures in all new development projects.
- Encourage current and incoming large employers to install bike racks and showers on the premises.
- Improve bicycle infrastructure throughout the city.
- Decrease density of alcohol outlets
- Increase DUI checks.

3.5 Existing Policies

The following objectives, policies and implementation measures, in the current 1999 General Plan are policies that help create environments that support the prevention of injury:

Shasta Lake General Plan

Table 14

General Plan Element	Objectives	Policies	Implementation Measures
Fire Safety & Law Enforcement	NA	FS-e Development in areas requiring additional levels of police and fire services shall participate in offsetting costs for the additional services.	FS-(1) Maintain an average response time of four minutes or less for all proposed urban development. FS-(6) Provide rapid and timely response to all law enforcement emergencies and maintain the capability to have minimum average response times.

Table 15

General Plan Element	Objectives	Policies	Implementation Measures
Land Use	NA	NA	LU-(4) Distribute shopping centers so that new neighborhood centers are located at least one mile away from existing major shopping centers.

Table 16

General Plan Element	Objectives	Policies	Implementation Measures
Circulation	C-3 Coordinate policies for land development and circulation.	C-a Monitor, maintain and improve, as necessary, the operation, safety and performance of the street system, including roadway surfaces, capacity, and traffic signals. For capacity and operational purposes, strive to attain a Level of Service (LOS) "C," to the maximum degree feasible, so that potential traffic congestion on streets and at intersections is minimized. C-c Provide for adequate, safe, and direct, and if necessary, alternative access to public facilities, schools, parks and shopping areas. C-g Construct, improve and maintain the system of curb, gutters, sidewalks and crosswalks for pedestrian circulation safety and drainage control.	C-(1) Establish a data collection program for the street system to include a physical inventory, condition of surfacing, maintenance needs, traffic volumes and accident reports. Update the program at least yearly. C-(2) Develop a priority system for physical improvements based on demonstrated needs according to the collection of data on physical conditions, traffic volumes and safety reports. C-(5) Review high frequency accident locations and develop specific mitigation measures or improvements. C-(6) Complete a "Safe Route to School" study to determine requirements for new walkways, school crossings, traffic control and roadway improvements. C-(7) Develop and adopt street standards that provide flexibility in design, especially in residential neighborhoods. Revise right-of-way and pavement standards to reflect adjacent land use and/or anticipated traffic, and permit reduced right-of-way dimensions where necessary to maintain neighborhood character. Standards should consider median construction, or intersection lane widening which may require additional width and right of way. Alternative standards should be

General Plan Element	Objectives	Policies	Implementation Measures
Circulation (ctd.)			provided for new and existing alignments, since having just one set of standard may conflict with existing facilities, which for various reasons are inconsistent in right-of-way or other constraints…C-(8) Continue to require that new development pays a fair share of the costs of street and other traffic and transportation improvements based on traffic generated and impacts on service levels. C-(16) Discourage through traffic in residential neighborhoods without inhibiting the movement of residents. Traffic diversions, stop signs, or the street design or alignment may accomplish this. C-(17) As part of the development review process, include consideration of the visual aspects of a development from roadways. Aesthetic consideration shall include architectural compatibility and landscaping. Development review will include visibility requirements at intersections. C-(18) Provide crosswalks at signalized intersections. C-(19) Require sidewalks in all new public and private developments. C-(20) Implement a program to install handicapped ramps at all intersections as street improvements are being installed.

In addition to the above listed polices, a review of the injury related health outcome data for the City of Shasta Lake provides the basis for the following recommendations. The following policies are recommended to be considered for incorporation into the city's 2009 general plan update.

3.6 Policy Recommendations:

Injury Prevention Goal: The incidence of injury and fatalities incurred by city residents due to motor vehicle collisions will be reduced.

Injury Prevention Objective #1: Create a balanced transportation system that provides for the safety and mobility of pedestrians, bicyclists, those with strollers, and those in wheelchairs at least equal to that of auto drivers.

Policies

1. Increase bicyclist and pedestrian level of service standards throughout the city.
2. Reduce the incidence of traffic collisions at the intersection of Pine Grove Avenue and Cascade Boulevard.
3. Encourage new developments to comply with safe street design standards.

Implementation Measures

1. Assess the current level of bicycle service.
2. Assess the current level of pedestrian service.
3. Create class II bike lanes that run East/West and North/South throughout the city.
4. Ensure that new development has a grid street pattern and continuous sidewalks on both sides of the street that are a minimum of 5 ft. wide and complete with planter strips.
5. Ensure that new development installs traffic calming measures such as medians, traffic circles, and bulb outs in residential areas. (See Appendix B for a list of traffic calming designs.)
6. Conduct a traffic study at Pine Grove Avenue and Cascade Boulevard, and at Shasta Dam Boulevard and Hardenbrook Avenue.
7. Consider adding medians with trees to Shasta Dam Boulevard.
8. Require transportation engineers to meet level of service standards for pedestrians and cyclists as well as autos.
9. Require a dedicated portion of the transportation budget to go to pedestrian and cyclist amenities.
10. Encourage walking and bicycling activities, especially walking to and from jobs, thus reducing automobile dependency and demands upon the transportation system.

Injury Prevention Objective #2: Motor vehicle injuries associated with alcohol use will be reduced.

Policies

1. Reduce the density of retail alcohol outlets.
2. Reduce the availability of alcohol to minors.

Implementation Measures

1. Adopt zoning regulations that require separation between alcohol outlets and residences, schools, parks and playgrounds.
2. Require conditional use permits for indoor and outdoor facilities that wish to begin selling alcohol, which should include limiting the hours of operation.
3. Collaborate with law enforcement programs to reduce sales to already intoxicated patrons.
4. Increase the number of DUI checks conducted in city limits.
5. Adopt a social host ordinance.

4.0 Community Mental Well-Being

4.1 Health Based Rationale

Mental health is more than the absence of a mental disorder; rather, mental health is a state of well-being in which the individual realizes the potential of his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (World Health Organization 2001). A variety of mental disorders are diagnosed including the following: major depression, anxiety, attention deficit disorder and schizophrenia. Within each diagnosis there is a continuum of severity. Nationally, the number of ambulatory care visits to outpatient clinics seen for a mental disorder totaled 51.7 million in 2006. [8] Mental disorders are not discriminatory; they can and do affect young or old, rich or poor. Nonetheless, "the association between poverty and mental disorders appears to be universal, occurring in all societies irrespective of their levels of development. Factors such as insecurity and hopelessness, rapid social change and the risks of violence and physical ill-health may explain this greater vulnerability," [9-12] The good news is some mental disorders can be prevented. Community mental well-being can be promoted at a population level by improving housing, education, economic security, nutrition and community networks, and by decreasing substance abuse. Many of these strategies can be influenced by city planning and other policies related to designing a healthy built environment.

Being able to make enough money to afford a house and food is the first step in the foundation for mental well being. Additional factors that influence a community's mental well-being and are amenable to planning decisions include access to green space and natural areas, and the ability to develop social networks. The importance of social networks can not be understated. Social networks promote social cohesion, informal caring, and protection during crises, better health education and access to services, and societal norms that impact health. "Social scientists have investigated how higher social capital may protect individuals from social isolation, create social safety, lower crime levels, improve schooling and education, enhance community life and improve work outcomes." [9]

Social networks can be built in communities that emphasize building social capital. Social capital consists of five principal characteristics:

1) Community networks, personal networks, and density;
2) Civic engagement and participation;
3) Community identity—sense of belonging and of place, feelings of solidarity and equality with other members;
4) Reciprocity and norms of cooperation, a sense of obligation to help others, and confidence in return of assistance; and
5) Trust in the community.

Communities that provide an array of housing types, a strong employment base, public events and access to natural areas, thrive and offer environments conducive to protecting the mental well-being of their citizens. Since the prevention of mental disorders is a public health priority, the goal of this chapter is to evaluate some key indicators that link the city's built environment to community mental well-being. The following table provides a general overview of how decisions made by civic leaders related to land use and transportation planning can impact mental well-being.

Social, environmental and economic determinants that negatively impact mental well being

Table 17

Access to drugs and alcohol
Displacement
Isolation & alienation
Lack of education, transportation and housing
Poor nutrition
Poverty
Unemployment

4.2 Existing Conditions

Figure 8. PUBLIC OPEN SPACE

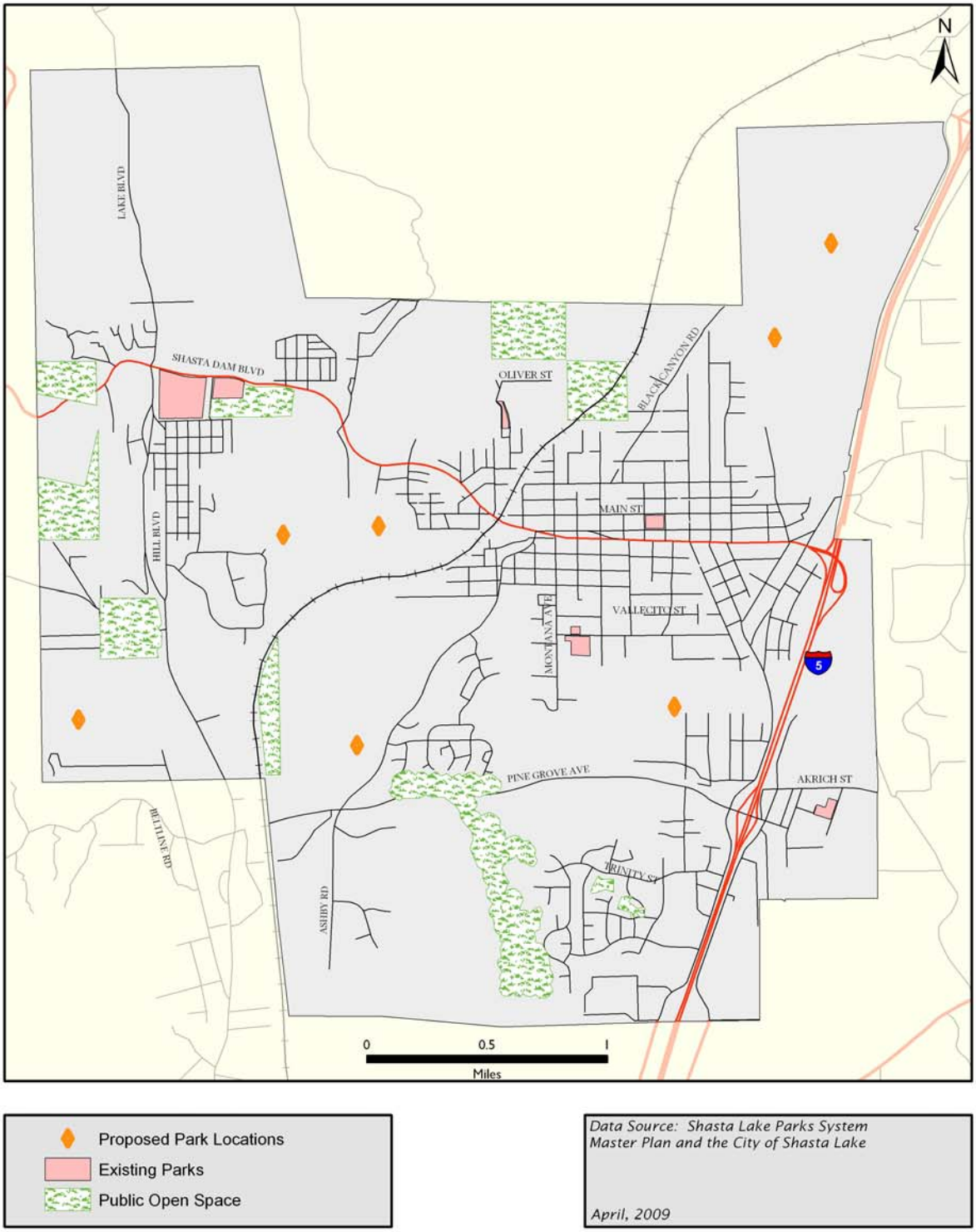
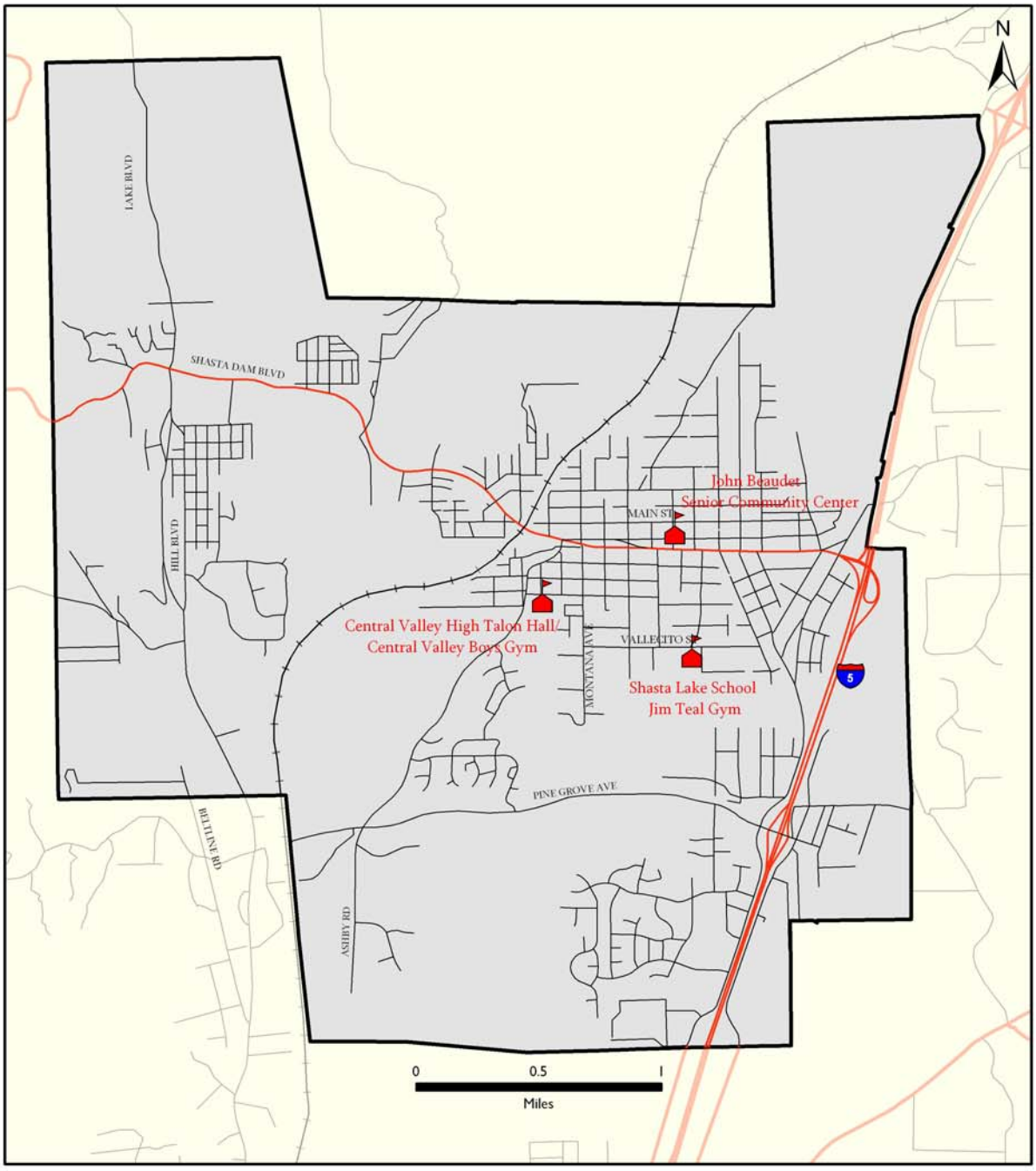


Figure 9. COMMUNITY EVENT LOCATIONS



Community Event Locations

Data Source: City of Shasta Lake

April, 2009

ANNUAL COMMUNITY EVENTS

Table 18

Shasta Damboree Weekend Event: Community Talent Show, Spaghetti Dinner, For Pete's Sake Cruz Nite, Parade/ Family Fun	May
Friday Nights in the Park	June/July
Christmas Tree Lighting	December
Lions Club Easter Egg Hunt	Easter
Children's Christmas Party	December

Table 19

Healthy Development Measurement Tool--Mental Well Being		
Indicator Title	City of Shasta Lake	CA
Proportion of land retained as public open space	5.3%	
Acres of developed park space per 1,000 population	4.4	
Number of community events held at public plazas and parks	7	
Designated federal, state, and city funding for the arts	0	
Proportion of parcels within 1/2 mile of a public library	22%	
Proportion of *renter* households paying 30% or more of their household income on gross rent, 2000*	55.8%	54.2%
Proportion of *owner* households paying 30% or more of their household income on selected monthly owner costs, 2000*	37.0%	42.5%
Per-capita income, 2000*	$13,678	$28,049
Livable wage, one adult, 2008	$9.34 per hour	$10.72
Proportion of students graduating from high school by school, 2006-07**		80.6%
Central Valley High	94.6%	
Mountain Lakes High	77.6%	
Shasta Lake Alternative	79.3%	
Proportion of estimated entry level jobs accessible to individuals with a GED/high school diploma	42.1%	
Unemployment rate, June 2009^	19.7%	11.6%

Data source: * 2000 Census
** California Department of Education
^ California Employment Development Department

4.3 Analysis

Diagnosis data from the Shasta Lake Family Health Center indicate that 5.2% of patient visits in 2007 were related to diagnoses of mental disorders. In addition, from 2005 to 2007 there were a total of eight suicides of Shasta Lake residents. While we don't have a measure of the prevalence of depression among Shasta Lake residents, the estimates for the County's adult population from the 2007 Mercy

Medical Center Community Health Assessment [13] are as follows: 15.5% report having been diagnosed with major depression, and 26.6% report having experienced symptoms of chronic depression. Both types of depression were found to be more common among the low income population than the higher income population, and more common among women than men.

In Shasta Lake. 5.3% of the land has been retained as public open space, in addition to the land that has been developed or partially developed as parks (Figure 8). There are 4.4 acres of developed or partially developed park space per 1,000 residents of Shasta Lake. This is higher than the state standard of 3.5 acres/1,000 but lower then the national standard of 6.5-10 acres per 1,000.

In recent years, research has shown the positive impact that contact with nature can have on the mental well-being of individuals and communities. Contact with nature can improve people's overall well-being and has been shown to have both immediate and long term benefits to mental health. Studies have shown that viewing nature is an effective way for people to relieve stress and positively impact their outlook on life. Viewing nature-dominated scenes has been shown to be associated with quicker recovery from stress and greater immunization to subsequent stress. The psychological response to nature involves reduced negative emotions, such as anger and anxiety, and proximity to natural areas has been shown to reduce aggression. In children, contact with nature has been shown to enhance emotional development and to improve attention among those with attention deficit disorder. Additionally, a major study recently showed that while people living in rural areas had a much lower prevalence of mental disorder, those living in built up areas with access to gardens or green, open spaces had a lower prevalence than did people living in built up areas without such access. [14-17] As the city continues to grow, they can ensure access to parks and natural space, including establishing urban growth boundaries, encouraging greenway development wherever feasible within city limits, and implementing the City's new Parks Master Plan.

There are six main community events held each year in various locations throughout the city and are coordinated mainly by local organizations (Figure 9). There is currently no federal, state, or city funding designated for the arts in Shasta Lake. There is one public library in Shasta Lake and 22% of the parcels are within a half mile of the library. There are several bodies of literature that look at the impact that arts and cultural events can have on community development and urban regeneration The research suggests that "arts …could increase individuals' personal development, improve an area's image, attract economic investment, help in the process of community development and lead to training and employment." [18] As the city looks to the future growth, obtaining resources for art and cultural development in an inclusive manner across cultures, race, and class could have multiple positive effects for everyone.

Education attainment, employment rates, housing accessibility, and poverty all relate to mental well-being. According to a survey conducted with Shasta Lake residents in 2008, 42.1% of the jobs held by survey respondents required a high school diploma or had no minimum education requirement, leaving 57.9% of jobs that require at least some college or trade school. The California Employment Development Department's pre-adjusted unemployment rate in Shasta Lake was 15.8% in December 2008, 1.3 times the rate countywide, which was 12.2% for the same month. Almost 60% of renters in Shasta Lake pay 30% or more of their income on rent, which is significantly higher than the 48.1% countywide. We also know from Census 2000 data that 20.1% of individuals and 16.5% of families in

Shasta Lake were living below the poverty level, compared to 15.4% of individuals and 11.3% of families in Shasta County.

As mentioned earlier, mental health issues do not discriminate among income, race or status, but for those who do struggle to make ends meet, these types of inequities can be a trigger for mental health problems. For example, high housing costs relative to the income of an individual or household can result in one or more adverse health consequences because it means fewer resources for food, heating, transportation, health care, and child care.

4.4 Health Promoting Mitigations

- Ensure access to parks, trails and open space for current and future development.
- Enhance art, community and volunteer programs.
- Design developments to maximize neighbor interaction and sense of belonging or sense of place.
- Expand educational opportunities for high school graduates.
- Encourage employers to provide livable wage jobs.

4.5 Existing Policies

Shasta Dam Area Redevelopment Plan

The Shasta County Board of Supervisors established the Shasta Dam Area Redevelopment Project on July 11, 1989. This project was established in response to the desire to eliminate or alleviate blighting conditions by providing needed public improvements, assistance for the development and rehabilitation of existing properties, and the provision of low-and moderate-income housing, Following incorporation of the City, the Shasta Lake City Council adopted the original Redevelopment Plan and adopted amendments in 2008 that included the addition of a total of 763 acres, mostly in the westerly portion of the city. Redevelopment Plan goals that also provide health benefits to residents include, but are not limited to, the following:

Invest in Public Improvements.

Promote off-site public improvement facilities, which are sensitive to the unique environmental qualities of the Project Area. Provide needed improvements to the community's recreational, cultural, and other community facilities to better serve the Project Area.

Use Land Wisely.

Achieve an environment reflecting a high level of concern for architectural, landscape, and urban design principles appropriate to objectives of the Plan. Create physical buffers, which improve adverse effects of changing land uses along interfaces. Use opportunities to create conforming parcels and structures.

Housing for All.

Provide low- and moderate-income housing as is required to satisfy the needs and desires of the various age and income groups of the community, maximizing the opportunity for individual choice.

Shasta Lake General Plan

The following objectives, policies and implementation measures, in the current 1999 General Plan are policies that help create environments that support mental wellness:

Table 20

General Plan Element	Objectives	Policies	Implementation Measures
Open Space Parks and Recreation	OSR-1 Conserve and manage the open-space and recreation resources of the City of Shasta Lake for the use and enjoyment by City residents and visitors both now and in the future. OSR-2 Provide public access to open-space and recreation resources consistent with the need to protect these resources and consider the rights of private property owners. OSR-3 Establish, integrate, and maintain "natural" and "man-made" greenbelt areas along existing creeks, floodplains, natural open space areas, certain roadways, bike and trail systems. OSR-4 Link existing and future development in a manner that provides open space and recreational opportunities. OSR-5 Provide sufficient park facilities to serve the City's population.	OSR-b The significant creek and streamside road corridors shall be designated on the GP map…the purpose is to encourage open space and recreation. OSR-d The City may require the dedication of land and/or improvement of open space, parks, or the payment of in lieu-fees in accordance with City development standards as part of the entitlement and/or building permit process. OSR-e Provide for neighborhood parks. OSR-f Provide off-road pedestrian and non-motorized bike facilities, where feasible and practicable.	OSR-(1) Provide 5 acres of neighborhood, community, and creekside parks per 1,000 new residents. Strive to maintain a neighborhood park standard of at least 0.9 acres per 1,000 new residents. OSR-(3) Evaluate the feasibility of developing smaller neighborhood parks, of about two acres, in selected areas where a landscape maintenance district or other funding mechanisms can be utilized and where the development pattern lends itself to such facilities. OSR-(5) Evaluate the establishment of a network of bike and trail systems extending throughout the City. The system will be a combination of the existing and future road and sidewalk system and through greenbelt areas along existing creeks, streams, floodplains, natural open space and ***NH*** and ***NP*** designated areas. Public access will be preserved through new and existing development to enable future use of such trails…

Table 21

General Plan Element	Objectives	Policies	Implementation Measures
Land Use	LU-2 Guide development in a pattern that will provide opportunities for present and future City residents to enjoy the variety of living environments, which currently exist within the City, which are served by the full range of urban services. LU-8 To establish a sense of community "village" quality and character throughout the City. LU-9 To improve existing neighborhood aesthetics.	LU-e Expand the City Sphere of Influence and establish urban, rural and urban reserve boundaries within the planning area, where appropriate. LU-n The City's regulatory systems should accommodate new economic development and should be reviewed periodically to facilitate the development and the permitting process.	LU-(6) Lands along Pine Grove Avenue between Salt Creek and Churn Creek and along Shasta Gateway Drive at appropriate locations are to be designated and zoned to permit research and development (R&D) and light manufacturing/warehousing facilities. LU-(7) Establish use regulations, development standards, and minimum performance requirements for R&D facilities and light manufacturing / warehousing facilities in the Zoning Ordinance consistent with the General Plan, and amend the Zoning Map to be consistent with the General Plan Map. LU-(9) Use the Redevelopment Agency to facilitate funding infrastructure improvements needed for industrial areas to accommodate expansion of existing industry or provide sites for new industry. LU-(10) Monitor changes in the number of jobs by sector, workforce characteristics, and residents' commuting patterns, and work with local industry and business leaders to target those with the greatest imbalance. LU-(13) Application of the Design Review overlay district shall be limited to properties that have unique natural and development attributes and/or that have special circumstances that warrant discretionary review by the Planning Commission. Specific design objectives, guidelines, and development standards shall be developed and adopted by the City. LU-(15) Revise the R-4 Zone District through a textual amendment to … clarify that a density bonus of at least 25 percent will be allowed for fully subsidized units as provided by State density bonus law provisions (for qualifying affordable housing projects).

Table 22

GENERAL PLAN ELEMENT	Goals	Programs
Housing	1. To improve and conserve the existing housing stock; 2. To encourage the provision of affordable housing; 3. To promote adequate sites for all housing types; 4. To support a mix of housing for all income groups; 5. To promote Equal Housing opportunities;	1.1 Provide a city-wide comprehensive housing rehabilitation program to homeowners who are low-income or below. 1.2 Utilize grant funding to provide a rental rehabilitation program to owners of rental property in order to elevate property to local acceptable dwelling standards. Owners must agree to maintain the property as rental stock for a period of ten years and affirmatively market available units to low-income families to assure affordability. 2.1 Adopt a Density Bonus Ordinance, which allows developer incentives for affordable housing projects. 2.3 The City will continue to support the development of new affordable multifamily projects within the City of Shasta Lake by both for-profit and non-profit developers. The City can provide direct financial support to these projects through application to the State for CDBG and HOME funds. The City will also participate with developers of affordable housing in the issuance of mortgage revenue bonds. 2.5 Use Redevelopment Low-Moderate Income Housing Set-Aside Fund to provide housing for eligible families. 2.6 Continue to apply for funding through the HOME Investment Partnership Act to increase the availability of affordable housing in the community. 3.4 Prepare and adopt design guidelines to ensure multi-family and infill development is compatible with surrounding uses and to reduce the potential for opposition to market-rate and affordable multi-family housing projects. The design guidelines shall be structured to allow an expedited review process for projects that comply with the adopted guidelines. 3.5 Develop design guidelines to help implement the provisions of the Shasta Lake zoning ordinance that allow mixed commercial and residential uses in select zone districts to encourage the creation of a town center and to provide for housing closer to the provision of services. 3.6 Encourage innovative single-family residential development through the use of the Planned Development District. Such innovative approaches could include: 1) allow single-family residential projects on smaller lots; 2) the use of cluster development in rural areas in order to preserve open space; 3) encourage developers to offer a range of housing types and sizes within the PD district; and 4) encourage the use of the planned development process to allow innovative approaches aimed at increasing affordable housing. 3.7 Revise the zoning ordinance to allow for duplex and triplex units on corner lots in single-family districts, with design review to ensure a single-family home appearance is maintained. 3.8 Revise the zoning ordinance to allow for second dwellings in accordance with the provisions of State Law. 3.9 Facilitate the construction of necessary infrastructure on sites planned and zoned for multi-family, (especially vacant R-3 lands), as a means to encourage early development of these lands. Loans and grants will be sought as a means to aid in financing. 4.1 Explore the possibility of utilizing Tax Exempt Mortgage Revenue Bonds to support the development of multi-family or single-family housing for low and moderate-income households. 4.2 Provide Down payment Assistance Program (DAP) for first-time homebuyers of low to moderate income. 5.1 Provide basic information regarding fair housing rights to both landlords and tenants. Housing discrimination complaints are referred to the State Department of Fair Employment and Housing. Special outreach efforts are made to include groups likely to experience discrimination in housing including minority, elderly, handicapped, and lower-income families.

In addition to the above listed polices, a review of the outcome data for Mental Health for the City of Shasta Lake provides the basis for the following recommendations. The following policies are recommended to be considered for incorporation into the city's 2009 general plan update.

4.6 Policy Recommendations

Mental Wellness Goal: Support development efforts that promote community mental well-being.

Mental Wellness Objective #1: Existing parks, trails and open space opportunities within city limits will be expanded.

Policies

1. Create an Urban Growth Boundary around the City.
2. Encourage greenways, trails and open space in all new developments.

Implementation Measures

1. Establish an urban growth boundary.
2. Work with an organization like Trust for Public Land to conduct a green print of the city to assess the current available acreage of open space and develop strategies to maintain it.

Mental Wellness Objective #2: Diverse opportunities will be created for residents to congregate and explore different venues of art and cultural diversity.

Policies

1. Develop stronger art, cultural and volunteer programming.
2. Identify an area within the city that could be developed as a square or plaza.

Implementation Measures

1. Identify funding streams and hire staff to work on public art, culture and volunteer programming.
2. Work with an organization like Project for Public Spaces to create a concept plan for a public space that assesses programs, activities and uses.

Mental Wellness Objective #3: Reduce preventable mental distress by ensuring residents have adequate housing, education and job opportunities.

Policies

1. Partner with other agencies and organizations in the county to provide college education opportunities.
2. Attract and maintain quality jobs in the city.
3. Ensure a strong workforce that can compete in the regional economy.
4. Promote locally owned and cooperative enterprises and businesses in the city.
5. Promote mixed income neighborhoods.

Implementation Measures

1. Work with Shasta College to bring satellite classes to Shasta Lake residents.
2. Adopt a local first hire ordinance that provides incentives to new businesses that hire a minimum of 30% local residents.
3. Attract quality businesses and industries through on the job training, work opportunity tax credits and other workforce development programs.
4. Work with the small business development center to market their programs to Shasta Lake residents.
5. Ensure that affordable housing is integrated throughout the city and into neighborhoods. Avoid concentration of either below market rate units or market rate units in a single neighborhood or development.
6. Encourage design features that promote social interaction such as rear entry garages, front porches and set backs that establish a relationship between the house and surrounding neighborhood.

5.0 Respiratory Disease

5.1 Health Based Rationale

Chronic respiratory diseases are diseases of the airways and other lung structures and they affect over 35 million Americans today. Common among these diseases are conditions like asthma, chronic obstructive pulmonary disease (COPD) [which includes emphysema and chronic bronchitis], respiratory allergies and pulmonary hypertension. According to research conducted by the Milken Institute, in 2003 it cost the state of California $4.4 billion dollars to treat pulmonary conditions and $10.1 billion in lost productivity due to pulmonary illness, for a total economic loss of $14.5 billion. [18]

There is a growing amount of evidence that links respiratory diseases to both outdoor and indoor air quality. There are many factors that contribute to the quality of the air we breathe; among these are secondhand tobacco smoke, indoor air pollutants and outdoor air pollutants.

According to the California Department of Public Health, secondhand smoke in California causes 4,000 lung cancer and cardiac deaths, as well as 6,000 pre-term low birth weight babies per year. Furthermore, the California Air Resources Board identifies secondhand smoke as a toxic air contaminant, both in and outdoors.

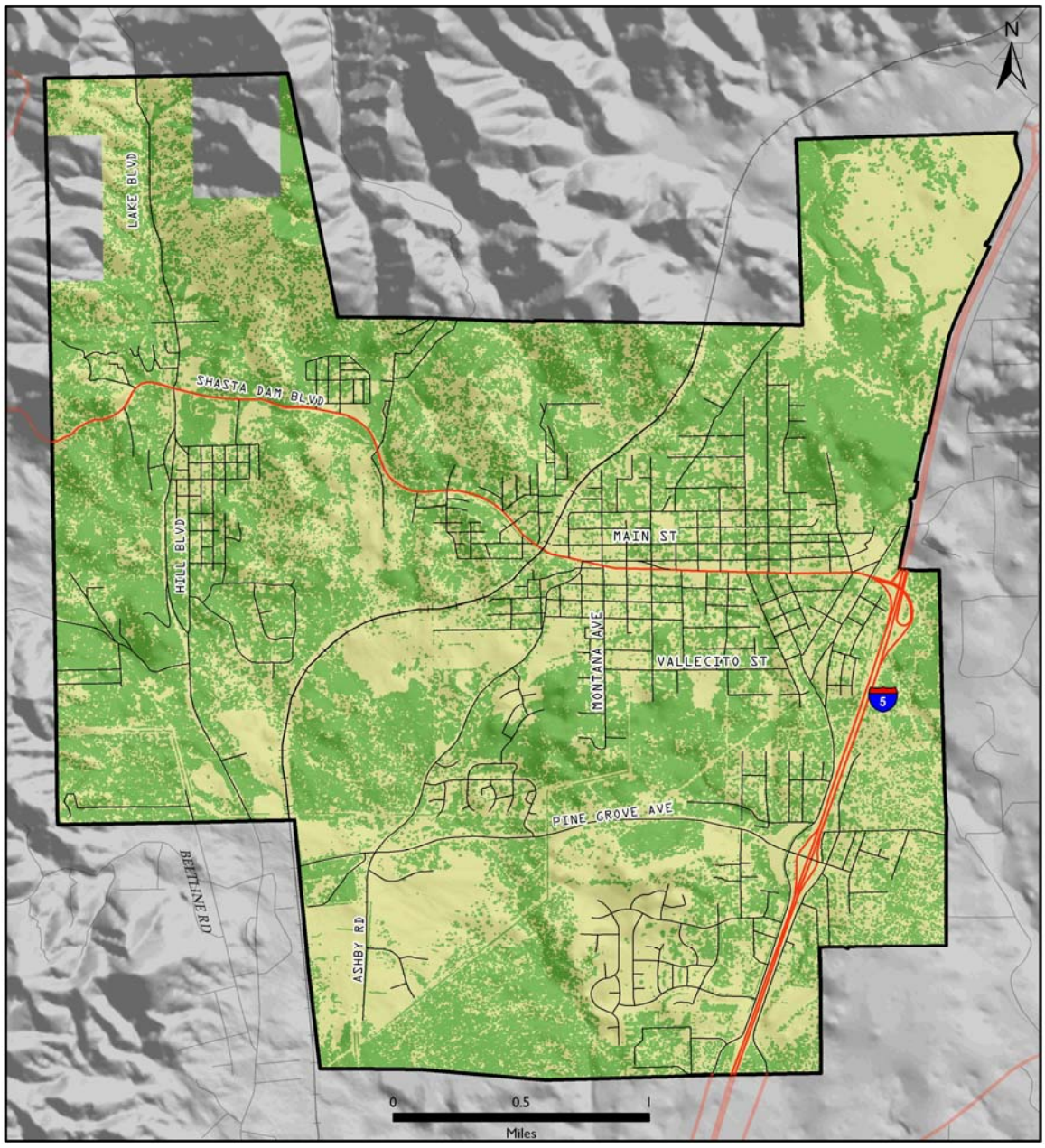
Indoor air pollution happens when volatile organic compounds (VOC) are emitted as gases from solids or liquids found in the home or office. Common sources of indoor air pollutants, may include adhesives, molds, asbestos, radon and pesticides (depending in part on geographic location). Proper ventilation and energy efficiency is a key component to addressing indoor air quality.

When it comes to outdoor air pollution, the two main sources of pollutants in urban areas come from automobiles and fuel combustion in stationary sources. Motor vehicles produce high levels of carbon dioxide (CO_2), and fuel combustion in stationary sources such as factories, can produce large amounts of sulfur dioxide (SO_2). Additional outdoor air pollutants produced by these sources include nitrogen oxide and particulate matter <2.5 microns in diameter. Particulate matter < 2.5 microns in diameter (PM 2.5) is of particular concern to health professionals because the particles are small enough to get past the body's defenses and embed themselves deep into the lung tissue.

Sustainable development practices can go a long way in ensuring healthy citizens and in reducing a city's carbon footprint. These practices include: building energy efficient homes, and designing neighborhoods that incorporate shade trees, vegetation, mixed use and promote shorter car trips and alternative forms of transportation. This chapter evaluates linkages between the built environment and respiratory health.

5.2 Existing Conditions

Figure 10. **AREA COVERED BY TREES**



Non-Tree Coverage Area
(Non-vegetated, or vegetation less than 10')

Tree Coverage Area
(Vegetation 10' feet high or over)

Data Source: City of Shasta Lake/ENPLAN

April, 2009

Figure 11. LUNG DISEASE RISK FROM I-5 VEHCILE EMISSIONS

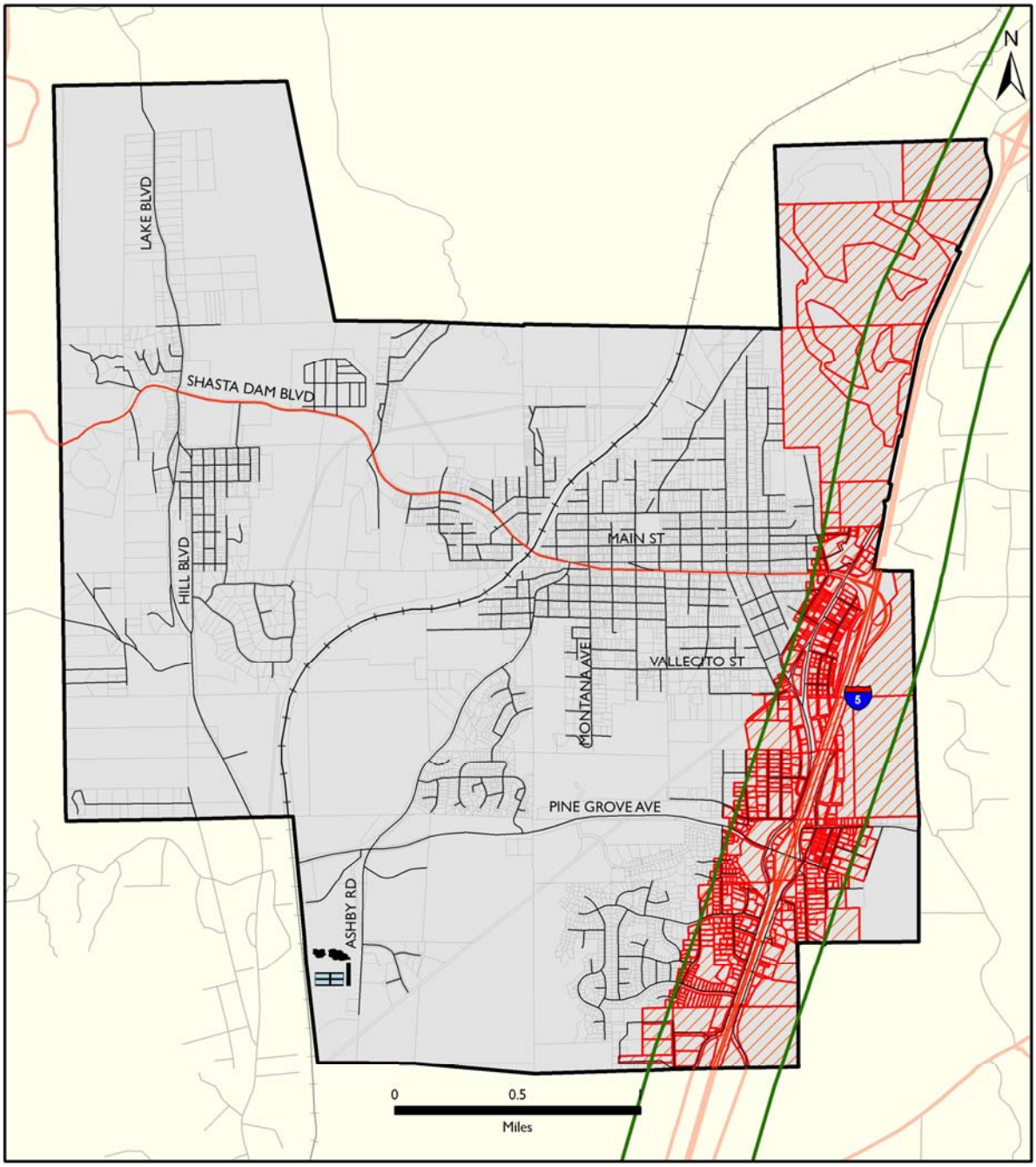


Table 23

Healthy Development Measurement Tool: Respiratory Disease	
Indicator Title	City of Shasta Lake
Percentage of Tree Coverage over a height of 10ft.	51.7%
Proportion of Parcels within ¼ mile of an Interstate	15.3%
Total Residential Electricity use Per Capita (2008)	3572.6 KwH/Person/Year

Data Source: Enplan & City of Shasta Lake Utilities

Table 24

Air Quality Measurements									
	Ozone-Estimated Days above State 8-Hour Standard			PM 10-Estimated Days above State 24-Hour Standard			PM 2.5-Estimated Days above 2006 Natio Standard		
	Anderson-North St.	Redding-Health Dept.	Shasta Lake-La Mesa	Anderson-North St.	Redding-Health Dept.	Shasta Lake-La Mesa**	Anderson-North St.	Redding-Health Dept.	Shasta Lal La Mesa
2008	24	13	N/A	*	*	*	N/A	*	N/A
2007	19	5	N/A	0	0	*	N/A	0	N/A
2006	7	19	N/A	6.1	6.1	0	N/A	0	N/A
2005	13	18	N/A	0	0	*	N/A	0	N/A
2004	38	11	N/A	0	5.8	*	N/A	0	N/A
2003	23	3	N/A	11.5	0	*	N/A	0	N/A
2002	*	16	N/A	*	5.8	*	N/A	*	N/A
2001	0	6	N/A	6	*	*	N/A	6.0	N/A

Source: California Air Resources Board

- * = insufficient or no data available
- ** = monitoring site not installed at this site until 2004
- N/A = particulate measurement not available from site

Table 25

Annual Average Daily Traffic Counts 2005-2007	
I-5 Corridor between Mountain Gate and Twin View Blvd.	34,500
I-5 and Hwy 151 interchange	13,250
Hwy 151 through Central Shasta Lake City	5,500

5.3 Analysis

General respiratory health outcomes for the City of Shasta Lake include diagnosis data from the Shasta Lake Family Health Center. In 2007, 13% of the visits to the Shasta Lake Family Health Center were for respiratory system diseases. Furthermore, in a two year period from 2005-2007 there were an average of 34 Shasta Lake residents per year who were hospitalized for Chronic Obstructive Pulmonary Disease (COPD), including an average of 12 per year that were due to asthma. In that same time period there were 94 Shasta Lake residents who visited emergency rooms for COPD and 49 of those were for asthma.

Currently almost 52% of the city's area is covered in trees. (Figure 10). Trees in urban areas have benefits that far outweigh their planting and maintenance costs. They stimulate the local economy by influencing property values and stimulating downtown business. They can calm traffic and encourage walking by providing a visual interest, they clean the air by sequestering CO_2, and they save energy. Studies show that "neighborhoods with well-shaded streets can be up to 10^oF cooler than neighborhoods without street trees. Furthermore, three well placed trees around a home can lower air conditioning bills by up to 30%, and windbreak trees can save up to 25% on winter heating costs." [19-20] It's important to note that the type of trees that constitute shade trees are deciduous/broad leaf in nature and therefore capable of providing shade. Local governments can do much to ensure that trees remain a key component of city environments. Examples include adoption of a tree preservation ordinance, requiring new commercial and residential developments to include shade trees, and retrofitting streets with trees.

Freeways and manufacturing plants that burn fossil fuels are outdoor air pollution sources. Currently, 15.3% of developed parcels are within a quarter mile of a freeway (Figure 11) and the average traffic volume on the portion of I-5 that goes through city limits is 34,500 vehicles a day (Table 25). When considering land uses as they relate to respiratory health it's important to consider the proximity of residential housing to pollution sources, such as freeways. Studies have shown that children who lived within a quarter mile of a freeway had an 89% higher risk of asthma than children living about a mile from the freeway. [21]

Two other areas of consideration when it comes to city planning and respiratory health are air quality monitoring and electricity usage. According to data from the California Air Resources Board, Shasta Lake-specific air quality numbers for ozone and particulate matter have not been consistently recorded between 2001 and 2008. Currently electricity usage per person is about 3572.6 KwH/year. These two areas are important because household electricity usage releases carbon dioxides, nitrogen oxides, sulfur dioxides and particulate matter. Air pollution from these emissions in turn contributes to respiratory disease and deaths from cardiovascular diseases. Air pollution also "contributes to greenhouse gas emissions, and indirectly to climate change. Climate change threatens health through more extreme weather events, increased air pollution, limitations on food production, increased water-borne and food-borne illnesses, and increased infectious disease vectors." [22]

When looking at data from the National Renewable Energy Laboratory (NREL), the City of Shasta Lake is in a good position to consider alternative energy sources, specifically solar. The NREL calculates estimates of monthly average daily total sunshine, using input from satellite and/or surface observations of cloud cover for the nation. They've calculated that the northern part of California, including Shasta County, could generate between 5.5-6.0 Kwh/m^2/day. [23]

Finally, documented health effects of environmental tobacco smoke include asthma exacerbations and lower respiratory infections. With the number of emergency room visits by Shasta Lake residents for the treatment of asthma, consideration must be given to reducing the effects of second hand smoke. In 2008, Shasta County Public Health conducted a poll and found that 63.9% of Shasta County residents both smokers and non smokers favored laws that limit smoking in public areas.

5.4 Health Promoting Mitigations

- Increase the number of shade trees.
- Limit residential development close to major roadways.
- Increase the number of energy efficient healthy homes being built in city limits.
- Increase the number of "green" public commercial buildings.
- Reduce harmful health effects of second hand smoke in public outdoor areas

5.5 Existing Policies

Shasta Lake General Plan

The following objectives, policies and implementation measures, in the current 1999 General Plan are policies that help create environments that support the prevention of respiratory disease:

Table 26

General Plan Element	Objectives	Policies	Implementation Measures
Open Space Parks and Recreation	NA	OSR-f Provide off-road pedestrian and non-motorized bike facilities, where feasible and practicable.	OSR-(5) Evaluate the establishment of a network of bike and trail systems extending throughout the City. The system will be a combination of the existing and future road and sidewalk system and through greenbelt areas along existing creeks, streams, floodplains, natural open space and ***NH*** and ***NP*** designated areas. Public access will be preserved through new and existing development to enable future use of such trails…

Table 27

General Plan Element	Objectives	Policies	Implementation Measures
Circulation	C-2 Promote alternative travel modes, including transit, pedestrian and bicycle circulation systems and Transportation Demand Management (TDM) programs. C-5 Design and implement the circulation system to protect natural features, conserve energy, and mitigate, to the degree feasible, air and noise pollution.	C-b Improve unpaved roads, driveways and parking areas. C-c Provide for adequate, safe, and direct, and if necessary, alternative access to public facilities, schools, parks and shopping areas. C-e Encourage the continued development and expansion of local and regional public transit systems. C-f Encourage bicycle and pedestrian transportation, both on-and off-street. C-g Construct, improve and maintain the system of curb, gutters, sidewalks and crosswalks for pedestrian circulation safety and drainage control. C-h Promote the use of TDM programs and strategies to reduce overall vehicle travel, particularly during peak commute periods.	C-(6) Complete a "Safe Route to School" study to determine requirements for new walkways, school crossings, traffic control and roadway improvements. C-(18) Provide crosswalks at signalized intersections. C-(19) Require sidewalks in all new public and private developments. C-(20) Implement a program to install handicapped ramps at all intersections as street improvements are being installed. C-(22) Review proposed designs for large traffic generating uses with transit service in mind, and require minor arterial and collector streets to be improved to provide bus loading and unloading without disruption of through traffic.

Table 28

General Plan Element	Objectives	Policies	Implementation Measures
Air Quality	AQ-1 Improve and maintain air quality to protect human health and preclude damage to plants and property. AQ-2 Meet applicable California air quality standards and avoid violating Federal air quality standards. AQ-3 Encourage integration of land use, transportation, and energy planning efforts which help to reduce air pollution. AQ-4 Improve the design of proposed development to reduce potential air pollution.	AQ-a The City shall strive to meet and/or maintain applicable State and Federal air quality standards. AQ-b Land use decisions shall be made with consideration given to the improvement of air quality. New development projects shall be conditioned to reduce air quality impacts. *Standard Mitigation Measures* and *Best Available Mitigation Measures* shall be incorporated into new projects when thresholds are exceeded. The City should consult with the Air Quality Management District regarding mitigation of air quality impacts. AQ-c All parcels created by new land divisions and new multi-family residential, commercial and industrial development (or with expansion of such uses) shall be served by paved roads, driveways, and parking areas. A comprehensive plan shall be developed by the City that establishes when a road paving deferral should be granted, for what period of time, standards for determining the fair share of a paving requirement, and the level or standard of the paving work. AQ-d Encourage a land use pattern that reduces reliance on the automobile and encourages alternative modes of transportation for travel to employment and shopping by encouraging: ▪ infill development ▪ mixed-use development near employment centers (day care, restaurant, and bank) ▪ increased residential densities near employment and shopping, and along major traffic corridors ▪ employment opportunities and shopping near to residential development AQ-e Encourage a reduction in vehicle trips and vehicle miles traveled by encouraging: ▪ public transportation ▪ carpooling, ridesharing, and vanpooling ▪ shortened and combined motor vehicle trips for work, shopping, and services ▪ use of bicycles ▪ pedestrian access and walking AQ-f Encourage pedestrian-oriented and transit-oriented design in new development. AQ-g Adopt guidelines for developers to encourage	AQ-(1) All new construction shall comply with the energy efficiencies mandated by Title 24 construction requirements. AQ-(2) Evaluate the feasibility of requiring existing older wood burning devices to be retrofitted with devices meeting federal EPA standards at the time the residence is sold or a major alteration or addition initiated.

		and promote pedestrian movement, bicycling, and public transit. AO-h Encourage local development in order to encourage local employment and shopping opportunities, and reduce the number and distance of vehicle trips. AQ-j Work with the Redding Area Bus Authority, Caltrans and other agencies to establish multi-nodal transfer sites for automobiles, bicycles, pedestrians, and public transit. AQ-k The City should develop a bikeway plan to encourage the use of bicycles, where practicable. AQ-1 The City should develop a pedestrian plan to encourage walking, where practicable. AQ-m Encourage and promote public education regarding air quality, transportation alternatives, and wood burning. AQ-n Discourage the use of wood burning stoves that do not meet current EPA standards. AQ-o The City shall facilitate programs that encourage and promote the recycling and composting of residential waste grasses, leaves, shrubs, trees, and other waste vegetation as an accessible alternative to disposal by lawful burning on-site. AQ-p The City will cooperate with the Air Quality Management District and the Regional Transportation Agency in implementing provisions of the California and Federal Clean Air Acts. AQ-q Establish a reporting program to quantify the cumulative air emissions from motor vehicles associated with approved discretionary and ministerial development, for the purpose of advising the Air Quality Management District of the emissions associated with new development.	

Table 29

General Plan Element	Objectives	Policies	Implementation Measures
Energy	E-1 Utilize the City's renewable resource base to the extent feasible, including passive and active solar, wind, co-generation, and biomass. E-2 Conserve nonrenewable energy resources, specifically raw materials, transportation fuels, and land area, through the recovery and recycling of solid waste materials in a cost effective manner.	E-a The City of Shasta Lake in conjunction with Shasta County and the City of Redding, shall work towards land use patterns that would support a regional transit route. E-b City government shall review its energy consumption performance and implement programs designed to increase energy efficiency. E-c City ordinances and regulations shall be reviewed to eliminate barriers to the use of renewable energy resources. E-d Priority shall be given to energy projects and programs that provide jobs and other economic benefits within the City.	E-(1) Coordinate with the City Electric Department to educate the public about the need to conserve scarce energy resources, insulate buildings to reduce energy required for heating and cooling, and use energy-efficient appliances. E-(2) Require consideration of passive solar energy techniques in subdivision design; including house orientation, street and lot layout, vegetation and protection of solar access. E-(3) Continue to require new buildings to meet state energy efficiency standards, and develop a design manual showing examples of energy conservation in subdivision planning, site layout, landscaping, and building design. E-(4) Evaluate converting city-owned vehicles to alternative fuels within a specified period of time, subject to budget consideration, to reduce energy consumption. E-(5) Amend the zoning ordinance to permit alternative fuel/recharging facilities in *Commercial*, *Industrial*, and *Industrial Light* districts subject to appropriate standards.

Table 30

General Plan Element	Goals	Programs
Housing	6. To encourage Energy Conservation	6.1 The City shall verify compliance with Uniform Building Code, Title 24 Energy Conservation requirements. Proposed projects are reviewed prior to construction for compliance to Title 24 regulations as well as monitored during the construction process. 6.2 The City shall explore options for an assortment of programs designed to lessen the consumption of electricity by both homeowners and businesses. At this point, the programs are completely voluntary, however, as energy resources decrease by increasing public demand due to population growth and irresponsible usage, it is likely that energy providers will begin to utilize punitive measures such as imposing higher costs on excessive users to encourage participation. 6.3 Evaluate entering into an agreement with the Self Help Home Improvement Program (SHHIP) to administer a weatherization improvement program. Weatherization improvements could be provided to eligible homeowners and landlords as part of a City Homeowner and Rental Rehabilitation Program. Eligible repairs could include weather-stripping, insulation, installation of storm doors, installation of dual-pane windows, and caulking. These types of repairs should be encouraged and in some cases required by all City housing programs.

In addition to the above listed polices, a review of the respiratory related health outcome data for the City of Shasta Lake provides the basis for the following recommendations. The following policies are recommended to be considered for incorporation into the city's 2009 general plan update.

5.6 Policy Recommendations

Respiratory Disease Prevention Goal: Respiratory disease will be reduced among the residents of the City of Shasta Lake.

Respiratory Disease Prevention Objective #1: Prioritize "greening" efforts to keep air clean.

Policies

1. Develop a city broad leaf tree plan to protect and increase the number of shade and windbreak trees in the city. This plan would include an inventory of broad leaf deciduous trees in the city limits and an update of the current tree ordinance.

Implementation Measures

1. Conduct an inventory of shade trees currently in the city (include types of trees, diameter, and health condition).
2. Preferentially plant female street trees to reduce pollen, especially in the most populated areas. Trees like weeping willow and Royal Empress trees reduce the risk to those with asthma. (The latter grow quickly and flower beautifully.)
3. Retrofit HWY 151 with trees along street edges and in the medians.

Respiratory Disease Prevention Objective #2: Protect homes, schools, workplaces and stores from major sources of outdoor air pollution.

Policies

1. Locate sensitive uses, such as schools and family housing at least a quarter mile from I-5.
2. Adopt a policy to purchase only high fuel efficiency/ very low emission vehicles for the cities fleet.
3. Reduce the city's overall energy footprint and "waste."
4. Encourage new development and redevelopment projects to be LEED certified.
5. Attract and retain green businesses within the city.
6. Locate stationary emitters (e.g. incinerators, factories, refineries) downwind from homes and schools.

Implementation Measures

1. Work with the Air Quality Management District to ensure accurate data collection from the Shasta Lake- La Mesa monitoring site
2. Create natural vegetation barriers between development and the freeway.
3. Conduct an energy and water consumption audit for the city. The audit could include government agencies, private businesses and residents. Money saved from energy conservation could fund other programs.

4. Provide energy rebates and incentives to consumers who want to install solar systems.
5. Require new public building facilities to be LEED certified for Silver rating. Designate a green industrial zone for manufacturing and research offices. Develop an incentives program to attract and retain green businesses, and for existing businesses to become clean and green. Coordinate with the workforce development, training and recruitment programs to ensure that green jobs benefit Shasta Lake residents.

Respiratory Disease Prevention Objective #3: Promote healthy indoor air quality.

Policies

1. Educate and incentivize builders and developers regarding the role they play in creating healthy indoor air quality.

Implementation Measures

1. Encourage builders to use techniques that are in line with the American Lung Association's Health House Home program.

Respiratory Disease Prevention Objective #4: Reduce the harmful health effects of secondhand smoke.

Policies

1. Prohibit the possession of a burning tobacco product, including, but not limited to cigarettes and cigars, within the boundaries of any City Park, playground, or recreation center,

2. Prohibit smoking within outdoor areas of restaurants

3. Adopt an entryway smoking ban, that places a non-smoking buffer within 20 feet of all public buildings

Implementation Measures

1. Work with Shasta County Public Health Tobacco program to provide community education to city residents.

2. Post signage outside public buildings, public parks, playgrounds, recreation areas and restaurants that offer outdoor dining areas.

6.0 Other Recommendations

Some final recommendations for the city to consider include facilitation of resident's access to healthcare services. The current sources of publicly provided health services are the Shasta Lake Family Health Center and Shasta County Public Health. In 2007, Shasta Lake Family Health Center had 5,843 encounters, 79.7% of which were for the evaluation and management of established patients, 11.3% were for preventive medicine, 5.1% were for family planning services, and 1.1% was for the evaluation and management of new patients. They administered 1,237 immunizations in 2007, including 288 influenza vaccines. The Northwest Regional Office of Shasta County Public Health administered 708 immunizations in 2007 of which 446 were for influenza. Hospital emergency room visits for residents of Shasta Lake totaled 4,475 in 2007, with the main causes being accidental falls, abdominal and pelvic symptoms, fever and respiratory issues. Currently there are no urgent care services available within the City of Shasta Lake. As the city's population grows so too will the need to provide access to medical services. The following policies and implementation measures could help ensure that access.

Objective

Work with medical service providers to ensure that a range of health services (e.g. urgent care, pharmacies, substance abuse treatment and counseling, dental care, etc.) are accessible to community residents.

Policies

1. Locate human service facilities on sites that have adequate acreage for short term needs, but which can also accommodate expansion, if expansion is anticipated or projected.
2. Ensure that all current and future medical facilities are directly served by public transit and other alternative transportation options.

Implementation Measures

1. Allow and encourage public facilities no longer being used for their original purpose to be used for provision of human services.
2. During the design of a health service facility, emphasis should be placed on the connectivity to surrounding uses.
3. Adequate infrastructure (i.e. complete streets including bicycle lanes and sidewalks) and appropriate design elements are incorporated during the planning and review of new human services facilities to improve connectivity and access.

7.0 Conclusion

Creating communities that offer healthy and safe places for people to live, work, and play is a primary strategy in the prevention of childhood obesity, heart disease, stroke, some cancers, asthma and pedestrian and bicycle injuries. Below are some suggestions for communities to implement:

- Offer growth management that directs growth towards existing communities;
- Promote development that:
  - emphasizes mixed uses and a range of housing opportunities,
  - create walkable and bikable neighborhoods,
  - provide a variety of transportation options, and
- Decrease vehicle miles traveled
  - construct schools close to neighborhoods;
- Emphasize energy efficiency;
- Preserve open space and farmland; and,
- Encourage citizen engagement in healthy community design, development and identity.

This report acknowledges that the City of Shasta Lake currently has several policies and plans in place that support the implementation of healthy community principles. It's also designed to help the City strengthen its emphasis on designing healthy communities by providing existing conditions data and policy recommendations that focus on health promotion. The City of Shasta Lake is to be commended for it's commitment to health. As you move forward with your general plan process, please consider incorporating these recommendations into a specific *public health element in the City of Shasta Lake's General Plan.*

References

1. CA DHS "The Economic Costs of Physical Inactivity, Obesity and Overweight in CA adults: Health Care, Workers Comp and Lost Productivity" 2005
2. Ewing, R. & Kreutzer R., "Understanding the Relationship Between Public Health and the Built Environment: A Report Prepared for the LEED-ND Core Committee" 2006
3. City of Shasta Lake Park System Master Plan, Prepared by Moore, Iacofano Goltsman, Inc. 2005
4. Surgeon General Call to Action To Prevent and Reduce Underage Drinking 2007
5. Shasta County HHSA Outcomes, Planning & Evaluation Division "City of Shasta Lake Survey Summary" 2008
6. "Community Action Plan for the City of Shasta Lake" prepared by Meta-Link 3/1995
7. City of Shasta Lake General Plan and Final Environmental Impact Report 6/1999
8. Shasta County Dept. of Public Health "The People's Health" 2004
9. http://www.cdc.gov/nchs/fastats/mental.htm
10. Promoting mental health: concepts, emerging evidence, practice, World Health Organization, editors: Helen Herrman, Shekhar Saxena, Rob Moodie, 2005, ISBN 92 4 156294 3
11. Prevention of mental disorders -- effective interventions and policy options : summary report .World Health Organization, Dept. of Mental Health and Substance Abuse ISBN 92 4 159215 X, p. 21, 2004
12. Journal of Epidemiology and Community Health. *Social Capital and Mental Illness: A Systematic Review*. DeSilva, MJ, et al. Aug 2005.
13. Catholic Healthcare West, North State Service Area (Sponsor) 2007 PRC Community Health Assessment, Shasta County, California, Omaha, NE: Professional Research Consultants, Inc.
14. Maller, C., Townsend, M., Pryor, A., Brown, P., & St. Leger, L. (2006, March). Healthy Nature Healthy People: 'Contact with Nature' as an Upstream Health Promotion Intervention for Populations. *Health Promotion International*, *21*, 45-54.
15. Lofy, J. (Fall 2006). Stephen and Rachel Kaplan Have Found That the Cure for What Ails You Could Be as Simple as a Walk in the Woods. *Michigan Today*, Retrieved from http://www.umich.edu/news/MT/06/Fal06/story.html?awalk.
16. Frumkin, H. (2003, September). Healthy Places: Exploring the Evidence. *American Journal of Public Health*, *93*, 1451-1456.
17. Access to Nature. (Nov 1 2004). In *National Library for Health*. Retrieved from http://www.library.nhs.uk/integratedSearch/viewResource.aspx?resID=111323.
18. Jermyn H. The Arts and Social Exclusion: a review prepared for the Arts Council of England. September 2001. Accessed on December 4, 2006: http://www.artscouncil.org.uk/publications/publication_detail.php?sid=21&id=134&page=1
19. www.milkeninstitute.org/pdf/econ_**burden**_rdv.pdf
20. "Potential of Tree Shade for Reducing Residential Energy Use in California," Journal of Arboriculture, J.R. Simpson an E.G. McPherson, 22:1,1996
21. "Energy Saving with Trees". Journal of Arboriculture, G.M. Heisler, 12:113-125, 1986
22. www.lbaca.org/gerardo/LBACA%20in%20the%20News/LA%20times%20--%20**Study**%20links%20freeways%20to%20**Asthma**%20risk.pdf
23. www.thehdmt.org

OTHER SOURCES

- www.greenbelt.org/downloads/about/ugb.pdf
- http://www.pps.org/squares/info/squares_approach
- City of Richmond General Plan Update Community Health and Wellness V.1.0 10/2007
- www.nrel.gov/gis/images/map_csp_us_annual_may2004.jpg
- www.healthhouse.org
- http://www.oehha.ca.gov/air/environmental%5Ftobacco/pdf/app32005.pdf

Appendix A: Limitations

Chronic Disease Data Limitations

The limitations of the data used in this analysis include the following.

- The respondents to the 2008 survey conducted with residents of Shasta Lake (the source of the number of vehicle trips per day) were not representative of Shasta Lake residents. Since the respondents were older on average than the population as a whole, the estimate of 1.13 vehicle trips per day is likely an underestimate.
- The three indicators that use Census data (households with at least one vehicle available and proportion of commute trips made by public transit and by walking or biking) may also be inaccurate because the data is nine years old, but it is unknown whether these are likely to be underestimates or overestimates.
- For the map of food outlets, retail food outlets were categorized as "healthy food" and "unhealthy food" outlets based on criteria developed by the California Center for Public Health Advocacy in the publication titled *Searching for Healthy Food: The Food Landscape in California Cities and Counties*[1]. Food outlets were categorized by North American Industrial Classification System (NAICS) codes. An exception was made for one location in Shasta Lake that, according to study methodology, was an unhealthy food source, but was considered a healthy food source due to first hand knowledge of the business.
- The California Healthy Kids Survey includes students attending school in the Gateway Unified School District, most of whose schools are located within Shasta Lake, but some of whose students live outside of Shasta Lake. Also, some students living in Shasta Lake attend schools outside of the Gateway District through inter-district transfer, so the Gateway data may not accurately reflect the school-aged residents of Shasta Lake.
- The data from the Shasta Lake Family Health Center only accounts for patients who utilize the services offered there. Therefore it does not capture people who use private physicians as their source of healthcare, and it does not capture people who do not receive healthcare services. Since the majority of patients at Shasta Lake Family Health Center are on Medi-Cal, this population is probably more likely to be low income than the population of the city as a whole, and would not represent diagnosis rates among all residents of Shasta Lake. Also, the data represents the percent of all encounters that were related to specific diagnoses, as opposed to the percent of all patients. So, if one person was seen multiple times throughout the year for the same condition, the data reflects multiple encounters related to that person's diagnosis.

Injury Data Limitations

- The data from the Shasta Lake Family Health Center only accounts for patients who utilize the services offered there. Therefore it does not capture people who use private physicians as their source of healthcare, and it does not capture people who do not receive healthcare services. Since the majority of patients at Shasta Lake Family Health Center are on Medi-Cal, this population is probably more likely to be low income than the population of the city as a whole, and would not represent diagnosis rates among all residents of Shasta Lake.
- The data on locations of motor vehicle collisions, from the Statewide Integrated Traffic Reporting System (SWITRS), does not give an exact location of where collisions occurred; it only gives the

[1] See http://www.publichealthadvocacy.org/RFEI/expanded%20methods.pdf for full explanation

nearest intersection. So, in certain stretches of road within the city where there are no other intersections nearby, multiple collisions that are reported as having occurred closest to the same intersection may have in fact occurred some way away from one another. Also, because the data does not give any indication of which city or zip code the collisions occurred in, the GIS system may place a point on the map within the City of Shasta Lake when the collision actually occurred outside the city, if there are multiple streets with similar or identical names. Short of individually examining over 16,000 records, there is no way to ensure or to estimate the accuracy of the mapping of motor vehicle collisions.

Mental Health Data Limitations

- The data from the Shasta Lake Family Health Center only accounts for patients who utilize the services offered there. Therefore it does not capture people who use private physicians as their source of healthcare, and it does not capture people who do not receive healthcare services. Since the majority of patients at Shasta Lake Family Health Center are on Medi-Cal, this population is probably more likely to be low income than the population of the city as a whole, and would not represent diagnosis rates among all residents of Shasta Lake. Also, the data represents the percent of all encounters that were related to specific diagnoses, as opposed to the percent of all patients. So, if one person was seen multiple times throughout the year for the same condition, the data reflects multiple encounters related to that person's diagnosis.
- The indicators that use Census data may be inaccurate because the data is nine years old, but it is unknown whether these are likely to be underestimates or overestimates.
- The estimate of a livable wage for one adult was calculated using the methodology from Poverty in America. [2] There are multiple calculators available from different sources and no one standard way of calculating a livable wage.
- The respondents to the 2008 survey conducted with residents of Shasta Lake were not representative of Shasta Lake residents. The respondents were older on average than the population as a whole. Also, survey respondents were asked about the job that they held, not about entry level jobs within the company for which they work, so the estimated percent of entry level jobs that are accessible to persons with a GED or a high school diploma may be an underestimate depending on how many of the respondents held positions higher than entry level.

Respiratory Disease Data Limitations

- Lidar imagery was used to calculate the amount of vegetation coverage, but this is not the same thing as a measure of tree canopy, which is a more complex measure of the amount of sunlight on the ground compared to the amount at the top of the canopy. Tree canopy is affected by the Leaf Area Index, which accounts for the greater ability of deciduous/broad-leaf trees to provide shade and to sequester CO_2 than coniferous trees, which are common in Shasta Lake.
- The data from the Shasta Lake Family Health Center only accounts for patients who utilize the services offered there. Therefore it does not capture people who use private physicians as their source of healthcare, and it does not capture people who do not receive healthcare services. Since the majority of patients at Shasta Lake Family Health Center are on Medi-Cal, this population is probably more likely to be low income than the population of the city as a whole, and would not represent diagnosis rates among all residents of Shasta Lake. Also, the data represents the percent of all encounters that were related to specific diagnoses, as opposed to the percent of all patients. So, if one person was seen multiple times

[2] See http://www.livingwage.geog.psu.edu/places/0608971225 for more information.

throughout the year for the same condition, the data reflects multiple encounters related to that person's diagnosis.

Appendix B: Community Survey

SHASTA COUNTY HEALTH AND HUMAN SERVICES
OUTCOMES, PLANNING & EVALUATION DIVISION

CITY OF SHASTA LAKE SURVEY SUMMARY

PREPARED BY STEPHANIE TAYLOR MPH, EPIDEMIOLOGIST
AND JEREMY WILSON BS, DATA ANALYST

OCTOBER 2008

Objective

To assess current City of Shasta Lake resident behavior patterns in the context of promoting chronic disease prevention strategies through land use policy decisions.

Methods

A paper survey was created and distributed to residents of the City of Shasta Lake as part of their normal monthly utility bill mailing. All residents who paid utility bills to the City of Shasta Lake between the dates of April 19th and May 12th were eligible to take the survey. 4,705 residents received the survey. Those residents who completed a survey and returned it to a designated location were eligible to receive a reward. Rewards included t-shirts, pedometers, recipes, bags, and other items donated by the City of Shasta Lake and Shasta County Public Health.

Limitations

Caution should be undertaken when generalizing these results to the City of Shasta Lake community as a whole. The survey respondents were significantly more educated and wealthier than the population of Shasta Lake in general, based on comparisons to the 2000 United States Census, the most recent comparison data that is available. However, the magnitude of the difference between household income in 2000 and the respondents of the survey in 2008 may in fact be non-significant when accounting for inflation. In addition, more females filled out the survey than males, so opinions and behaviors may not accurately reflect those of the population as a whole. Also, although 76.2% of the survey respondents are over aged 45, it is not possible at this time to determine whether the age-distribution of the survey accurately represents that of the adults of the City of Shasta Lake in general.

Results and Conclusions

Of the 4,705 residents who were mailed a survey in their utility bill, 387 residents returned surveys, with a response rate of 8.2%. Of the 369 respondents who answered the question about their age, the mean age was 56.2 years old. Most respondents to the survey were female (67.7%), white (89.2%) and aged 45 or older (76.2%). The majority (32.3%) fall into the $25,000 to $49,999 household income bracket.

Most of the survey respondents reported using a car to leave their home less than once per day. Although 60% of respondents report there is a RABA stop within easy walking distance from their homes, nearly 70% have never ridden on RABA, primarily due to relying on their cars for transportation. Of those respondents who do ride RABA, most use it to go to doctor's appointments, some form of shopping, or work.

Over 98% of respondents report not using the community garden at Central Valley High School. Most gave not knowing about its existence as a reason for not using it, while many others reported they are not interested in or do not have time for gardening. Over 60% said they would not use a community garden in their neighborhood for the same reasons. Of those who said they would use a garden, most would like it to be located in an area south of Shasta Dam Boulevard.

Over two-thirds of respondents said there was not a farmer's market, grocery stand, or grocery store with fresh fruits and vegetables within easy walking distance from their homes. However, over two-thirds also felt it was somewhat important or very important to have easy access (within walking distance) to fresh fruits and vegetables.

Nearly two-thirds of respondents said they do not use any recreational facilities within the City of Shasta Lake. Of those who participate in activities (whether inside or outside of the City of Shasta Lake), the most common activity was walking or riding trails, followed by festivals and concerts. Of the

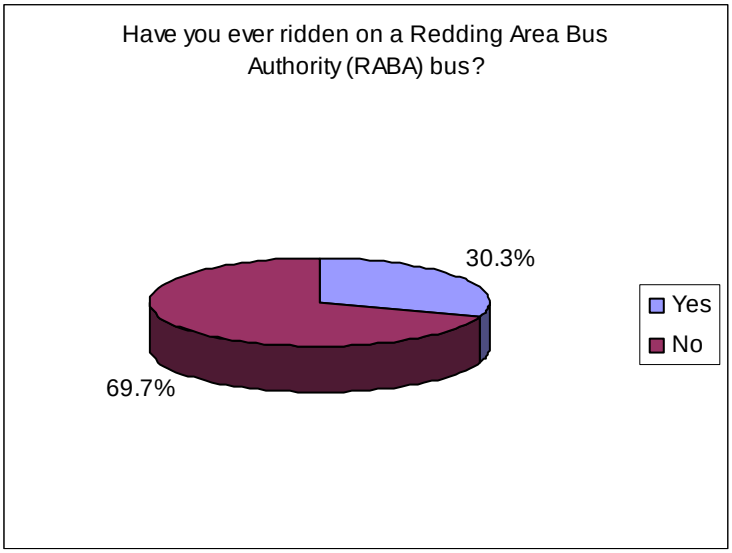
activities not listed on the survey, the most commonly listed activity that respondents either currently or would participate in was Yoga.

28% of respondents said the minimum educational requirement for their job is a high school diploma or GED. 89% of respondents reported that they do not work in the City of Shasta Lake. 35.9% of respondents said they had completed some college coursework but did not have a degree, while 39.4% said they had attained at least an associate's degree. There is no significant difference between the proportion of survey respondents with a college degree who have to travel outside of Shasta Lake to find work if their job requires a degree and those who work inside of Shasta Lake.

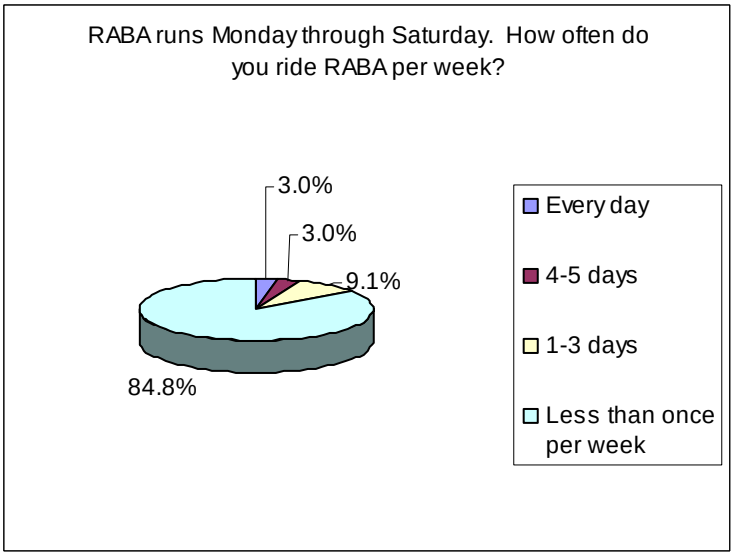
On average, how many times per day do you use your car to travel outside of your home, such as a trip to work or for grocery shopping? (377 Respondents)

	Number of Respondents	Percent
Less than once per day	224	59.4%
1-3	4	1.1%
4-6	37	9.8%
7-9	13	3.4%
10 or more times per day	2	0.5%
Don't know	97	25.7%

Have you ever ridden on a Redding Area Bus Authority (RABA) bus? (383 Respondents)



(If yes)
RABA runs Monday through Saturday. How often do you ride RABA per week? (99 Respondents)

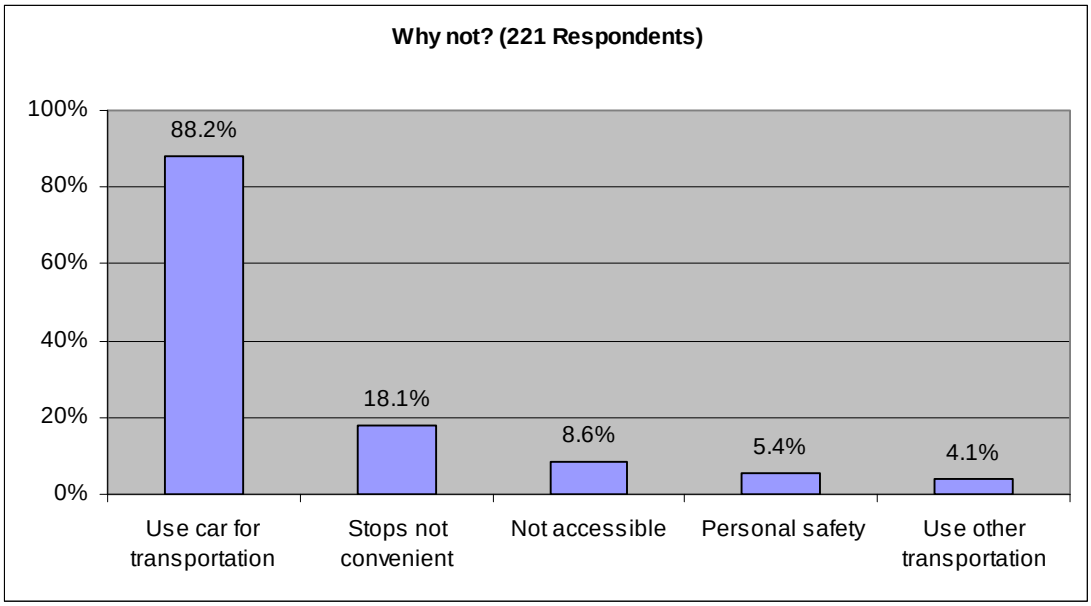


Do you use RABA to go to any of the following places? (42 Respondents)

	Number of Respondents	Percent
Doctor's office	20	47.6%
Other Shopping	20	47.6%
Work	12	28.6%
Grocery Store	10	23.8%
Recreational facility	8	19.0%
Parks	6	14.3%
School	6	14.3%
Entertainment outlet	4	9.5%
Restaurant	4	9.5%

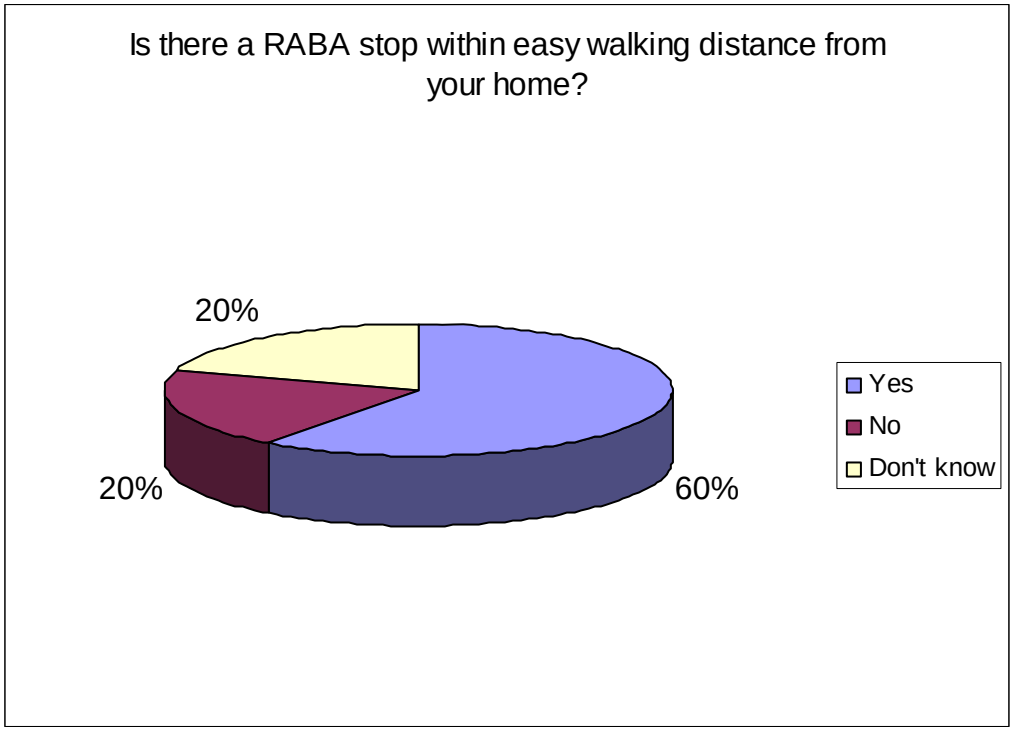
(Note: Respondents could select more than one option so answers total more than 100%)

(If no)
Why not? (221 Respondents)

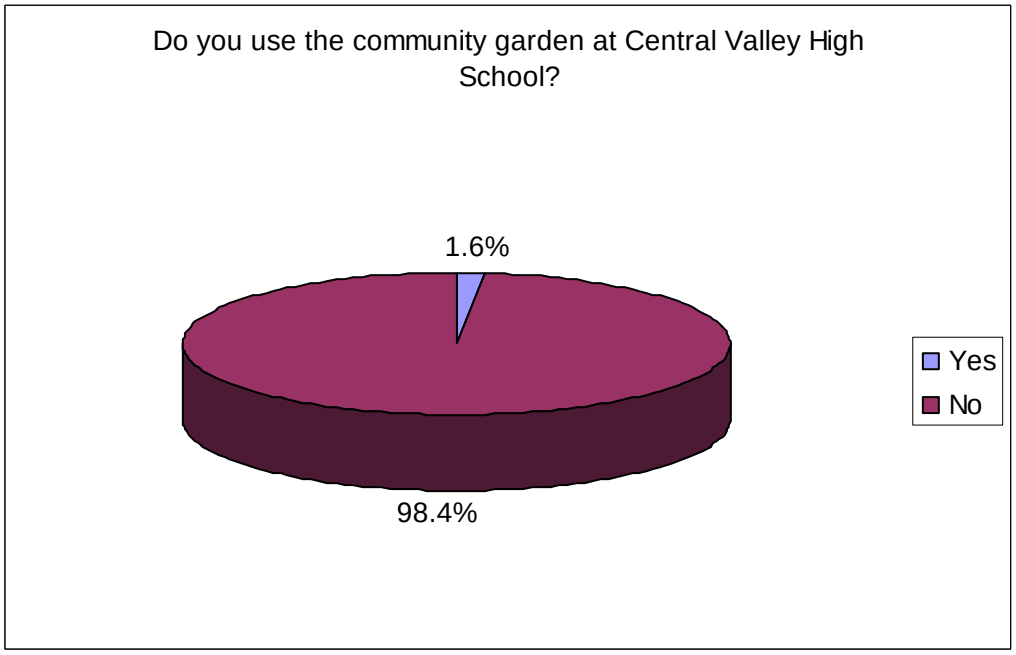


(Note: Respondents could select more than one option so answers total more than 100%)

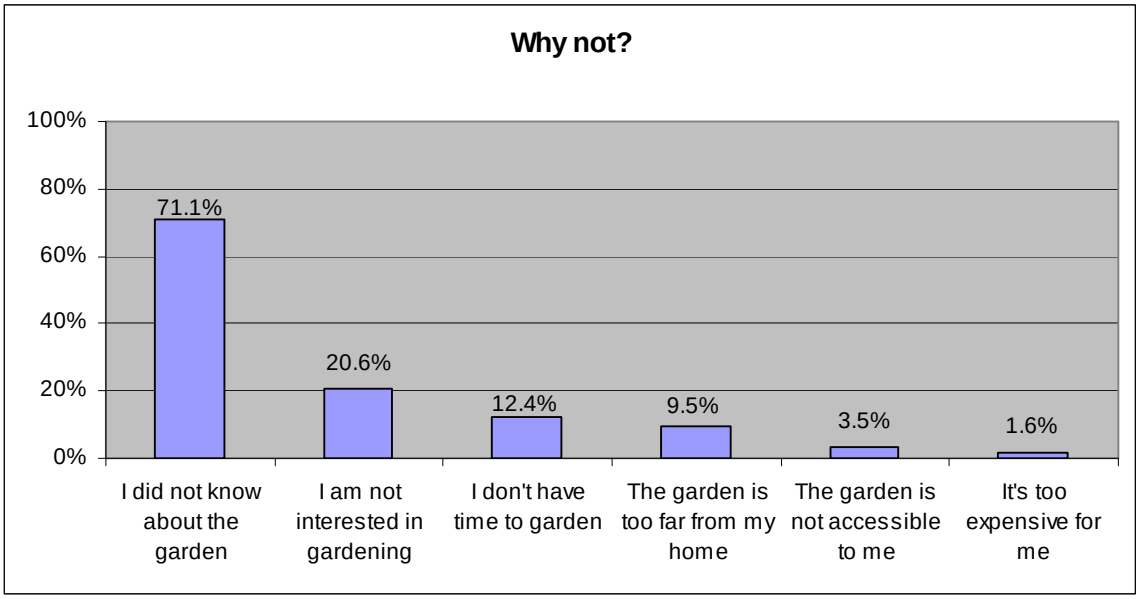
Is there a RABA stop within easy walking distance from your home? (375 Respondents)



Do you use the community garden at Central Valley High School? (380 Respondents)

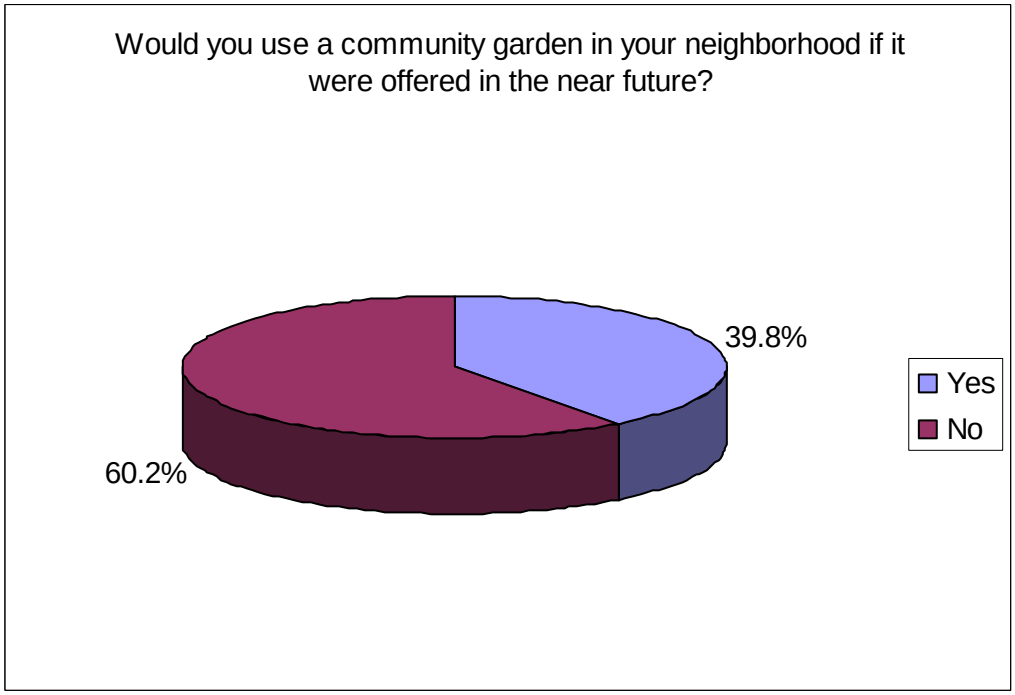


(If no)
Why not? (315 Respondents)

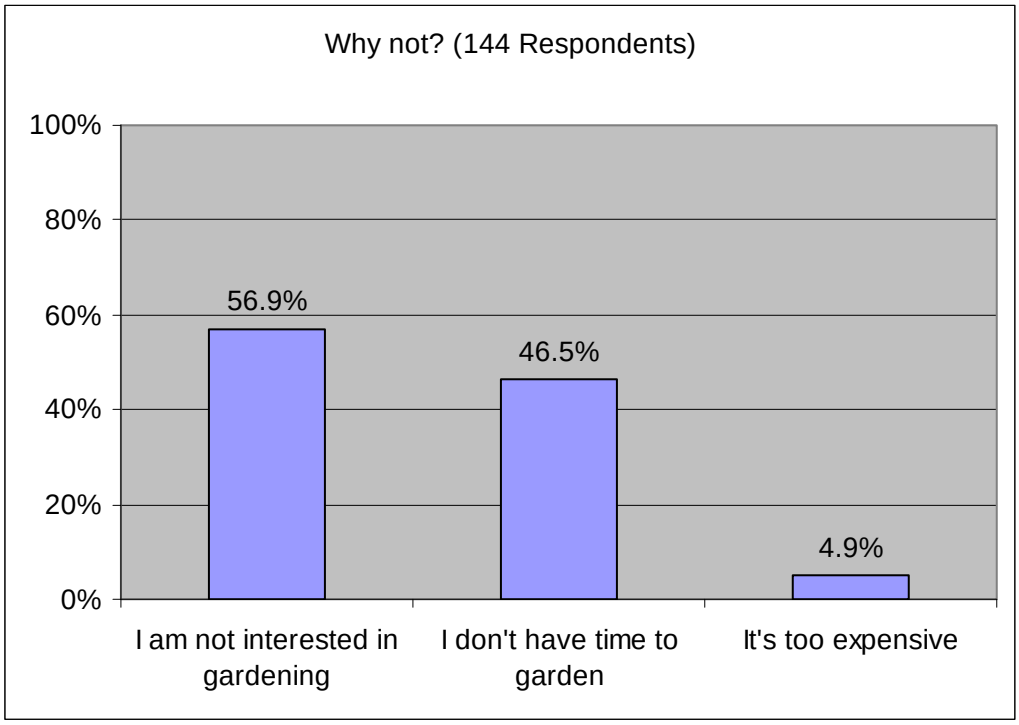


(Note: Respondents could select more than one option so answers total more than 100%)

Would you use a community garden in your neighborhood if it were offered in the near future? (352 Respondents)



(If no)
Why not? (144 Respondents)



(Note: Respondents could select more than one option so answers total more than 100%)

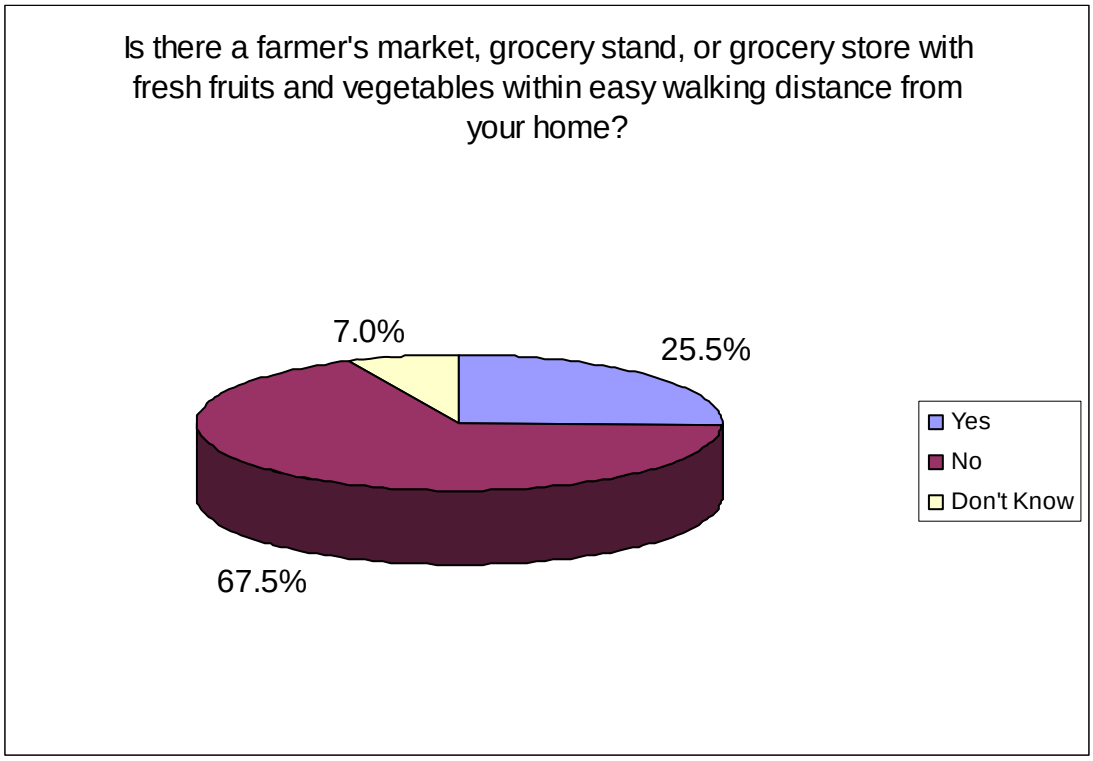
(If yes)
What neighborhood would you like the garden to be located in? (70 Respondents)

	Frequency	Percent
"Summit City" area (south of Shasta Dam Blvd. near Lake Blvd.)	12	17.1%
Central Shasta Lake south of Shasta Dam Blvd.	12	17.1%
Pine Grove/Windsor Estates	11	15.7%
Central Shasta Lake north of Shasta Dam Blvd.	7	10.0%
Shasta Park Rd./Holly Ave. neighborhoods	4	5.7%
"Project City" area	3	4.3%
Coeur D'Alene neighborhood	1	1.4%
Akrich Park area	1	1.4%

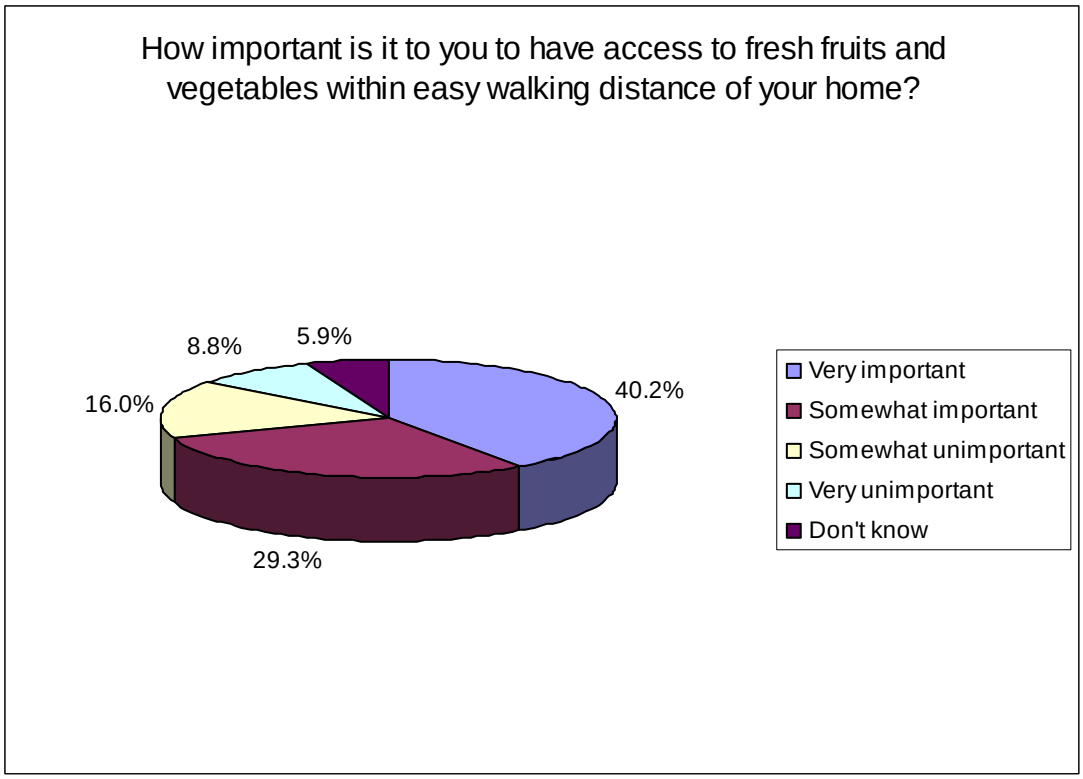
(Note: Respondents could select more than one option so answers total more than 100%)

Another 27.1% (19 respondents) gave an invalid response—too broad, not enough information, etc.

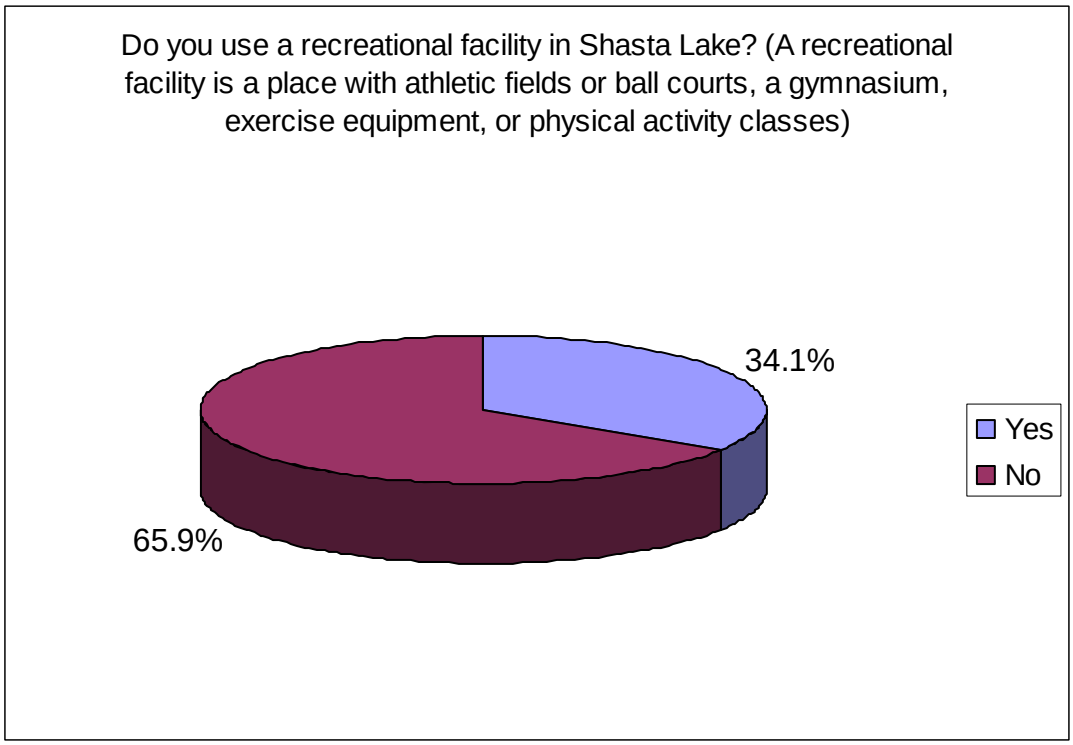
Is there a farmer's market, grocery stand, or grocery store with fresh fruits and vegetables within easy walking distance from your home? (385 Respondents)



How important is it to you to have access to fresh fruits and vegetables within easy walking distance of your home? (376 Respondents)


How important is it to you to have access to fresh fruits and vegetables within easy walking distance of your home?
5.9%
8.8%
40.2%
16.0%
29.3%
Very important
Somewhat important
Somewhat unimportant
Very unimportant
Don't know

Do you use a recreational facility in Shasta Lake? (A recreational facility is a place with athletic fields or ball courts, a gymnasium, exercise equipment, or physical activity classes) (370 Respondents)



Do you currently participate in/attend any of the following activities? Would you if they were available?

	Currently Participate		Would Participate	
	# of Respondents	Percent	# of Respondents	Percent
Walking/Riding Trails	80	20.7%	143	37.0%
Festivals/Multicultural Events	40	10.3%	107	27.6%
Concerts	27	7.0%	125	32.3%
Plays or Musicals	26	6.7%	121	31.3%
Swimming	23	5.9%	102	26.4%
Museums	21	5.4%	102	26.4%
Baseball/Softball	19	4.9%	27	7.0%
Basketball	17	4.4%	19	4.9%
Golf	17	4.4%	27	7.0%
Weightlifting	17	4.4%	25	6.5%
Football	16	4.1%	20	5.2%
Aerobics Classes	15	3.9%	65	16.8%
Soccer	11	2.8%	20	5.2%
Arts & Crafts Classes	10	2.6%	79	20.4%
Lectures/Literary Readings	9	2.3%	55	14.2%
Track & Field	7	1.8%	13	3.4%
Ballroom Dancing	6	1.6%	49	12.7%

Tennis	6	1.6%	25	6.5%
Volleyball	4	1.0%	30	7.8%
Gymnastics	3	0.8%	21	5.4%

(Note: Respondents could select more than one option so answers total more than 100%)

Do you currently participate in/attend any of the following activities? Would you if they were available?

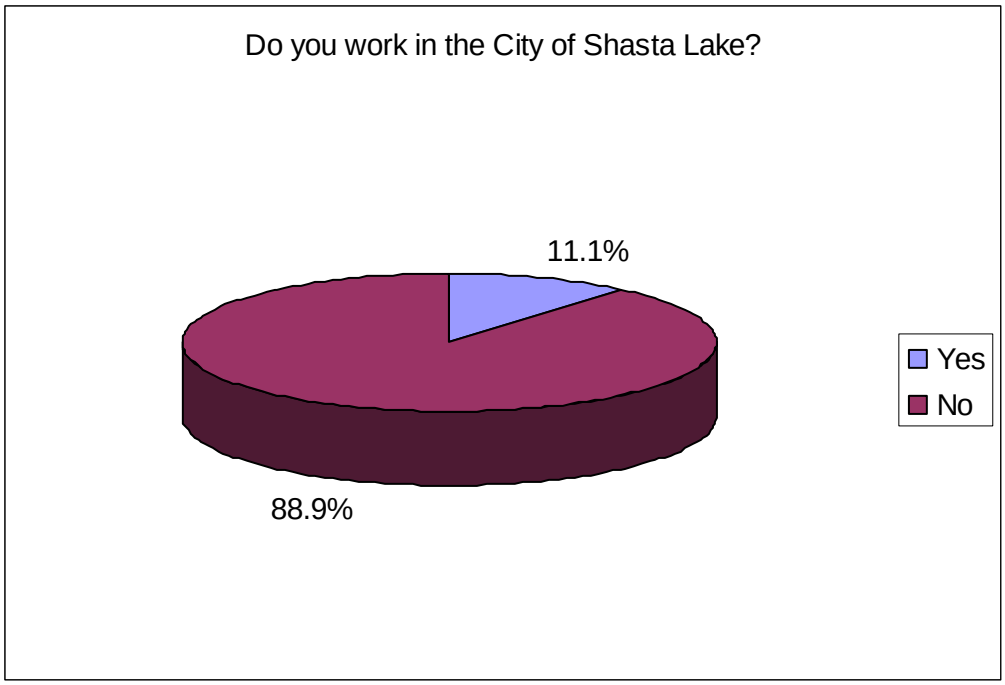
(Continued)

Either Currently Participating In or Would Participate In Other Activities (28 respondents)					
Yoga	7	Bingo	1	OHC	1
Park	3	Church	1	Political Discussions	1
Community Clean-up	2	Cooking	1	Racquetball	1
Disc Golf	2	July 4th Celebration	1	Wheelchair	1
Fishing	2	Karate	1		
Library	2	Lake Shasta	1		

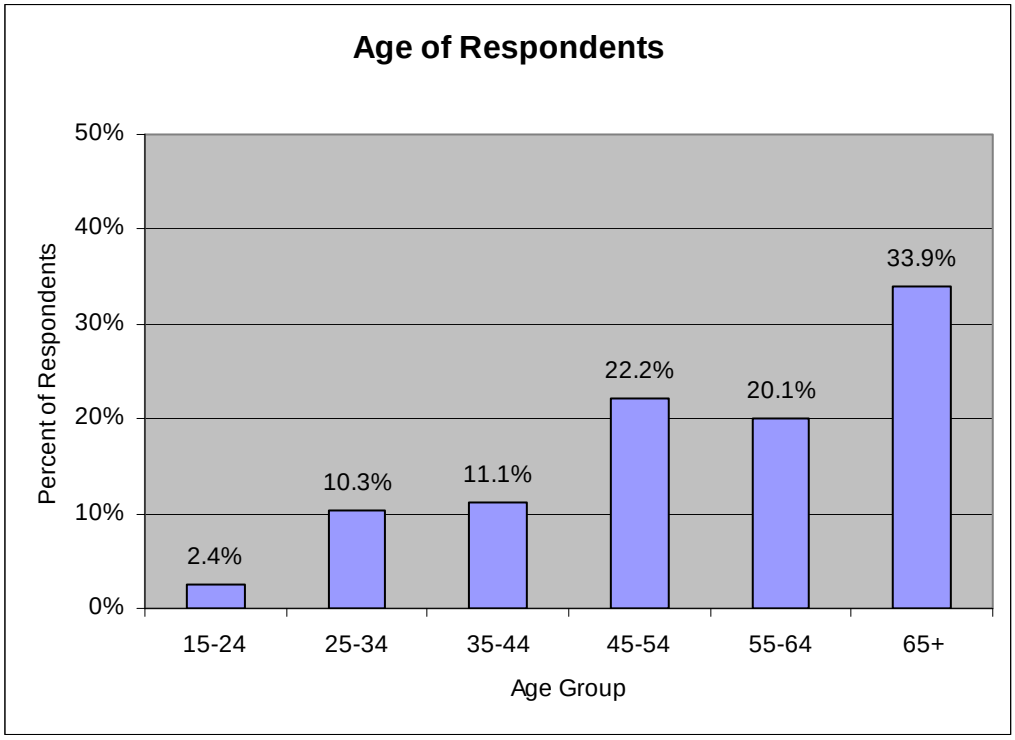
What is the minimum educational requirement for your job? (285 Respondents)

	Respondents	Percent
No minimum educational requirement	40	14.0%
High school graduate/GED	80	28.1%
Some college, no degree	56	19.6%
Associate's Degree	29	10.2%
Bachelor's Degree	34	11.9%
Graduate or Professional Degree	29	10.2%
Don't know	17	6.0%

Do you work in the City of Shasta Lake? (368 Respondents)


Do you work in the City of Shasta Lake?
11.1%
88.9%
Yes
No

How old are you? (369 Respondents)



Although the mean age of respondents is 56.2 years of age and 76.2% of the survey respondents are aged 45 or older, no comparison data is available to determine if the age-distribution is representative of the City of Shasta Lake in general.

What is your gender? (372 Respondents)

	Shasta Lake Survey	2000 Census
Male	32.3%	49.4%
Female	67.7%	50.6%

There is a statistically significant difference in the proportion of males and females from the Shasta Lake Survey and the 2000 Census data. This means that it is possible the attitudes and behaviors reflected in the survey are heavily weighted in favor of females and do not reflect the population as a whole.

Are you: (378 Respondents)

	Shasta Lake Survey	**2000 Census**
African American	0%	0.7%
American Indian or Alaskan Native	4.0%	4.4%
Asian or Pacific Islander	0.3%	0.4%
Hispanic or Latino	4.8%	6.1%
White/Caucasian	89.2%	86.4%
Other	1.9%	2.0%

There is no statistical difference between the Shasta Lake Survey and the 2000 Census.

What is the highest level of education that you completed? (379 Respondents)

	Shasta Lake Survey	2000 Census
Less than 9th grade	1.1%	4.4%
9th to 12th grade, no diploma	6.3%	19.5%
High school graduate/GED	17.4%	33.6%
Some college, no degree	35.9%	26.8%
Associate's Degree	13.2%	8.8%
Bachelor's Degree	13.5%	5.5%
Graduate or Professional Degree	12.7%	1.3%

There is a statistically significant difference between the Shasta Lake Survey and the 2000 Census. The population in the survey sample is significantly more educated than the population of the City of Shasta Lake as a whole. The attitudes and behaviors reflected in the survey are of a more educated population than the City of Shasta Lake in general so they may not represent those of the population in general.

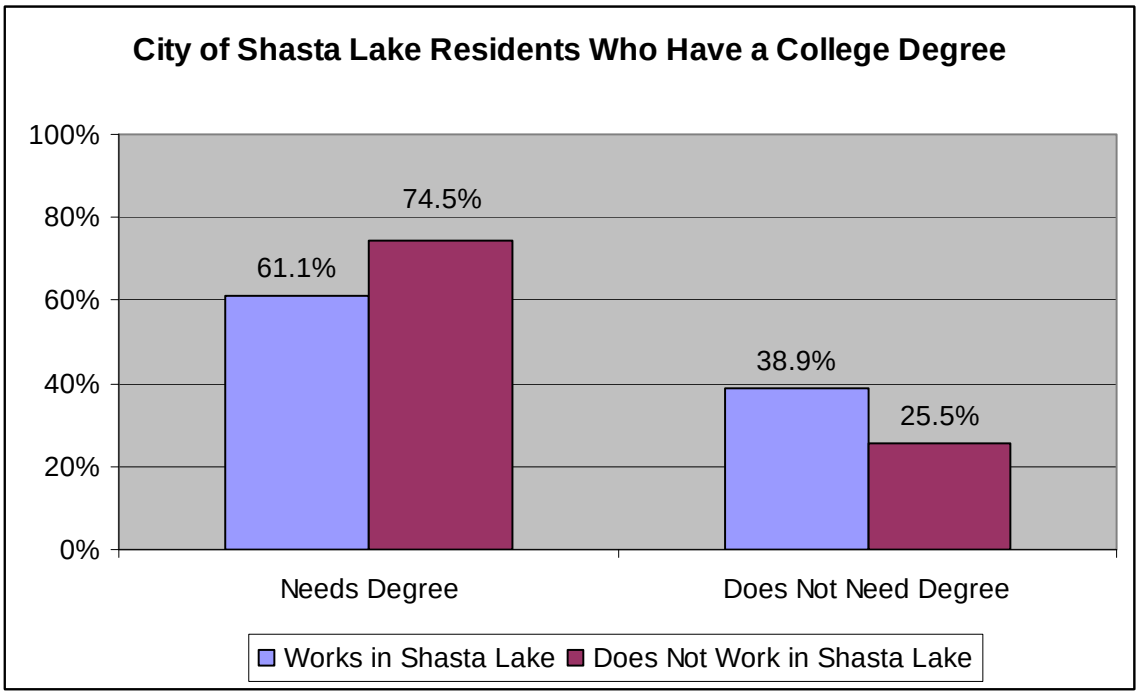
What is your approximate annual household income? (347 Respondents)

	Shasta Lake Survey	2000 Census
Less than $5,000	2.9%	15.7%**
$5,000 to $9,999	5.8%	
$10,000 to $24,999	24.8%	32.1%
$25,000 to $49,999	32.3%	29.4%
$50,000 to $74,999	23.1%	16.0%
$75,000 to $99,999	6.1%	4.0%
$100,000 to $149,000	3.2%	1.6%
$150,000 to $199,999	1.2%	0.1%
$200,000 or more	0.9%	1.0%

**2000 Census Data only includes the category of 'Less than $10,000'
There is a statistically significant difference between the Shasta Lake Survey and the 2000 Census.

The respondents to this survey are wealthier than the population of Shasta Lake in general, based on comparisons to the 2000 United States Census, the most recent comparison data that is available. However, the magnitude of the difference between household income in 2000 and the respondents of the survey in 2008 may in fact be non-significant when accounting for inflation. It is possible that due to the difference in income distribution, the attitudes and behaviors of the survey respondents do not reflect those of the population as a whole. However, because it is unclear whether there are any true differences in income, it is also unclear whether the respondents are likely to be different from the population in general.

Do residents that have a college degree need to leave the City to find work?



Working in the City of Shasta Lake is not dependent on the highest level of education or the minimum educational requirement for the job. Residents who have an Associate's Degree or higher and whose jobs require at least an Associate's Degree do not go outside of the City of Shasta Lake for their work in significantly greater proportions than those who do not have a college degree or need a degree for their job. Of residents who have an Associate's Degree and who need a degree for their job, 61.1% work in the City and 74.5% do not. Of residents who have at least an Associate's Degree but whose jobs do not require one, 38.9% work in the City while 25.5% do not.