

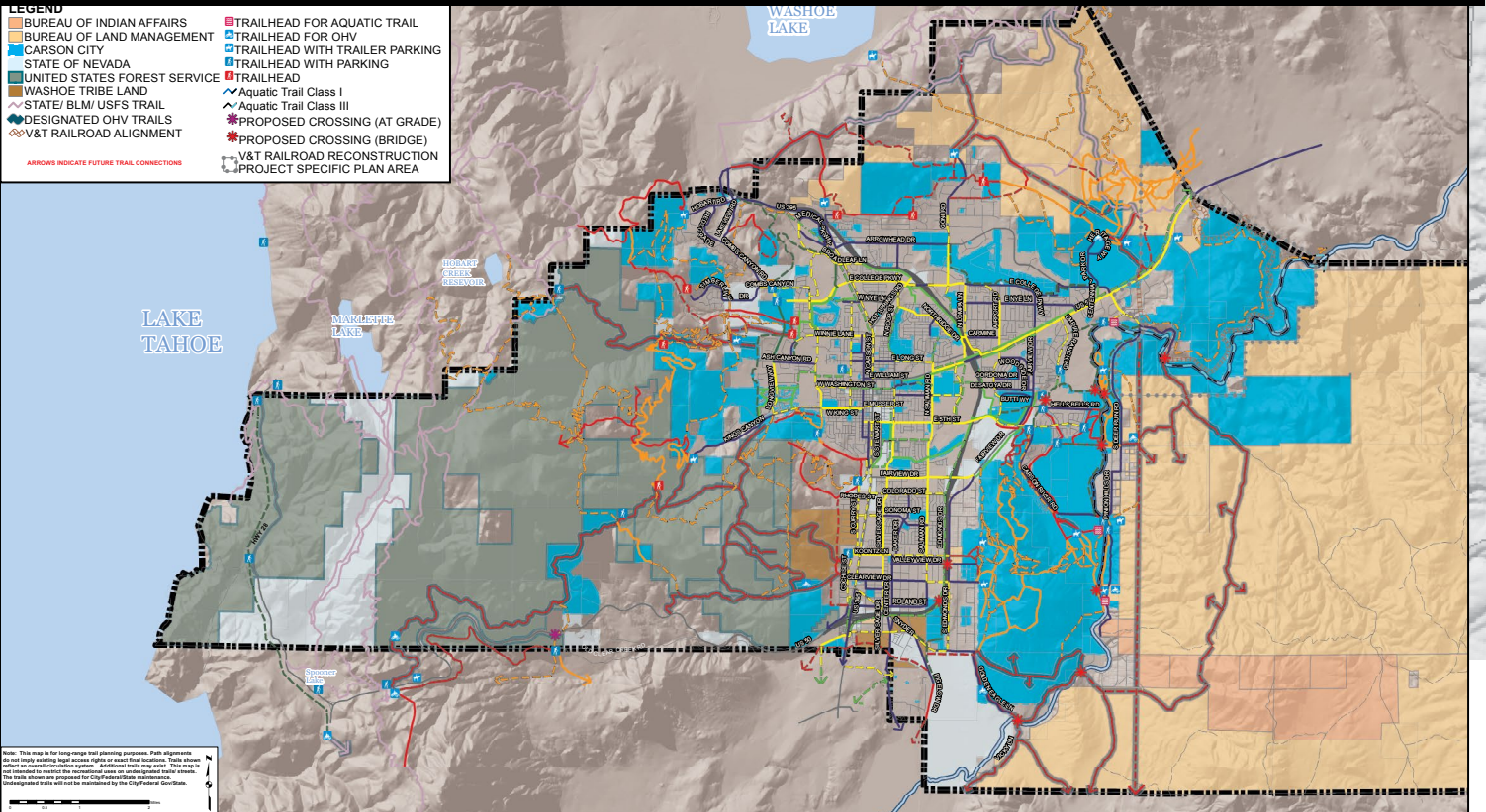


UNIFIED PATHWAYS MASTER PLAN

CARSON CITY, NEVADA

ADOPTED APRIL 6, 2006

- LEGEND**
- BUREAU OF INDIAN AFFAIRS
 - BUREAU OF LAND MANAGEMENT
 - CARSON CITY
 - STATE OF NEVADA
 - UNITED STATES FOREST SERVICE
 - WASHOE TRIBE LAND
 - STATE/BLM/USFS TRAIL
 - DESIGNATED OHV TRAILS
 - V&T RAILROAD ALIGNMENT
 - TRAILHEAD FOR AQUATIC TRAIL
 - TRAILHEAD FOR OHV
 - TRAILHEAD WITH TRAILER PARKING
 - TRAILHEAD WITH PARKING
 - TRAILHEAD
 - Aquatic Trail Class I
 - Aquatic Trail Class III
 - PROPOSED CROSSING (AT GRADE)
 - PROPOSED CROSSING (BRIDGE)
 - V&T RAILROAD RECONSTRUCTION
 - PROJECT SPECIFIC PLAN AREA
- ARROWS INDICATE FUTURE TRAIL CONNECTIONS



Note: This map is for long-range trail planning purposes. Path alignments do not imply existing right-of-way or easement. Additional trail maps will be developed as needed. This map is not intended to be used for engineering or construction purposes. The trails shown are proposed for City/State/BLM/USFS administration. Implementation of trails will need to be coordinated by the City/State/BLM/USFS.

UNIFIED PATHWAYS MASTER PLAN
CARSON CITY, NEVADA



REVISED MARCH 15, 2007
INCORPORATION OF
CARSON RIVER
AQUATIC TRAIL
REVISED MARCH 15, 2018
INCORPORATION OF
OFF-STREET TRAILS

UNIFIED PATHWAYS MASTER PLAN

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The Unified Pathways Master Plan (UPMP) is a comprehensive plan for non-automobile travel routes in and around Carson City. The title “Pathways” refers to the many different types of routes that are included: trails, sidewalks, bike lanes, off-street multi-use trails and even an “aquatic trail” related to the Carson River. The types of users and modes are even more varied: walkers, joggers, roller-bladers, bicyclists, skateboarders, horses, carriages, motorcycles, all-terrain vehicles, kayakers, rafters, etc. Collectively, the pathways are an integrated system that provides an alternative, non-automobile means to access Carson City’s schools, parks, neighborhoods, commercial areas, and open space.



Trails serve a variety of users.

I.1 THE NEED FOR A CONSOLIDATED PLAN

The UPMP process began as a comprehensive trails plan. Eventually, sidewalks, bike lanes, street crossings and river corridors were added in order to make the plan even more integrated and comprehensive. At that point, the name was changed to Unified Pathways to reflect the broader scope.

There are currently several plans governing pathways in the Carson City area including the City’s Bicycle Systems plan, trails plans of the Bureau of Land Management (BLM), and United States Forest Service (USFS), and Nevada State trails plans. Prior to the UPMP, there was no one document that showed the interconnectivity of all the various pathway systems. Creating a consolidated pathways plan, will accomplish several objectives:

- Internally, the UPMP will coordinate the design and management of the City’s sidewalks, trails, bike-ways. The UPMP is intended to serve as the guiding document for Carson City’s pathway and crossings and will be incorporated into the City’s overall Master Plan.
- The City will be able to consistently plan its system in a manner that recognizes and interconnects with the pathways of other agencies.

The UPMP has been prepared in response to Nevada Revised Statutes 278.150 through 278.170, which charges the Planning Commission and City Council (or governing body) to prepare and adopt a comprehensive, long-term plan for the physical development of the City.

It should be noted that there are several limitations to the UPMP:

- With regard to off-street trails, the UPMP does not illustrate every existing or potential trail in Carson City. Rather, it is intended to represent the primary ‘framework,’ or major structure of Carson City’s pathway system.
- For pathways indicated on private land the UPMP does not imply existing legal access rights or exact final

Definition of ‘Pathways’

“Pathways” in this plan refers to a broad range of facilities: sidewalks, on-street bikeways, and a variety of off-street paths that include paved and unpaved, narrow trails as well as gravel roads. Most pathways can be used for recreation or transportation (e.g. commuting to work, school, or shopping) or both, and collectively they can be used by a variety of modes of travel: walking/jogging, roller-blading, skateboarding, mountain bikes, road bikes, horseback riding, motorcycles, and all-terrain vehicles. Perhaps the common factor to all of these uses is that the pathways are designed for non-automobile use.

locations. Rather, it is an indication of 'desire lines' in order to connect important pathway components and destinations.

I.2 TRANSPORTATION VS. RECREATION

With the exception of the Aquatic Trail, the UPMP provides an evaluation of the existing pathways and future pathway needs in Carson City. The plan addresses the City's pathway system not only for recreation purposes, but also for transportation. It also offers solutions to reducing conflicts and safety concerns.

Many of Carson City's pathways are used for both transportation and recreation purposes. In general, "transportation" is defined as: the movement of people and goods, wherein the locational transfer from an origin to a destination constitutes the primary purpose of the trip. Thus, "transportation" describes trips connecting various land uses—such as home, work, shopping, school, and even parks—to each other.

Pathways designed primarily for "transportation" traditionally focus on safety and efficiency (rather than aesthetics and experience), and transportation-oriented pathways are typically initiated, operated, and maintained by a public highway agency as a part of an overall plan.

"Transportation" is thus distinguished from "recreation" use of pathways in which the experience of the trip itself and the pleasure attached thereto is its primary purpose. As an example, "recreational" pathway use can include a bicycle ride through a regional park, whereas the trip from home to the park is more aptly categorized as "transportation."

I.3 RELATIONSHIP OF THE UPMP TO THE PLANS OF OTHER GOVERNMENT AGENCIES

The Carson City UPMP shows connections to other agencies' trails. It also proposes new trails and trail heads, some of which would need to be implemented by other agencies.

For trails on land on which the City does not have jurisdiction (federal, state, or adjacent counties), the Plan is intended to reflect proposals or wishes of the City with regard to pathway connectivity and continuity of uses, between Carson City and the respective agency, as well as the potential sharing of maintenance, signage, and management. Of course, Carson City recognizes that the actual uses of those trails and decisions about changes in uses or alignment are the purview of the respective agencies. The City encourages these agencies to consider the designations on the UPMP as input to the decision-making process of each agency. The City stands ready to cooperate in resolving inconsistencies and in making adjustments that are beneficial to the overall system.

The trails shown in the UPMP will need to be coordinated with the Carson River Master Plan and the Carson City Open Space Master Plan. Trail usage will have an impact and be impacted by other management considerations of these plans.



Carson City's trails provide unparalleled vistas of the City.

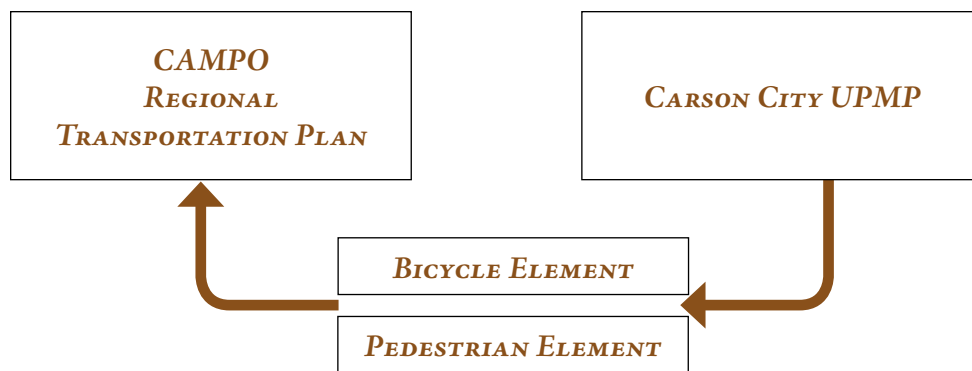
I.4 RELATIONSHIP OF THE UPMP TO THE CARSON AREA METROPOLITAN PLANNING ORGANIZATION REGIONAL TRANSPORTATION PLAN (CAMPO)

The UPMP will serve as the ‘umbrella’ document for guiding the development of Carson City’s sidewalks, bike lanes, and trail system. The portions of the UPMP that relate primarily to transportation¹ and that would qualify for federal funding will be exported to the bicycle and pedestrian elements of the Carson Area Metropolitan Planning Organization (CAMPO) and the Regional Transportation Plan (RTP). A key purpose of the CAMPO elements is to identify facilities that can be federally funded through federal highway funds.

The federal government has determined that pedestrian facilities are an integral part of a transportation system development and improvement. Federal Highway Administration (FHWA) policy states that state and local agencies should consider biking and walking in all planning, design, construction, operations, and maintenance activities. Further, the FHWA has established that pedestrian facilities should accommodate pedestrians of all abilities, particularly with regard to sidewalk and pedestrian crossing features. Title II of the Americans with Disabilities Act (ADA) requires the construction of curb ramps along existing pedestrian routes and the provision of accessible features along any corridor where pedestrian travel is likely.

The recent transportation funding reauthorization, SAFETEA-LU², contains numerous policies and funding mechanisms with regard to pedestrian facilities. The Highway Safety Improvement Program is structured and funded to make significant progress in reducing highway fatalities. Programs target specific areas of concern, such as pedestrians, including children walking to school. The Safe Routes to School program “will enable and encourage primary and secondary school children to walk and bicycle to school. Both infrastructure-related and behavioral projects will be geared toward providing a safe, appealing environment for walking and biking that will improve the quality of our children’s lives and support national health objectives by reducing traffic, fuel consumption, and air pollution in the vicinity of schools.”³ New requirements for transportation planning have been added which require plans to address bicycle, pedestrian, and disabled interests.

Please refer to Section 11.2 for additional information regarding the relationship of the UPMP to other partnership organizations.



1 Primarily, sidewalks and bike lanes, although many portion of the trail system will also qualify as transportation facilities.

2 Safe Accountable Flexible Efficient Transportation Equity Act-Legacy of Users

3 http://www.apta.com/government_affairs/safetea_lu/index.cfm

1.5 FOCUSING THE PLAN: VISION, GOALS AND OBJECTIVES

To assure that the UPMP fully addresses the City's pathway needs and desires, the Plan begins with a broad community Vision. The Vision is then broken down into a series of Goals. Goals are general statements that represent 'big picture' desires usually addressing individual subject areas. The Goals are then further broken down into more specific, and measurable, Objectives. Objectives are more specific strategies that measure progress toward accomplishment. It is also often the case that an Objective can help fulfill more than one Goal. Clearly defined goals and objectives provide a means by which the City can evaluate individual actions and establish priorities for the good of its citizens.



Every home a trail head

1.5.1 VISION STATEMENT --“EVERY HOME A TRAIL HEAD”

This succinct, idealized image conveys the intent that most major destinations in the City (schools, shopping, work, parks, and open space areas) will be accessible from all neighborhoods via safe, enjoyable routes, minimizing vehicular conflicts, that allow the user to enjoy the natural setting of Carson City. Carson City is committed to providing pathways that are suitable for, and in many cases shared by, walkers, joggers, bicycle riders, horseback riders, rollerbladers, strollers, and off-highway vehicles. It also must be recognized however, that there are some areas of the community have constraints – environmental, residential development, and/or historic - that support some pathway uses and not others⁴. The City is committed to provide a variety of pathway experiences for persons with disabilities.

1.5.1 UPMP GOALS

1. Create a continuous transportation system that provides non-automobile mobility and access to important destinations such as employment centers, schools, government and public institutional centers, commercial, and parks and open space recreational areas.
2. Provide a continuous system of recreational pathways that allow the users, in a variety of non-automobile modes, to enjoy the city's physical and natural setting.
3. Make sure the pathways are safe and attractive so as to encourage utilization.
4. Implement the pathway system in as cost-effective manner as possible, including the use of multi-use and/or shared paths wherever possible, and take advantage of opportunities such as utility and open space corridors.
5. Working with the Chamber of Commerce and Convention and Visitors' Bureau, expand Carson City's image as a city conducive to travel by non-automobile means, with a pathway system that adds to the City's quality of life for residents as well as for guests.
6. Assure responsible, courteous, and safe usage by all users of the pathway system.
7. Develop pathways in a manner that preserves the natural environment and visual backdrop of the city while providing for pathway amenities (i.e., benches, shade structures, informational kiosks) for the comfort and enjoyment of pathway users.
8. Provide a continuous transportation system which emphasizes east/west and north/south connectivity.

1.5.2 UPMP OBJECTIVES

1. Complete the “missing links” to ensure a continuous network of pathways that are free of gaps and barriers. Target: depending on funding, annually increase the pathway system by at least one mile, with an overall goal of substantially completing the system within 15 years.
2. Assure a seamless integration and connectivity between the City's transportation and recreation pathway

⁴ For example, there are some areas in Carson City that have traditionally been used by equestrians, other areas that have historically been used by motorized OHV's. There are also examples of environmental factors that may tend to favor some uses over others, such as highly erodible soils that are not suitable for motorized use, and areas that may discourage any kind of pathway use – such as wetlands, riparian habitats, and areas with easily disseminated noxious weeds.

- systems.
3. Assure that appropriate pathways are incorporated in new residential, commercial, industrial, and employment development. Fully integrate the consideration of pathway needs into the community and neighborhood planning, and the development review processes as well as the design and operation of transportation projects and programs.
 4. Accommodate bicyclists' safely on roadways by providing on-street bicycle lanes on collector and minor arterial roadways, where physically possible.
 5. Eliminate barriers and hazards to pathway travel by sensitive location and design of roads, bridges, and under/overpasses, street intersections, railroad crossings, and traffic control devices that are part of the trail system.
 6. Assure that road and highway projects do not preclude pathway access between neighborhoods and open space, recreation areas, parks, and trails.
 7. Incorporate pathways in the planning and development of parks and other recreational/open space areas, utility corridors, and other linear corridors.
 8. Where designated in the UPMP, incorporate trails, sidewalks, and bicycle lanes as a standard part of future roadway projects.
 9. Assure that pathways are maintained for both safety and enjoyment, including a smooth, continuous pavement surface as well as being kept clear of debris and snow.
 10. Encourage bicycle use by providing secure, attractive, and convenient bicycle parking facilities in commercial/business districts and other public areas (e.g., at offices, shopping areas, multi-family residences, public institutions, parks, etc.).
 11. Increase public usage of the pathways system.
 12. Educate pathway users with respect to safety, etiquette, and courtesy. Where pathways are on, adjacent to, or intersect with roadways, educate both motorists and path users with respect to compliance with traffic laws and courtesy.
 13. Be consistent in the enforcement of pathway regulations as well as traffic laws—to enhance the safety of pathway users as well as motor vehicle operators.
 14. Policies to ensure sidewalk usability and enhancement of the pedestrian experience must consider the following elements:
 - o Creating a pedestrian-friendly environment
 - o Safety
 - o Connectivity and continuity
 - o Coordination with land use planning
 - o Adherence to Americans with Disabilities Act (ADA) regulations
 - o Pedestrian scale amenities, including landscaping

I.6 PUBLIC INPUT

The UPMP planning process actively involved residents in the decision-making. A variety of opportunities were provided for community input, including: an extensive public opinion survey, neighborhood meetings, a trails workshop, open houses, public hearings, and stakeholder work sessions.

The UPMP has been approved, in public hearings, by the Carson City Parks and Recreation Commission, the Regional Transportation Commission, the Carson City Planning Commission and the Board of Supervisors.

Through the broad input received, this document is the community's plan. It is an expression of the resident's desire to



*Neighborhood Meeting
at the Community Center*

maintain and improve the quality of life for every person living within the City's boundary.



*Neighborhood Meeting
at the Community Center*



City Staff and Stakeholder Worksession



*Input on specific topics at the
Neighborhood Meeting at the Community
Center*

I.6.1 NEIGHBORHOOD MEETINGS

Neighborhood Meetings were held in the four major sub-areas of the city. These meetings were held in conjunction with the City Master Plan to solicit observations, ideas, and issues from Carson City residents. Attendance varied from over seventy people attending the first Neighborhood Meeting to approximately twenty-five people attending the subsequent Meetings. Residents were asked to give their opinions about Carson City's trails system.

I.6.2 WORKSHOPS

A trails workshop was held early in the UPMP process to gather residents' input about existing trail conditions and future trail needs. After discussing trail issues and problems, citizens were divided into groups representing various sections of the City. They were then asked to draw "desire lines" on maps to indicate where they would like to see future trail corridors in and around Carson City. The Trails workshop was well attended, drawing over 60 residents. A public session was also held early in the planning stages for the bicycle and sidewalk plan.

As refinements were being made to the UPMP, another workshop was held for major stakeholders to meet and resolve trail use conflicts and establish priorities.

I.6.3 PUBLIC OPINION SURVEY

A comprehensive public opinion survey was conducted in the spring of 2005 to understand current attitudes of Carson City residents about parks, recreation, and pathways. Three thousand surveys were sent to randomly-selected households in Carson City. Approximately 900 surveys were returned, giving the survey a 95% to 99% confidence level.

In the survey, respondents were asked to rate their satisfaction with Carson City's parks, pathways, and recreation facilities. They were also asked for their opinions about the need to improve existing facilities and their desire to add new recreation facilities to Carson City. The complete results of the survey can be found in a separate document: Parks, Recreation and Trails Master Plan Public Opinion Survey Results (Summer 2005).

I.6.4 INPUT BY INTEREST GROUPS AND CITY STAFF

Carson City Parks and Recreation staff participated in multiple work sessions during which they helped identify the condition of current trails and provided in-house observations on present and future needs for pathways, as well as potential pathway locations. Members of various interest groups (equestrians, bicyclists, OHV's etc.) worked with the City staff to gather information about existing pathways and analyze the feasibility of future pathway alignments. Several meetings were held with the Parks and Recreation Commission and public comments were received during these meetings.

I.7 MAINTAINING AND UPDATING THE UPMP MASTER PLAN

To be effective, it is important that the UPMP be kept current (reflect recent decisions) and is consistent with other planning documents within the City.

The UPMP is intended to be a “living document,” that is, reflective of current attitudes, conditions and needs. Over time, conditions will change, opportunities will arise, and some directions will inevitably be foreclosed. The UPMP needs to be adjusted to reflect these new conditions. If this is not done, the Master Plan will gradually slip out of currency and will cease to be an effective reference and guide for decision-making. To remain current, the Master Plan must be reviewed and updated regularly, at least annually.

Another challenge to the UPMP is making decisions that are in conflict with the Plan. When this happens, the Master Plan also ceases to become an accurate reflection of City policy and direction, the usefulness of the Master Plan is reduced, and it is no longer a meaningful guide for decision-making—by the City or the public. To avoid this, the Parks and Recreation Department, Parks and Recreation Commission, and the City in general should adopt a “consistency policy” (a policy to assure that pathway-related decisions are consistent with the UPMP). The impact of this policy is that, when potential conflicts arise, prior to the proposed action the City is required to either modify the proposed action to be consistent with the Parks and Recreation Master Plan, or amend the Parks and Recreation Master Plan, or both.

Finally, since the UPMP was developed comprehensively (considering a broad range of factors), and coordinated with the City’s Comprehensive Master Plan and the Parks and Recreation Master Plan, it would be appropriate that changes to the UPMP will also be considered in a comprehensive manner with these other two master plans.

I.8 HOW THE PLAN IS ORGANIZED

The remainder of the Introduction provides broad background to the UPMP - vision and goals, the process by which input was obtained, and how the UPMP relates to other plans and entities that have jurisdiction over pathways.

Chapter 2 describes benefits and public values associated with Pathways.

Chapters 3 and 4 describe demographic and environmental conditions affecting pathway planning.

I.10 GENERAL MASTER PLAN ACTIONS

types.

Chapters 7, 8, 9 and 10 address specific pathway types in greater detail.

Chapter 11 provides guidance for implementation - priorities partnerships and funding.

Note that ultimately, the Plan will be implemented through Policies and Actions, which are identified in various sections of the report (e.g., see Section 1.9 below) and summarized in Chapter 12.

Pathway users and Carson City’s classification of Pathway

1. The UPMP is intended to be a “living document,” that is, reflective of current attitudes, conditions, and needs. To remain so, the Master Plan must be reviewed and updated regularly, at least annually.
2. The City will not make land use decisions that are in conflict with the UPMP. When potential conflicts arise, prior to the proposed action, the City will either modify the proposed action, or amend the UPMP, or both.
3. Before a pathway project crossing private land is proposed by the City, a study must be performed to find another pathway alignment on Federal, State, or City lands.
4. The City will work with the U.S. Forest Service, BLM, Nevada State Parks, Washoe Tribe, Bureau of Indian Affairs (B.I.A.), and other agencies, developers, and user groups in a cooperative manner to develop and maintain the UPMP, including its trails, trailheads, and support facilities.
5. The City will work with the Washoe Tribe and Bureau of Indian Affairs (B.I.A.) to assure that pathways on or adjacent to Tribal lands are mutually beneficial to the Tribe, the Bureau of Indian Affairs (B.I.A.), and the public.
6. Any new development, and redevelopment adjacent to a pathway identified in the Unified Pathways Master Plan, will be required to provide pathways connections (sidewalks, bicycle routes, or multi-use trails) to these facilities. If any new development or redevelopment is not adjacent to a pathway identified in the Unified Pathways Master Plan, the developer will be required to provide connectivity to the surrounding land uses with a pathway system.
7. Unless physically impossible (steep terrain, rivers, highways), internal pathway systems of developments will connect with nearby elements of the UPMP by providing direct connections where adjacent to the UPMP, or links and easements to property boundaries so that future connections can be made.
8. Public Works Department will be responsible for the design, construction, and maintenance of sidewalks and on-street bike lanes within any road’s right-of-way. The Parks and Recreation Department will be responsible for the design, construction, and maintenance for off-street pathways – outside of any road’s right-of-way.
9. Unless otherwise agreed or stipulated, the City will have maintenance responsibilities for the pathways shown on the UPMP that are on City and private land.
10. As a routine part of future roadway projects, the City will incorporate sidewalks, on-street bicycle lanes, and adjacent off-street shared-use paths that are indicated on the UPMP.
11. Carson City will cooperate with other governmental agencies to help obtain and develop relevant portions of regional trails such as the Tahoe Lake Trail (between Highway 28 and Lake Tahoe).
12. In the event that public land is privatized (through land exchanges, etc.), existing pathways and trailheads designated in the City trails plan will be preserved.

13. I.10 GENERAL MASTER PLAN ACTIONS

1. Hire a Pathways Coordinator to have overall responsibility for coordinating the planning and design of all pathway projects (on- and off-street) and assist with the safe route to schools program, including pedestrian sidewalks and bikeways. In addition, this individual would apply for grants to implement the UPMP and could acquire funds which outweigh City’s salary expenses. Recommendation: Assign the Pathways Coordinator to the Parks and Recreation Department. Ensure that this person is included in the design review/sign-off process for subdivisions, rezoning, and issuing of building permits.
2. Develop snow removal management plan for basic network of pathway system.
3. Allocate specific pathways responsibilities between Parks and Public Works (e.g. Parks = off-street, Public Works = sidewalks and on-street bike lanes), and develop interdepartmental procedures for consolidated construction and maintenance.
4. Amend as necessary City land use regulations (subdivision, zoning, building permits) to ensure that adequate mechanisms are in place to achieve the dedication of pathways and trailheads in all new development and major redevelopment. Evaluate the potential of dedication requirements, RCT parks credits, and development incentives (e.g. density bonus) as means of obtaining trails and trail easements from developers and draft recommended amendments to City ordinances incorporating these mechanisms.
5. Develop and adopt standards for maintenance of on- and off-street and pathway facilities, including year-round sweeping and winter snow removal.

1. Each year, develop and adopt both an annual and a 5-year Pathways Implementation Program. Include:
 - acquiring easements
 - ✦ pathway and trail head construction
 - ✦ repairs and maintenance
 - ✦ intersection improvements¹
 - ✦ signage
 - ✦ changes to regulations
 - ✦ educational programs
 - ✦ cultural and historical clearances
 - ✦ educational programs
 - ✦ cultural and historical clearances
2. Develop a schedule, procedures, and supporting documentation (e.g. maps, property valuations, fiscal benefits) to work with private land owners, NDOT, the BLM, and the USFS to obtain easements, and assert prescriptive uses,
3. etc. to implement the UPMP.
4. Work through the Open Space Manager to secure trail easements in City Open Space to implement the UPMP.
5. Work with the BLM and the Forest Service to increase the stewardship of the pathway system on public land. Convene a “working group” consisting of the City and local pathway user groups to explore ways to jointly improve
6. pathway maintenance and oversight—either by increased federal funding and commitment or by cooperative efforts with other agencies and groups.
7. Work with the Washoe Tribe and the Bureau of Indian Affairs (B.I.A.) to identify pathways that will help connect Tribal communities as well as provide connectivity for public trails. Develop standards, signage, and regulations
8. that will ensure public respect for Tribal lands and cultural resources. Explore opportunities to incorporate historic Tribal migration routes into the pathways system.
9. Develop detailed standards for all pathway types and components, including dimensions, paving materials, striping, landscaping, drainage, drain inlet grates, adjacent fencing, curbs, traffic control devices, and other design elements.
10. Include regulations of adjacent uses, such as prohibiting the overhang of automobile parking onto sidewalks or paths, a standard for driveway spacing that cross off-street paths, etc.
11. Evaluate and adopt the Universal Access Trail standards for the accessible portions of the City’s proposed pathway system.
12. With the aid of volunteers, complete a detailed mapping of all existing pathways in Eagle Valley, including type, condition, and current use.
13. Create a standard for trail signage (trail identification, responsible agency, permitted uses). Implement over 5-year period. For example:
 - ✦ Develop a uniform and consistent trail identification system (name, number)
 - ✦ Work with Public Works, NDOT, BLM, USFS, Washoe Tribe, B.I.A, and local stakeholder organizations to standardize information and symbols on signage across jurisdictional boundaries
 - ✦ Develop effective trail head signage regarding trail etiquette and use regulations
14. Make trail information available to visitors and residents. For example,
 - ✦ Working with other agencies and interest groups, develop and distribute trail maps and a web-resource regarding pathway locations, trail etiquette, and safety regulations.
 - ✦ Contact publishers of trail guides and maps and make UPMP information available to them (as unofficial maps).
15. Work with U.S. Forest Service, B.L.M., Nevada State Parks, Nevada Division of State Lands, Washoe Tribe, and the B.I.A in any future pathways planning efforts to refine the UPMP on properties managed by these agencies.
16. Enlist volunteers to:
 - ✦ participate in annual “trail work days” to clean up, repair, revegetate, and even construct trails
 - ✦ take sample counts of pathway use (to measure growth in use)
 - ✦ monitor compliance with pathway etiquette (noise, yielding ROW, speed, safety, etc.)
 - ✦ Present pathway etiquette programs in schools and to local service organizations.
- 17.

¹ Place a high priority on improvements to intersections with high-volume trails or paths. Use innovative design treatments (e.g., lighted signage, different textured or colored bike lanes, advance bicycle stop lines at intersections, and bike path crossing markings) where appropriate.

2.1 QUALITY OF LIFE

Pathways are beneficial to communities for a number of reasons. They provide means of travel and mobility that are less expensive, healthier, and have less impact on the environment than automobiles. They provide access to, and enjoyment of, natural areas that are inaccessible by roads and automobiles. They often allow circulation in more direct routes than are possible via roads. The act of using a pathway for recreation often has transportation benefits too (lessening cars on the road). Pathways travel is also generally accessible to people of all ages and many are accessible to those with limited physical abilities.

Pedestrian and bicycle facilities are specifically important components of any comprehensive transportation system. Biking and walking offer potential for cleaner air, healthier people, reduced congestion, more livable communities, and more efficient use of precious road space and resources. Incorporation of various kinds of pathway facilities into the transportation system allows for more efficient use of right-of-way (in that it allows the corridor to move more people in multiple ways, rather than just in cars). Further, pathways increase connectivity – more ways to travel between residential areas and employment and activity centers. Pathways also increase accessibility and mobility for those populations that cannot, or choose not to, rely on the motor vehicle for transportation. Safe, convenient sidewalks, off-street trails, and on-street bike lanes may encourage non-automobile modes of travel.

Pathways can also help to relieve traffic congestion and improve air quality. Studies indicate that in America, half of all car excursions are less than three miles, a distance that could be easily traveled by bicycle.¹ It is estimated that “using human-powered transportation [for these short commutes] could result in saving 9.5 million tons of exhaust emissions annually.”²

Not only are there a number of environmental and economic benefits of pathways, but there are also a number of health benefits. Pathways offer a means of recreation and exercise for persons of all economic levels and may help in combating our nation’s fight against obesity. A study conducted by the Center for Disease Control found that “creation of or enhanced access to places for physical activity (such as trails) led to a 25.6 percent increase in the percentage of people exercising three or more days per week.”³ When pathways are located in natural areas, health studies have shown that contact with nature offers a range of medical benefits. Contact with nature has been shown to lower blood pressure and cholesterol, increase survival after heart attacks, improve recovery from surgery, lower stress, and improve behavioral disorders.⁴

Increasingly, communities are finding that having pathways in a community helps to improve the community’s quality of life. A survey from Santa Rosa, California, found that 64% of respondents felt that having a pathway in their neighborhood increased the quality of life in that neighborhood.⁵



A neighborhood path along rear lot lines that provides a pleasant alternative to sidewalks.

1 “The Economic Benefits of Trails.” American Hiking Society. <http://www.americanhiking.org/news/pdfs/econ_ben.pdf>

2 “The Economic Benefits of Trails.” American Hiking Society. <http://www.americanhiking.org/news/pdfs/econ_ben.pdf>

3 Trust For Public Lands. “Public Health Benefits of City Parks and Open Space.” <www.tpl.org> Page 13.

4 City Parks Forum, American Planning Association. “How Cities Use Parks to Improve Public Health.” Page 2.

5 Webel, Suzanne. “Impact of Trails and Trail Use.” American Trails. <<http://americantrails.org/resources/adjacent/sumadjacent.html>>

2.2 ECONOMIC BENEFITS OF PATHWAYS

In conjunction with providing residents with places to recreate, and improving the quality of life for city residents, there are a number of economic benefits of constructing pathway systems. Many people who have experience living in communities with a full range of pathways also consider trails to be important to the attractiveness of a community. In cities with trail systems, some residents find that proximity to trails helps increase property values and helps houses sell faster.

In 2001, the National Association of Home Builders and the National Association of Realtors conducted a survey asking about the relative “importance of community amenities.” From a list of 18 amenities including highway access, being near public transportation, and having shops within walking distance, trails were rated as being the second most important amenity to have near a home.⁶

In another study conducted during the summer of 1994, real estate agents from Denver, Colorado, were surveyed about the benefit of trails. All of the agents believed that trails were an amenity to the community they served, 73% believed that homes located adjacent to trails would be easier to sell, 82% used trails as selling points, and 55% thought that homes located near trails would sell for more than similar homes located in other neighborhoods.⁷

Trails and greenbelts often go hand-in-hand. A study in Salem, Oregon, found that land located adjacent to a greenbelt was worth approximately \$1,200 more per acre than land located 1,000 feet away from a greenbelt.⁸ In Seattle, Washington, houses located near a trail sold for 6% more than other houses.⁹

When pathways increase property values, the result is additional property tax revenue. In addition, extensive, well-designed pathway systems can generate revenue for cities by attracting business development and tourism. The sale of equipment to hikers and the addition of bike shops, cafes, and bed and breakfasts may bring additional tax revenue to cities.

Clearly there are multiple reasons why pathways are a desirable component of any City’ transportation and recreation programs. With an improved pathway system, Carson City has the opportunity to increase property values, decrease traffic congestion, and increase the City’s quality of life. An extensive and interconnected pathway system will offer recreational opportunities for all of Carson City’s residents and may be used to promote Carson City as a tourist destination.

2.3 EXISTING PATHWAY CONDITIONS

Carson City has sidewalks in most neighborhoods, but there are significant street sections with missing sidewalks and sidewalks and curb ramps that do not meet national standards for accessibility (i.e., missing ramps, obstacles that narrow the walkways, etc.). Sidewalks are inconsistent and non-existent in much of Carson City, including neighborhoods around several schools.

Carson City has a number of streets that have designated bike lanes. However, there are not bike lanes on all streets that do, or could, serve as major bicycle commuter links. Also, there are no bike lanes and/or bike trails that connect east-to-west or north-to-south through the entire city.

6 “Benefits of Trails and Greenways.” American Trails. <<http://americantrails.org/resources/benefits/homebuyers02.html>>

7 Webel, Suzanne. “Impact of Trails and Trail Use.” American Trails. <<http://americantrails.org/resources/adjacent/sumadjacent.html>>

8 “Economic Impacts of Rivers, Trails and Greenways: Property Values.” National Park Service. <<http://www.nps.gov/pwro/rtca/propval.htm>>

9 “Economic Impacts of Rivers, Trails and Greenways: Property Values.” National Park Service. <<http://www.nps.gov/pwro/rtca/propval.htm>>

With respect to off-street trails, Carson City offers many hiking and cycling trails, ranging from beginner routes to advanced climbs. The Pine Nut Mountains, located to the east of Carson City, provides miles of trails through the desert hills. The Carson River Trail offers a scenic natural surface path along portions of the Carson River. Trails in Brunswick Canyon travel beside old mining sites and encampments. Yet, even with these attractive, well-used trails, Carson City's trails are not yet a system. The City has many disconnected trail segments which could be greatly improved and expanded. Some key scenic areas, such as the Carson River, are only served by soft surface trails that inhibit some types of trail users from being able to access these areas.



*The Carson River Overlook -
Handicapped fishing pier
at Carson River Park*

Parks and schools are not linked to the current pathway system, nor are the recreational areas surrounding the City. Much of the public lands surrounding Carson City are managed by the BLM, the Forest Service, and the State. These lands have extensive trail systems, however, they often do not connect to Carson City's trail system.

Also, the design of Carson City's trails is inconsistent. There are varying path widths and non-uniform signage. Trails in Carson City are used by a variety of user types including OHV's (off-highway vehicles), horseback riders, mountain bikers, walkers, joggers, hikers, and parents with strollers. In general, they are able to share uses—but there are some areas that are more suited to some uses than others. Currently, there are no use/etiquette regulations for Carson City's trails and no differentiation between user types (there are use restrictions on federal and state trails, however). As Carson City continues to grow, there may be an increase in use conflicts and the City may have to evaluate the possibility of designating certain areas for specific user groups.

2.4 PATHWAY DESIRES EXPRESSED BY CARSON CITY RESIDENTS

2.4.1 PUBLIC MEETINGS

Overall, the participants at the neighborhood meetings desired more trails and improved trail connectivity. They endorsed Carson City becoming a bike/pedestrian friendly city with the creation of bike lanes and improved sidewalks. Participants stated a desire to have paths that connect residences to parks and schools, as well as to open space and recreation areas outside of the city. Attendees also brought forward the idea of utilizing fire roads to create trail access to surrounding public lands. Many participants commented on the idea of utilizing overpasses and underpasses on certain trails to improve trail safety.

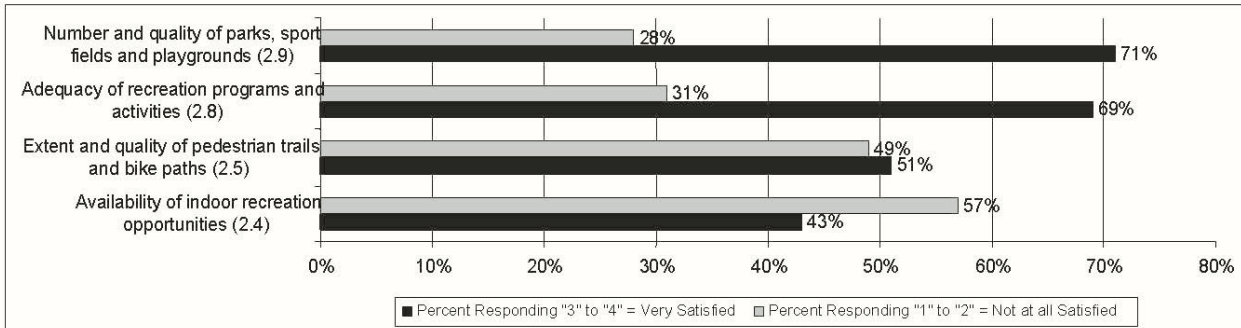
Major issues that were brought forth at the Trails Workshop dealt with improving trail connectivity and creating or maintaining access through existing or proposed developments to parks, open space, and recreation areas. Participants, representing a variety of trail user groups, made several comments about trail etiquette and were emphatic that OHV vehicles, horses, pedestrians, and bicyclists could share trails as long as proper trail etiquette is followed. Participants helped identify fire roads could be used to enhance the City's trail system. Workshop participants also thought that Carson City should work with surrounding communities and governmental agencies to create a unified regional trail system that would have consistent signage. They also expressed a desire to add an urban sidewalk system to the trails p, create greenbelts that could connect across the city, and create trails that offered both paved and unpaved paths parallel to one another.

2.4.2 PUBLIC OPINION SURVEY (SEE SECTION 1.3.3)

SATISFACTION WITH TRAILS AND OTHER RECREATION AMENITIES - (Question 1)

Almost half (49%) of Carson City residents responded that they were dissatisfied with the extent and quality of Carson City's sidewalks, off-street trails, and on-street bicycle lanes. In general, people were more dissatisfied with the City's pathway system than other outdoor recreational opportunities.

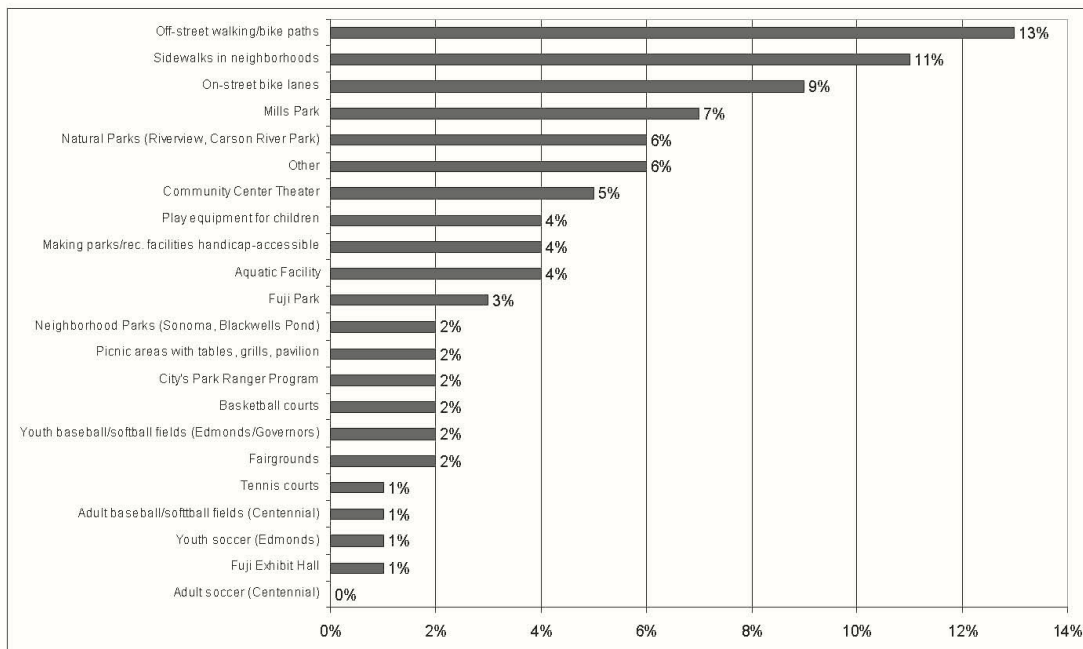
1. Please rate your household's satisfaction with the following recreation services as they relate to Carson City as a whole. Use a scale from 1 to 4, where 1 means "Not At All Satisfied" and 4 means "Very Satisfied."



PATHWAYS RELATIVE TO OTHER RECREATION PRIORITIES - (Question 3)

Carson City residents would like the City to focus its resources on improving its pathways system. When asked what recreational issue was considered to be of the highest priority, the top three responses were off-street trails, sidewalks, and on-street bike lanes.

3. Of the items listed above, which do you consider to be the highest priority for the City to improve?



ROLE OF PATHWAYS IN NEIGHBORHOODS – (Question 23)

Many kinds of pathways are often an integral part of neighborhoods, offering easily accessible recreation areas. When asked to describe their ideal neighborhood, 67% of survey respondents stated that it would be located close to walking/bike paths. This was rated higher than any other neighborhood amenity.

Not only do Carson City residents value having trails in their neighborhoods, but according to the public opinion survey, trails are the most popular recreation amenity for Carson City residents to use.

23. Most neighborhoods have some good and not so good aspects. If you were to create the ideal neighborhood for you and your family, how important would the following be?

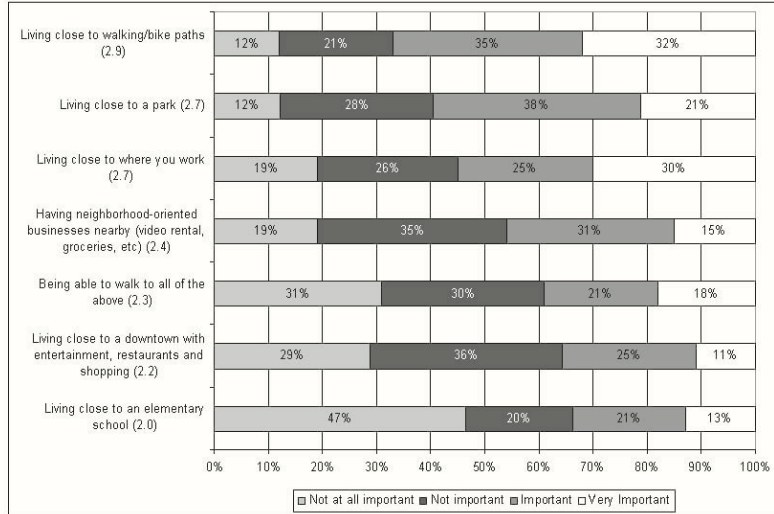


TABLE 2-1: COMPARATIVE PATHWAY USAGE

TYPE OF USAGE	SEVERAL TIMES PER:			TOTAL
	YEAR	MONTH	WEEK	
Jogging/walking on paved trail/street	24%	29%	32%	85%
Jogging/walking on unpaved trails	31%	20%	19%	70%
Biking riding on a trail	30%	15%	8%	53%
Riding OHVs on trails/open lands	18%	6%	5%	29%
Riding horses on trails/open lands	6%	1%	1%	8%
Some equestrians believe that the results shown here are not an accurate measure of their actual participation rate and frequency, which may be true due to the low sampling level of this user group.				

COMPARATIVE PATHWAY USAGE – (Question 16)

Extracting pathway usage data from Question 16¹ yields the following comparison:

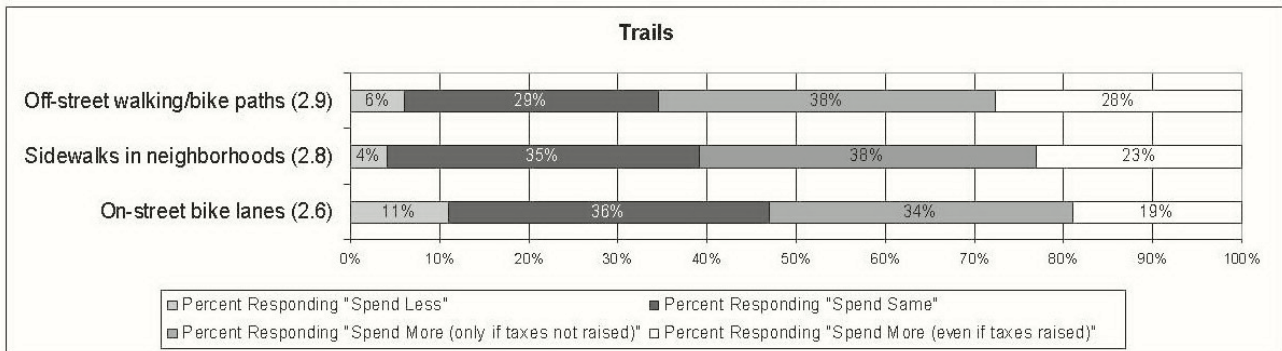
(Note that the value of this comparison is a relative rather than absolute measure. It does indicate the high level of participation of city residents in walking, jogging and bike riding.)

¹ “Please bubble the number that most closely reflects how often you, or other members of your household use the following City facilities.”

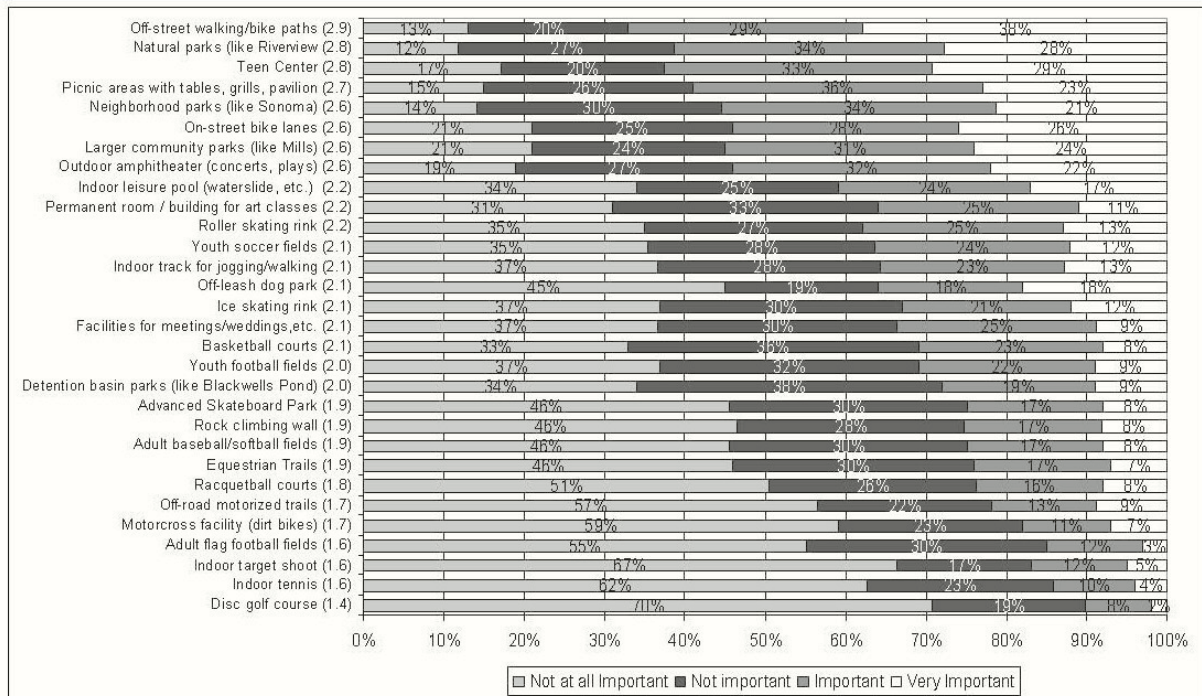
IMPROVING OFF-STREET WALKING/BIKE PATHS – (Questions 2 & 17)

- o 66% of survey respondents thought that the City should spend more money to improve its off-street walking/bike paths
- o 28% indicating that more money should be spent even if taxes had to be raised
- o 13% of survey respondents believed that improving off-street walking/bike paths was the most important recreation issue facing the City. 10% thought that it was the second most important issue
- o 67% of survey respondents thought that it was important for Carson City to add more off-street walking/bike paths

QUESTION 2: REGARDING THE CONDITION OF EXISTING RECREATION FACILITIES, PLEASE RATE HOW IMPORTANT YOU FEEL IT IS TO MAINTAIN OR IMPROVE THE QUALITY OF OF THE FOLLOWING AMENITIES.



QUESTION 17: PLEASE CIRCLE THE NUMBER THAT MOST CLOSELY REFLECTS HOW IMPORTANT YOU FEEL IT IS FOR CARSON CITY TO ADD THE FOLLOWING FACILITIES?



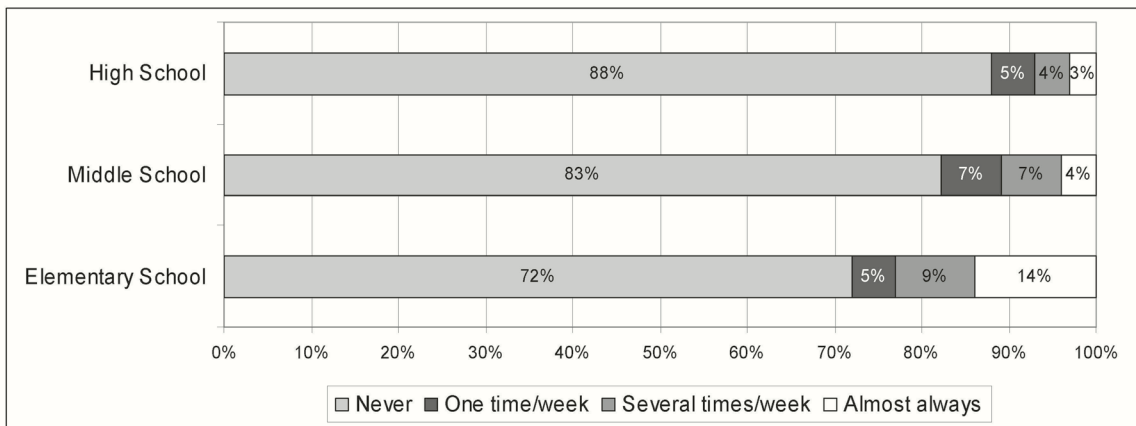
SIDEWALKS - (Question 2, 3, 15A and 15B)

A lack of sidewalks in many neighborhoods throughout Carson City was identified as a significant issue that needs to be addressed.

- ✦ 61% of survey respondents thought that the City should spend more money to improve the sidewalks in Carson City’s neighborhoods. (Q2)
- ✦ 23% of respondents thought that more money should be spent even if taxes had to be raised. (Q2)
- ✦ 11% of survey respondents felt that improving Carson City’s sidewalks was the most important recreational issue facing the City and (Q3)
- ✦ 7% thought that improving sidewalks was the second most important issue facing the city. (Q3)

According to Question 15A approximately 28% of elementary school students walk to school once a week or more and 23% walk to school several times a week or more.

15a. If there are school aged children in your household, how often do they bike/walk to school?



Of those who rarely walk to school, a supplemental analysis of the responses to Question 15B reveals the reasons for not walking (in order of priority) were:

- ⓧ Safety concerns (125 responses)
- ⓧ Too far (71 responses)
- ⓧ Lack of sidewalks (40 responses)
- ⓧ Other (23 responses)

While lack of sidewalks was not the major reason for not walking to school, adding sidewalks to existing neighborhoods throughout Carson City And improving the safety of sidewalks and crossings will encourage walking to school (-with commensurate benefits in health and reductions in traffic and travel expenses).

IMPROVING ON-STREET BIKE LANES - (Question 2, 3)

Currently, Carson City has relatively few bike lanes. Bike lanes could be added to roads that have wide right-of-ways that would serve as cross-town links for a number of bike routes. On-street bike lanes also offer convenient ways for people to commute to work and/or school.

- ⓧ Over 50% of survey respondents thought that additional money should be spent to improve Carson City’s on-street bike lanes.
- ⓧ 19% of the respondents felt that more money should be spent even if taxes had to be raised.
- ⓧ 9% percent of survey respondents felt that improving on-street bike lanes was the most important recre-

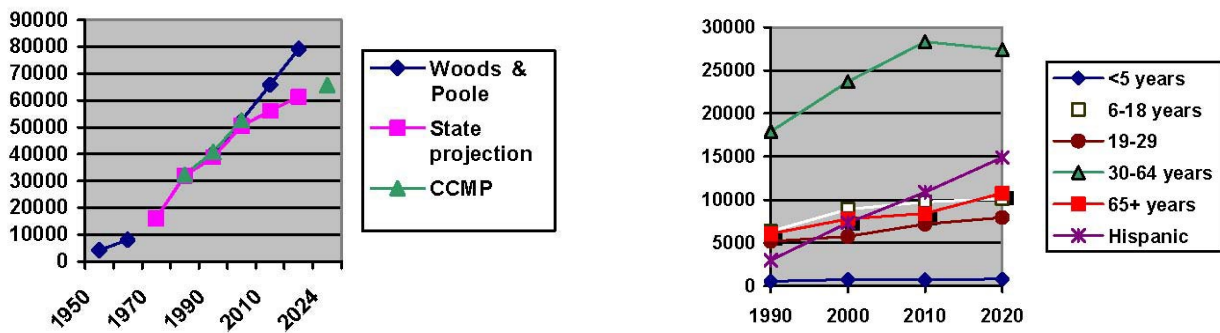
ational issue for the City to improve.

- 54% of survey respondents thought that improving on-street bike lanes was important for the City to add on-street bike lanes.

A complete list of the results from the Carson City survey can be found in a separate document, Parks, Recreation, and Trails Master Plan Public Opinion Survey Results, Summer 2005. An extensive list of write-in responses (i.e., to “Other” choices in the survey) yielded a very informative list of unprompted answers (answers not selected from a list of choices).

3.1 DEMOGRAPHICS

While Carson City grew at an annual rate of 2.6% from 1990 to 2000, the City’s growth rate is showing signs of tapering off slightly. In 2004, Carson City was estimated to have a population of 55,625 people.¹ There are a variety of sources for population projections. Figure 4 below compares various projections, including projections by Woods & Poole, a nation demographics firm, projections by the Nevada State demographer, and the synthesis developed for the Carson City Master Plan. The Carson City Master Plan projects a growth rate of only 0.8% per year over the next 20 years, with the population reaching 66,000 by 2024. It has established a build-out maximum population of approximately 80,000 people, based on water capacity and land-use considerations. This suggests that the City will grow by a total of about 40% to its maximum, which will be reached by approximately 2030.



Will all segments of the population grow equally? The Carson City Master Plan observes that Carson City’s population is gradually getting older. The median age in 1990 was 36.8 compared to 38.7 in 2000. Fifteen percent of Carson City’s residents are over 65 years of age, compared to 11% statewide. The Carson City Master Plan projects that the percentage of residents over 65 years of age in Carson City is expected to grow to 18% by 2024.

Figure 13 above illustrates the population projections of the Nevada State Demographer, by age cohort. According to the State Demographer, the growth trends, by age group, over next 15 years will show:

As discussed previously, demographic characteristics of an area have a significant impact on the pedestrian demand, and accordingly, proposed pathways plans and enhancements.

AGE	POPULATION TREND
Under 5 Years (toddlers)	Very little change
6-18 Years (school-age)	Slight growth then stable
19-29 Years (young adults)	Stable then slight growth
30-64 Years (families)	Continued strong growth then decline
65+ Years (seniors, retirees)	Slow but steady growth
Hispanic	Strong, steady growth

Hispanic population is included in the other age group figures, but shown here as a separate cohort for comparison purposes.

¹ Carson City Master Plan, “Snapshot Carson City”

- Age** – Local and State projections indicate that Carson City’s overall youth population will increase by only 10% over the next twenty years. This suggests a continued, and slightly growing demand for trail facilities related to both recreation and transportation (especially to schools and parks) for that age group. This increase in youth population will not likely result in additional Elementary or Middle schools being constructed, so the focus of transportation pathways adjacent to schools may focus on existing schools. The area with the highest percentage of youth population is bounded by College Parkway to the north, Lompa Lane to the east, Hot Springs Road to the west and Highway 50 to the south. Additional areas of high youth populations are centered around Highway 50 and Carson Street.



Growth in the youth population segment will result in a growing demand for trails and sidewalks

As Carson City’s population gradually begins to age, there may be more demand for pathways as an alternative to automobile transportation as well as for passive recreation. Pathways offer recreational opportunities for people of all ages and all economic backgrounds and may be especially popular for retirees. There is strong support, evidenced in opinion survey responses, for placing a high priority on construction of new sidewalks, bike lanes and trails for both recreation and transportation purposes.

- Vehicle ownership** – The area with the highest percentage of households with no vehicles is located south of Highway 50 and north of Fairview Drive. The area is bounded on the east and west by Ormsby Boulevard/ Terrace Street and Edmonds Drive, respectively.
- Income** – Lower income areas, those with the highest percentages of households earning less than \$20,000 per year, are located primarily in three areas. These are: the triangle created by Carson Street, College Parkway, and Northgate Lane; the area bordered by Highway 50, Carson Street, Winnie Lane, Roop Street, Beverly Drive, and Camille Drive; and the area located west of Curry Street and South of 5th Street.

3.2 LAND USE

A number of land use conditions affect the location of various kinds of pathways.

- Commercial locations/destinations** – Primary commercial areas are located along Carson Street and Highway 50/William Street. The government core is located along and adjacent to Carson Street between Highway 50 and 5th Street.
- Employment density** – Employment centers are concentrated along Highway 50 and Carson Street, with emphasis on the area between Roop Street and Minnesota Street, south of William Street.
- Residential density** (urban, suburban, rural, etc.)



The bike path along US Highway 50 (shown here crossing the entry drive) potentially serves a significant number of businesses.

Areas with the highest population density include the following:

- the triangle created by Highway 50, Carson Street, and College Parkway;
- the area located between Highway 50 and Butti way and bordered east and west by Gregg Street and Lompa Way, respectively;
- the area bounded by William Street, Saliman Road, Little Lane and Roop Street
- the polygon created by Carson Street, Fairview Drive, Edmonds Drive, and Koontz Lane.

Detailed maps that illustrate these land use considerations are included in Appendix 13.7.

4

ENVIRONMENTAL CONDITIONS AFFECTING PATHWAYS

A preliminary review of environmental conditions pertinent to trail development reveals several potential environmental factors:

- ⌘ Erosive soil types
- ⌘ Drainage patterns
- ⌘ Steep slopes
- ⌘ Visibility of trail scars on hillsides
- ⌘ Potential for the spread of noxious weeds
- ⌘ Habitats for large animal species
- ⌘ A potential threatened/endangered species

The available mapping of these factors is not very detailed at this point. However, observation suggests that there are soils in the region, especially on the west side of the Eagle Valley, that are highly erodable when their vegetative cover is disturbed. Recent heavy rains in Carson City created significant erosion patterns in areas where trails were located on erosive soils on steep slopes. This was even more pronounced within ravines that tended to channel rainfall. There appear to be soil types that, when found on steep slopes, are more susceptible to erosion than when the same soils are found on shallow slopes and in areas less susceptible to channeling runoff.



Erosion on an existing trail.

Some of Carson City's mountain backdrop have scars that are visible for long distances. This is particularly apparent in the burn area of the 2004 Waterfall fire on the west side of the Eagle Valley. Some of these scars have been caused by off-highway motorized vehicles (OHVs), and some by mountain bikes that have the ability to scale steep slopes. Regardless of the cause, the visual impact is severe once a scar is created and there is little evidence that vegetation will reestablish itself.



Some trail use is not only unlawful but also unsightly and environmentally damaging.

Another environmental consideration is wildlife, such as the bear and mountain lion population, that is found especially on the west side of Carson City. The Nevada Division of Wildlife will be doing radio collaring of mountain lions to verify the extent and movement patterns of the animals. The presence of wildlife habitat may have an impact on trail usage.

Finally, like many western cities Carson City has experienced infestations of noxious weeds such as Russian Knapweed and Star Thistle. These species invade the native vegetation and are extremely difficult to eradicate. Human interaction appears to be one factor in spreading seeds. The seeds can apparently attach themselves to clothing and vehicles and then are dropped in new locations.

All of the above suggests that the design of trails in the area around Carson City needs to take into account environmental factors: avoiding steep trails on steep slopes, in or near drainages, in special wildlife habitats and areas of noxious weeds need to be avoided. In some areas the numerous volunteer trails need to be closed and revegetation programs initiated.

4.1 ENVIRONMENTAL POLICIES

1. Trails will be located or relocated in areas, and with trail design standards and construction specifications that will avoid environmental and visual impacts and will be consistent with sound, scientific environmental stewardship.

4.2 ENVIRONMENTAL ACTIONS

1. Collect available data and mapping of environmental factors. Augment with site-specific observations. Create suitability maps for trail types and conditions. Refine data and mapping as resources permit.
2. Develop standards for various trail and user types to ensure environmental sustainability and minimize visual impacts.
3. With the Open Space Manager, develop management programs for trails and adjacent areas. Reclaim areas subject to erosion and highly visible visual degradation.



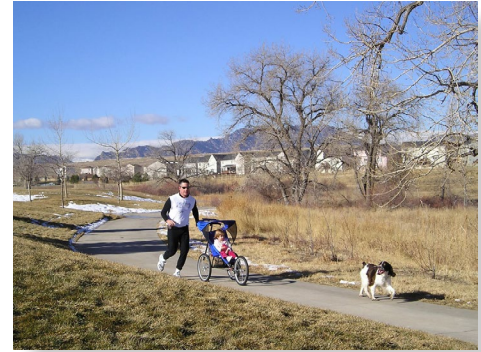
In many communities, including Carson City, access to scenic backcountry is an important aspect of the quality of life.

5

PATHWAY USER GROUPS

There are a variety of pathway user types in Carson City. A pathway system should incorporate the needs and desires of all of Carson City's residents. It is important to consider the needs of individual user groups to help identify:

- A. Routes – direct transportation routes to destinations (such as schools, shopping, employment) vs. scenic routes with views, variety, and leisure stops.
- B. Specific design considerations - surface materials, widths, maximum grades, signage, lighting, on-road/off-road, etc.



Hard surface pathways accommodate strollers as well as persons with disabilities.

5.1 WALKERS AND HIKERS

There is a wide range of pedestrian users. Exercisers walk and jog on sidewalks, streets, on paths in parks, and on trails through open areas. Walking for transportation is less evident in Carson City, perhaps in no small degree due to the lack of continuity of sidewalks. However, there are many residential areas in the City that are convenient to schools, parks, shopping, and employment centers and walking may increase with improved sidewalks. Sidewalks are important for those who must, or prefer to, walk to destinations. Pedestrians are the slowest users of pathways, and are the most vulnerable to other, faster types of use (cars, skateboards, bicycles, etc.). Therefore, pathways must be designed to particularly promote the safety of pedestrians. The City should particularly emphasize pedestrian uses in the vicinity of schools and businesses. Design considerations for pedestrians and hikers include the following:

- ❧ Pathways should be separated from automobile traffic
- ❧ Adequate separation should be provided along heavily trafficked roadways
- ❧ Hard surface pathways should be incorporated into the pedestrian system to accommodate persons with strollers
- ❧ Signage about proper trail etiquette
- ❧ For people with mobility limitations it is particularly important to assure that walks and trails have surfaces free of impediments and obstructions.

5.2 IN-LINE SKATERS/SKATE BOARDERS

Skate boarding and roller-blading require wide, hard surface trails. Skate boarders and in-line skaters generally prefer concrete paths to asphalt because it is smoother and faster. Considerations for skaters and skate-boarders users include the following:

- ❧ Maintain gentle grades
- ❧ Maintain adequate clear or recovery zones.
- ❧ Signage about proper trail etiquette
- ❧ Smooth surfaces



Skateboarders "tear it up" in the City's skateboard park but are also occasional trail users.

5.3 BICYCLISTS

Bicyclists include both off-road mountain bikers and on-street road bikers. Bicycling may include using bikes as a means to commute to specific destinations such as work, school, shopping, parks, etc. The on-street system of bicycle lanes serve the needs of commuters (generally adults) whose primary goals are efficiency and getting from “point A to point B” in a safe and direct manner.

The off-street path system includes a variety of types of trails that serve both recreation and transportation needs and have a strong emphasis for younger users. Design considerations for bicyclists include the following:

- ❧ Bike paths must have adequate sight distances at curves and intersections
- ❧ Bike lanes must have adequate width
- ❧ Construction that impacts bicycle and pedestrian facilities should provide traffic controls (cones, warning signs, detours, etc.) just as they would for vehicular traffic.
- ❧ Bicycle-responsive traffic signals are important for roadways that receive relatively high levels of bicycle use.
- ❧ Signs identifying bicycle lanes and shared streets are helpful to orient users and to remind drivers of the rights of other users of the roadway system
- ❧ Bicycle lane surfaces must be smooth, without cracks and uneven surfaces.
- ❧ Bicycle lanes must be kept free of sand and debris
- ❧ Signage about proper trail etiquette
- ❧ Bicycle lanes should be differentiated from automobile lanes by the installation of signs, pavement markings, and legends in accordance with the Manual on Uniform Traffic Control Devices.



The paved portion of this multi-use path accommodates all types of bicycles as well as other types of trail use.



An on-street bike lane is designated on the sides of this Carson City street.

5.4 EQUESTRIANS

According to the public opinion survey, approximately 8% of Carson City residents participate in horseback riding as a recreational activity¹. Horse related uses in Carson City include both horseback riding and carriage/cart driving. Currently, these users mainly ride in areas adjacent to their neighborhoods as well as on other BLM and State and US Forest Service lands. There are areas of the city that have concentrations of horse properties, and areas in and around Carson City that have traditionally been destinations for equestrian use. For example, there has long been significant equestrian usage in the Prison Hill area.



Carson City equestrians take advantage of access to B.L.M, U.S. Forest Service and Nevada Division of State Park lands as well as areas closer to the City.

¹ See Section 2.4.1

Horses may be ridden legally on streets in Carson City, unless otherwise posted. It may be unsafe to do so on streets carrying heavy traffic volumes or fast traffic. Horses are allowed on off-street unpaved trails and on the soft surface portion of multi-use trails (unless impassable, unsafe, or too narrow). Equestrians are allowed on shared use paths and trails that use Federal-aid transportation funds.²

Speed by other trail users (vehicles in particular, such as mountain bikes & OHVs) are a problem for horses, especially around curves with limited visibility.

Considerations for equestrian trails should include the following:

- ❧ Adequate parking for horse trailers at trail heads
- ❧ Hitching rails at trail heads, destinations and rest areas along the trails
- ❧ Signage about proper trail etiquette
- ❧ Access to clean, safe water, where practical
- ❧ Mounting blocks for disabled or ability-impaired riders at trailheads, destinations, rest areas, and areas where dismounting is required
- ❧ Where adjacent road traffic levels or speed make traditional equine routes unsafe, street-side paths should be provided
- ❧ Road shoulders, drainage and irrigation ditches and sloped embankments should not be considered equestrian paths without specific provision and maintenance for equestrian use



A bridle path next to a streetside trail with a fence separation.

5.5 OFF-HIGHWAY VEHICLE USERS

Off-highway vehicles (OHV) include a broad range of vehicle types: 2-wheel motorcycles, 3-wheel and 4-wheel ATV's, and 4-wheel drive enclosed vehicles. Some of the vehicles are typically licensed for on-street use, and many are not (especially 3- and 4-wheel ATV's). As a result, OHV use represents perhaps the broadest range of trail types. High-clearance two-wheel vehicles (motorcycles) can use single track trails, whereas 3- and 4-wheel vehicles are more suited to double track trails (wider trails that include small roads such as fire-roads). Some OHV use revolves around extreme challenges such as "rock crawling" and hill climbing, which are often not related to specific trails but are generalized use of a broad area.

OHV's allow users to reach areas further away from the city more quickly than do other types of trail use. At the same time, the speed and noise associated with some OHVs can be detrimental to the enjoyment of other trail users. Workshop participants indicated that joint use of trails by OHV and non-motorized users was possible with careful adherence to trail etiquette such as slow speeds and noise control in the presence of other trails users, stopping and shutting off engines when horses are passing, etc.

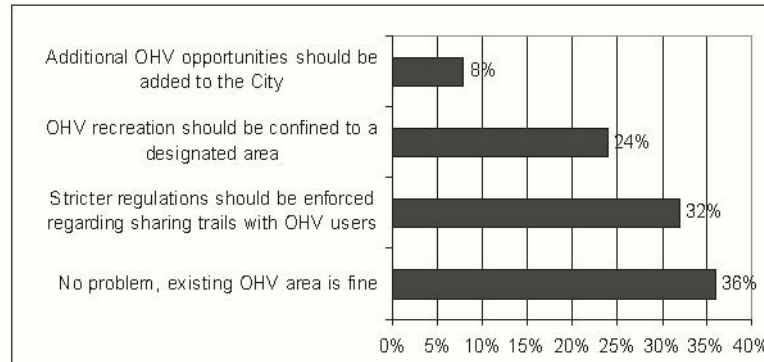


Motorized OHVs allow access to more remote areas than are easily accessible by foot, bicycle or horse.

² Federal Highway Administration Position Statement on Equestrian and Other Non-motorized Use on Bicycle and Pedestrian Facilities.

Although there is some OHV use in most of the area surrounding Carson City, according to participants at the Trails Workshop the majority of OHV use in Carson City is on the BLM land located to the east and north of the City—the Pine Nut Mountains. Many of the OHV users expressed the need for large areas designated for OHV use where there are no designated trails (e.g., rock crawling areas). OHV users also indicated a desire to increase OHV access to fire roads located on the peripheries of the city.

Opinions from the public opinion survey about OHV usage are shown below:



Considerations for OHV users include the following:

- There are ecological considerations such as soil erodability, riparian habitats, etc. that must be used to ascertain an area’s ability to sustain OHV use
- Provide adequate parking at trail heads (for OHV’s not licensed for street use)
- Coordinate trail access with uses allowed on public lands
- Signage about proper trail etiquette
- Adequate trail clearance
- Initiate an awareness program targeting young riders to provide education on responsible OHV use
- Locate trails in areas that don’t cause soil erosion
- Assure that noise, dust, and speed impacts of OHV use are controlled where they will diminish the enjoyment by other users

5.6 DOG OWNERS

The impacts of dogs on trails and sidewalks can be significant regarding both use and maintenance considerations. In addition to the potential for unwanted interactions, there is often significant amount of dog waste that accumulates on and along pathways unless picked up by responsible dog owners. Unleashed dogs that stray off the trail also have the potential to disrupt wildlife. As pathway usage and population increase, Carson City will need to review policies regarding dog owners on the City’s pathway system to provide clear regulations. Some considerations for dog owners include the following:

- Provide adequate number of dog waste stations along trails
- Signage about leash regulations
- Signage about proper trail etiquette



As population increases and trail usage expands, Carson City will need to provide clear standards for dogs on pathways.

5.7 PERSONS WITH DISABILITIES

According to the public opinion survey, approximately eight percent of the households in Carson City have at least one disabled person. Many sidewalks and trails in Carson City are not handicap accessible. Pathway considerations for people with disabilities include: smooth, consistent surfaces, wheelchair ramps at curbs, appropriate railings, and gentle grades. In mountain areas, it is not practical to make all trails meet disability standards. However, many pathways can be designed to meet accepted accessibility standards at little or no additional cost.³

Considerations for accessible pathways include:

- Gentle grades and parking areas should be incorporated into Carson City's accessible trails
- A variety of levels and types of trails should be provided to accommodate varying equipment and ability differences. Paved or firm surfaces may be able to accommodate the needs of most disabled people.
- Pathways should be designed to meet ADA requirements
- Loop trails should be provided wherever possible
- Other amenities related to disabilities should be provided such as trail ability levels, brail informational signage, and well-marked hazards.

5.8 RIVER USER GROUPS AND DEMAND

According to the Outdoor Industry Foundation Outdoor Recreation Participation Study (www.outdoorindustry.org) there were 22 million people canoeing, 10 million people kayaking, and 9 million rafting in the US in 2004. The majority of these persons live in the west. As the population in Carson City and adjacent counties increase, there will be increased recreational demands on the Carson River.

Whitewater enthusiasts tend to be young adults, with an average age between 24-54. Seventy percent are married, 65 percent hold at least a four-year college degree, and their average total household income is \$75,000 to \$125,000.

The Carson River aquatic trail can be enjoyed by a wide range of boating enthusiasts of all skill levels with emphasis on the beginner and intermediate levels. Canoeists, rafters, and inner tubers are the primary users of the Eagle Valley section. Boaters can also use open-deck and enclosed plastic kayaks. It is a good section for beginners and children to hone their river skills.

The Carson River Canyon section is appropriate for intermediate kayakers and rafters or expert canoeists with proper whitewater equipment. This section is not appropriate for beginner boaters or beginner and intermediate canoeists due to the frequency and complexity of the rapids, the potential for large strainers (fallen cottonwood trees in the main flow of the channel), and limited access.



Carson River aquatic trail can be enjoyed by a wide range of boating enthusiasts of all skill levels

³ As of September 2000, national ADA guidelines were still under review.

5.9 AGE/ABILITY LEVELS OF PATHWAY USERS

Pathways offer recreational opportunities for all abilities. Trails may be used by people learning a new sport such as those learning to ride horses, mountain bikes, or OHVs. Trails are also used by people who are familiar with a sport and are looking for challenging terrain.

Pathways are also used by persons of all ages. For children, there must be a heightened emphasis on safety. Pathways to schools should ideally be separated from motor vehicles and any road crossings should be carefully planned. The need for safe pathway access to city parks is also critical for school-age children.

- Pathways leading to schools should be separated from motor vehicles
- At-grade crossings, especially those near schools, should be carefully planned (raised crossings and flashing lights should be considered in areas near schools)
- For children and school access, off-street bike paths (or shared use paths) are more appropriate than on-street bicycle lanes



Off-street paths are especially important for youth, as well as elderly.

5.10 PATHWAY USER GROUP POLICIES

1. The standards of the Americans with Disabilities Act (ADA) should be applied to complete loops of pathways as well as individual segments that connect to trailheads. (Avoid ADA segments that are dead ends or inaccessible to people with disabilities.)

5.11 PATHWAY USER GROUP ACTIONS

1. With input from OHV users, other trail users, Federal and State agencies, resource management specialists, and the entire community, do a detailed evaluation and designation of trails suitable for OHV use.
2. Work with trail user groups to adopt pathway etiquette standards. Jointly disseminate pathway etiquette standards through: presentations to user groups, presentations at schools, trailhead signage, newspaper articles and/or paid advertisements and volunteer trail monitors observing compliance and reminding users.

6

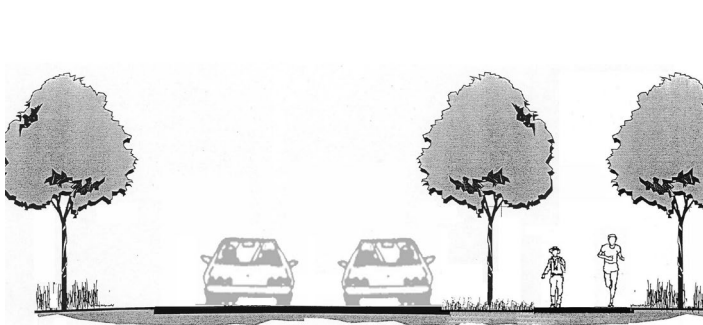
PATHWAY TYPES

A variety of pathway types are proposed for the City. These general types have been created to accommodate a variety of pathway users. Pathway types are intended to vary according to the anticipated amount of use, type of user, and type of area in which the pathway is located. In some instances, variations on these general prototypes may be necessary due to specific physical or financial constraints.

6.1 SIDEWALKS

Sidewalks are an essential element of pedestrian mobility. Since they generally follow the grid of streets, they provide access to most destinations in the city and connections between other types of pathways. They are important for any street type but probably receive most use on Local and Collector streets. High traffic speeds make Major Collectors and Arterial Roadways less desirable for sidewalks close to curbs. They should be separated from the roadway by a significant setback. Sidewalks can be attached to the back of curb, or preferably, separated from the curb by a “tree-lawn” or planting strip.

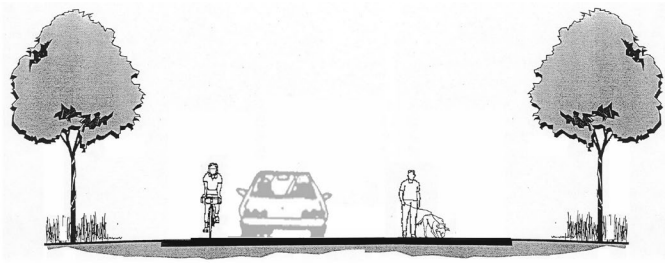
SIDEWALKS	
Location:	Adjacent to streets and road in developed areas
Width:	5' min, 8' to 20' in commercial areas
Surface:	Concrete
Amenities	Shade trees, safe crosswalks



6.2 SHARED STREET

Neighborhood streets that receive little vehicular traffic have been designated as shared street trails. These streets primarily serve as connections between other trail types. Shared streets can be used by pedestrians, bicyclists, horses, licensed OHVs, and skaters. Equestrians prefer streetside (or separated) soft surface trails rather than gravel shoulders. Shared streets should be identified by signage rather than symbols painted on roadways. Shared streets are not intended for use by unlicensed OHV's.

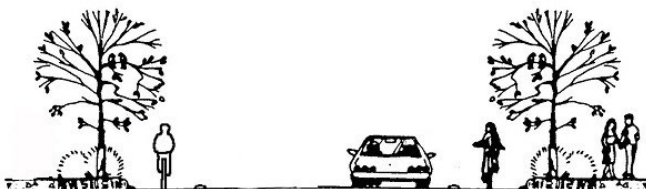
SHARED STREET	
Location:	Areas with low density development
Width:	Road R.O.W.
Surface:	Asphalt + shoulders + soft trail
Amenities	Prominent "Shared Street" signage, dog waste disposal station with trash cans



6.3 ON-STREET BIKE LANES

Roadways that have wide shoulders are ideal for on-street bike lanes. Bike lanes are typically located on the road surface either against the curb or between the parking lane and the travel lane. Bike lanes should be differentiated from automobile lanes by the installation of signs, pavement markings and legends in accordance with the Manual on Uniform Traffic Control Devices. Bike lanes can serve as commuter bike routes, connecting throughout the city. They are also used by

ON-STREET BIKE LANES	
Location:	Developed urban areas, along shoulders of existing roadways
Width:	Minimum 4'
Surface:	Asphalt
Amenities	Visible lane striping and bicycle symbol, "Bike Lane" signage visible to vehicles

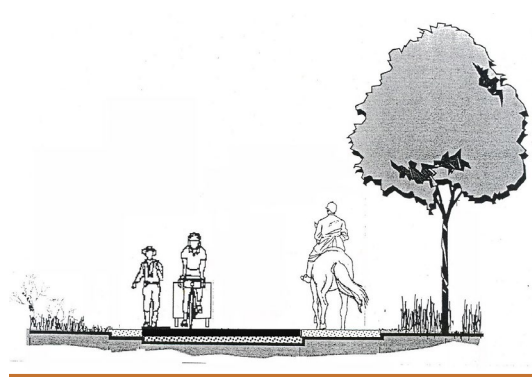


recreational riders. Motorized vehicles are typically not allowed to use bike lanes.

6.4 OFF-STREET/MULTI-USE TRAIL

The off-street paved multi-use trail can include both paved and unpaved surface. The paved portion of the trail is designed to accommodate pedestrians, skaters, and bicyclists. The unpaved surface is typically used by equestrians, pedestrians,

OFF-STREET/MULTI-USE TRAIL	
Location:	Areas with heavy use by a variety of user groups
Width:	Concrete or asphalt + soft surface path (may have independent alignment)
Surface:	10-12' wide (optimum) for hard surface, soft surface = 4' wide for joggers, 8'+ for horse use (total of 24' optimum)
Amenities	Benches, shade trees, lighting, mileage markers, safety signage, use identification signage, regulatory signage, and educational signage

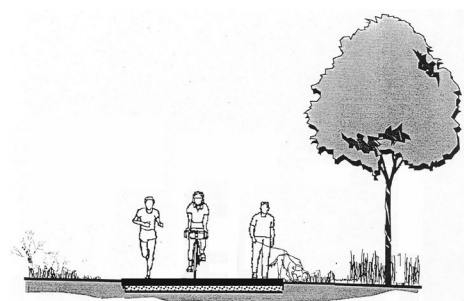


and mountain bikes. They can serve as connections to schools, parks, and other destinations within the City's core area.

6.5 OFF-STREET/PAVED/SHARED TRAIL

The paved shared trail can be used by bicyclists, pedestrians, and skaters. They can be used in areas where the existing R.O.W. is not large enough to accommodate a paved multi-use trail. Paved/shared trails can serve as connections to

OFF-STREET/MULTI-USE TRAIL	
Location:	Areas with heavy use by a variety of user groups
Width:	12' wide optimum, 8' wide minimum
Surface:	Concrete or asphalt
Amenities	Benches, shade trees, mileage markers, lighting, safety signage, use identification signage, regulatory signage, and educational signage

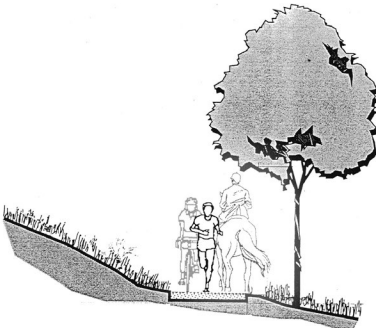



schools, parks, and other destinations within the City's core area.

6.6 OFF-STREET/UNPAVED/SINGLE TRACK

The single track trail is primarily designed for mountain bicyclists, equestrians, and pedestrians. They may be used by two-wheeled OHVs in designated areas related particularly to environmental conditions, noise, and speed impacts on other users. Single track trails are typically located outside of the City's urban area.

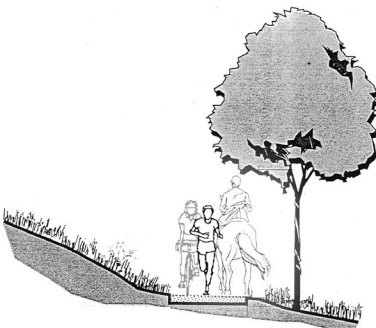

OFF-STREET/UNPAVED/SINGLE TRACK	
Location:	Open lands, Mountains
Width:	2' to 4' wide (maximum)
Surface:	Natural or soft surface
Amenities	Signage conveying regulations and environmental information

6.7 OFF-STREET/UNPAVED/DOUBLE TRACK

The double track path can be used by a variety of user groups including bicyclists, pedestrians, and equestrians. OHVs may use these trail in designated areas only. Double tracks are located primarily outside of the City's urban area and are often located on fire-access roads.

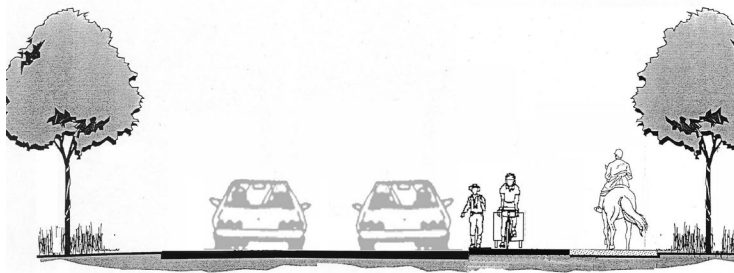
OFF-STREET/UNPAVED/DOUBLE TRACK	
Location:	Open lands, Mountains
Width:	12' wide standard, 10' minimum
Surface:	Natural or soft surface
Amenities	Regulatory and environmental signage

6.8 BRIDLE PATH

While there are currently no designated areas for bridle paths in the UPMP, this trail type is proposed for areas of heavy traffic or other unique circumstances where it may be desirable to provide a separate soft surface path for equestrians (and walkers/joggers).

BRIDLE PATH	
Location:	Areas with heavy or fast traffic
Width:	12' minimum width for equestrians, carriages, joggers
Surface:	Soft surface
Amenities	Shade trees, signage. Soft surface may be separated by fence from traffic or sidewalks.



6.9 AQUATIC TRAIL

The Carson River Aquatic Trail (CRAT) can be used by unmotORIZED watercraft including canoeists, rafters, kayakers, and inner-tubers. The CRAT is limited to use when the water levels are sufficient, typically in the spring and early summer.

AQUATIC TRAIL	
Location:	Carson River Corridor from Sierra Vista Lane to the Lyon County line. Through Lyon county, down to Santa Maria Ranch.
Width:	10.1 miles in Carson City and 3.6 miles in Lyon county. Approximate total: 13.7 miles.
Surface:	Water
Amenities	Defined parking area, river safety signage, restrooms and trashcans at river access points.



7.1 SIDEWALK INVENTORY

An inventory of sidewalk conditions in Carson City revealed a number of concerns about the continuity and conditions of sidewalks. Conditions included: road sections with no sidewalks, too narrow sidewalks and sidewalks impeded by obstructions (benches, street light poles, power poles, fire hydrants, and vegetation). In addition, numerous problem conditions were discovered, for example at block corners where missing or improperly designed ramps that are necessary for access by disabled or impaired persons, strollers, and small children on bikes.

The sidewalk inventory is summarized below: (Refer to maps in Appendix 13.3)

CONDITIONS	LOCATIONS		
	ARTERIAL ROADWAYS	COLLECTOR STREETS	LOCAL STREETS
Roadway segments without sidewalks	38 miles	59 miles	218 miles
Sidewalk upheavals	1	9	154
Sidewalk clearance problems		1	6
Sidewalk obstructions	7	61	237
Block corners without ramps	3	317	1829
Ramps without textured surfaces	36	88	252
Ramps with too-high lip	1	54	72
	Intersection	Mid Block	School Zones
NUMBER OF CROSSWALKS	583	41	84

In addition, there are 19 corners at pedestrian signals with non-accessible push buttons to children and/or people with disabilities.

Pedestrian and bicycle crash data for Carson City the 3 years from January 2001 through December 2003 revealed:

- 109 total pedestrian/bicycle crashes occurred, with three fatalities.
- Pedestrian crashes accounted for 50 percent (55 crashes) of all the crashes and for all three of the fatalities (bicycle crashes accounted for the remaining 54 crashes).
- More pedestrian crashes occurred during the pedestrian friendly conditions (i.e. warm weather, afternoon, clear skies, etc. rather than inclement weather with poor visibility or street conditions).
- Over 80% (49 crashes) of the pedestrian crashes were head-on. Major contributing factors were pedestrian in the roadway (46% -- 25 crashes) and failure to yield at crosswalks (44% -- 24 crashes).
- More than half of the pedestrian crashes occurred at an intersection (30 crashes), while 18 of these (33%) occurred at unsignalized intersections.

The raw crash data and percentage breakdowns are listed in Appendix 13.3.

¹ Excerpted from "Pedestrian Plan and Update to the Bicycle Plan Inventory Database" Orth Rodgers, 2005.

7.2 SIDEWALK DEMAND FACTORS

The deficiencies identified previously in the sidewalk inventory are significant impediments to walking in Carson City. Providing high quality sidewalks in existing and developing areas within the Carson City region will allow, and even promote, a higher level of walking—with significant public benefits: convenience and safety for those with limited access to cars, opportunities for exercise, increased ability to allow children to walk to school, and a contribution to reduction of vehicular congestion.

With significant sidewalk deficiencies in many areas, where should the City focus its efforts? A number of factors help identify the areas of highest sidewalk demand, including:

- ✧ **Trip Distance** – Generally, for transportation purposes (including walking to a park) studies have shown that pedestrians will walk ¼ mile or slightly more. Recreation trips may range from 0.5 to several miles for fitness walkers and joggers.
- ✧ **Trip Purpose** – Trip “chaining” (multiple visits, whether there will be things to carry (i.e., packages, briefcases, groceries, etc.), and appropriate attire (work vs. recreation) all affect the decision to walk. In general, willingness to walk may be ranked in the following order of trip purpose:
 - School
 - Work
 - Shopping
 - Recreation

Primary commercial areas are located along Carson Street and Highway 50/William Street. Employment centers are concentrated along Highway 50 and Carson Street, with emphasis on the area between Roop Street and Minnesota Street, south of William Street. The government core is located along and adjacent to Carson Street between Highway 50 and 5th Street.

- ✧ **Land Use Density** – Areas with higher densities and mixed land uses usually have more destinations within the walking threshold and therefore are more likely to encourage walking. Areas with the highest population density include the following:
 - the triangle created by Highway 50, Carson Street, and College Parkway
 - the area located between Highway 50 and Butti way and bordered east and west by Gregg Street and Lompa Way, respectively
 - the area bounded by William Street, Saliman Road, Little Lane, and Roop Street
 - the polygon created by Carson Street, Fairview Drive, Edmonds Drive, and Koontz Lane
- ✧ **Demographics** – As discussed in Chapter 3, demographic characteristics have an effect on the level of pedestrian travel in an area. These factors include:
 - **Vehicle Ownership** – Walking provides an alternative mode of travel for households without vehicles (due to income or age) and a low-cost alternative in areas of predominantly low income households. The area with the highest percentage of households with no vehicles is located south of Highway 50 and north of Fairview Drive. The area is bounded on the east and west by Ormsby Boulevard/Terrace Street and Edmonds Drive, respectively. Areas with the highest percentages of households earning less than \$20,000 per year are located primarily in three areas: the triangle created by Carson Street, College Parkway, and Northgate Lane; the area bordered by Highway 50, Carson Street, Winnie Lane, Roop Street, Beverly Drive and Camille Drive; and the area located west of Curry Street and South of 5th Street.
 - **Age** – While all ages are capable of walking, the younger members of the population (i.e., school-

age children who do not yet have driving privileges) often rely on this mode to travel, primarily for school and recreation purposes. The self-sufficiency of elderly populations is greatly increased if they have facilities enable them to walk to essential services and recreational destinations.

⌘ **Traffic Congestion** – The inconvenience of traffic congestion (more than the cost of gas) will cause people to change to alternative modes, if safe, convenient, and enjoyable routes are available.

⌘ **Sidewalk and Trail Continuity** – If continuous routes to major destinations are available, and the more convenient walking is, the more likely it will be considered as a viable way to travel.

⌘ **Transit Routes** – Four fixed transit routes have been recently implemented from the Carson City “Short Range Transit Plan” (Nelson-Nygaard 2005). These are as follows:

- Route 1: Medical Route – joins the Medical Center to the Senior Center, downtown neighborhoods, and the commercial district
- Route 2A and 2B: Grand Loop Route – local bi-directional circulator that provides east/west service
- Route 3: Southern Route - provides service between downtown and the Douglas County Carson Valley Plaza.

Research shows that pedestrians are generally willing to walk between 0.5 to 1 mile to reach a bus stop. A 0.75 mile zone was used to determine the walkable areas surrounding these routes. This is further accentuated by the fact some of the transit users may be elderly or disabled. These four routes are depicted in Appendix 13.3. The Jump Around Carson (JAC) bus system locates stops at approximate 0.2 mile intervals in most developed areas.

⌘ **Facility Safety/User Security** – Safety and security of sidewalks are obviously essential. This includes:

- separating the sidewalk from high-speed vehicular traffic
- clearly marked road crossings with median



An example of sidewalk conditions that discourage walking: narrow walk, adjacent to fast-moving traffic, unprotected from cars backing onto walk and lack of shade.



Desirable sidewalk conditions include: separation from traffic, shade and at least 5- to 6-foot wide.



While all ages walk, children are often more dependent on sidewalks for recreation and walking to school.

- refuges for busy streets
- appropriate traffic signals or flashing signals (including pedestrian actuated in school zones)
- sufficient width to accommodate comfortable passing of other users
- shade
- clean, obstruction-free surfaces
- appropriate lighting levels for nighttime use

The crash data analysis strongly suggests the need to improve crosswalk and intersection conditions. Introducing better crosswalk markings and traffic signals or flashing signals will make drivers more aware of the presence of pedestrians. Further, an increased number of sidewalks will help keep pedestrians off the roadways. As the pedestrians are provided more continuous sidewalks, the conflicts between pedestrians and the adjacent traffic will decrease.

Additional factors, such as weather and topography, also influence the use of sidewalks. They are considerations in the design and maintenance of walks (freezing snow melt, traction, sedimentation, etc.).

A summary map that illustrates the sidewalk demand factors is shown below. Maps of individual components are included in Appendix 13.7.

7.3 CROSSWALKS

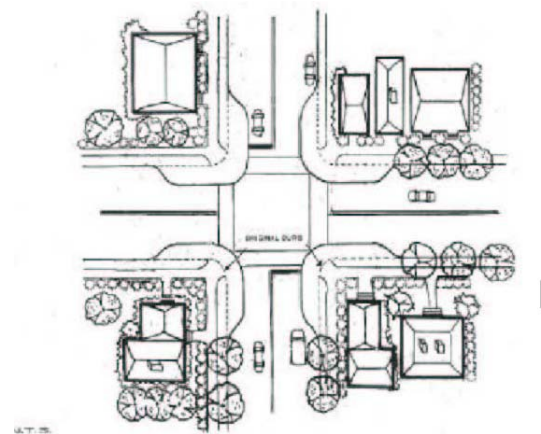
In addition to providing safe and connected pathways for non-motorized modes, it is important to ensure safe street crossings. The inventory of the sidewalk and bike lane system in Carson City included analysis of existing marked roadway crossings. This included crossing pavement-markings, traffic signal controls, warning signals, and school zones. Key crossing points are locations experiencing high non-motorized traffic, significant motorized traffic, or both. Key crossing locations can then be given a higher priority for any needed upgrades.

One of the tools for improving roadway crossings is traffic calming. Traffic calming is defined by the Institute of Transportation Engineers (ITE) as: “the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users.” (PennDOT 2001)

Traffic calming measures are mainly used to address speeding and high cut-through traffic volumes on neighborhood



Poorly maintained crosswalk markings send subtle signals about the importance of pedestrians.



Corner “bulbouts” decrease street crossing distance and are traffic calming devices that narrow street and slow traffic.



Medians create a “refuge” for pedestrians crossing wide streets and, with tree planting, tend to slow traffic.

streets where non-motorists are intimidated, or even endangered, by motorized traffic. Cut-through traffic is often perceived as being faster than local traffic. Cut-through traffic becomes a concern especially when larger commercial vehicles are involved. Traffic calming can increase both the real and perceived safety of pedestrians and bicyclists, and improve the quality of life within the neighborhood. (Paraphrased from PennDOT 2001)

Traffic calming measures can also be used to reduce the crossing distance for pedestrians, reduce the speed of conflicting traffic, and make both drivers and pedestrians more aware of each other.

Some examples of traffic calming and street crossings are shown in the following graphics. These should be applied to intersections throughout the city.



Examples of effective traffic calming

7.4 SIDEWALK GOALS

1. Provide optimized pedestrian circulation throughout the Carson City urbanized area, including new and developing areas

7.5 SIDEWALK POLICIES

1. Comply with relevant ADA Accessibility Guidelines (ADAAG) and American Association of State Highway and Transportation Offices (AASHTO) guidelines in all facets of pedestrian accommodation, including sidewalks, intersections, traffic signals, transit interfaces, and parking facilities, as well as off-street development of public places.
2. Enhance the pedestrian experience
3. Coordinate all pedestrian transportation enhancement projects with the UPMP, the Parks and Recreation Plan, other portions of the Regional Transportation Plan, and other planning tools as may be appropriate.
4. Ensure the consistency of the Carson City pathways planning effort with that of adjacent or overlapping agencies.
5. Ensure the connectivity of pathways in developing areas by requiring sidewalk/path connections between cul-de-sacs, and connections to adjacent paths (existing or future).
6. Emphasize pedestrian needs in the design of downtown sidewalks, street crossings, and access design. Ensure that sidewalk/parking lot interfaces are properly sized and designed to accommodate anticipated pedestrian loads.

7. Sidewalks are a vital component of all new development, and on-site sidewalks design must include adequate provision for interface with off-site walkways.
8. Increase transportation system functionality by developing and promulgating standards and practices that enhance interface between pedestrians and other modes, including bicycle and transit. This may involve mandating new development place greater emphasis on bicycle rack placement, transit stop design, on and off-street parking accessibility, and related intermodal concerns.
9. At-grade crossings must be designed to equally consider vehicular and trail user safety (pedestrian-actuated crossing lights, median “safe zone,” raised or texture change crossing surface, etc.).
10. Shared-use street designation is appropriate for streets with less than 2000 ADT.

7.6 SIDEWALK IMPLEMENTATION

7.6.1 PROJECT TYPES

The following types of improvements are recommended for the Carson City area pedestrian plan:

- Upgrade existing sidewalk ramps at intersections to provide truncated domes as the tactile surface in the urban core.
- Install sidewalk ramps at intersections where they do not currently exist.
- Remove or relocate sidewalk obstructions.
- Provide access, compliant with ADA standards, to pedestrian push buttons at signalized intersections.
- Install sidewalks where they do not currently exist either on or parallel to arterials and collectors that connect to significant destinations.
- Install high visibility crosswalks at arterial/arterial, collector/collector, and arterial collector intersections where they do not currently exist, including upgrading existing crosswalks.

Locations for these improvements are included in the Appendix 13.3.

7.6.2 PROJECT PRIORITIZATION

Sidewalk improvement projects should be included in all roadway projects and roadway reconstruction/rehabilitation projects (except for limited-access roadways). To prioritize these sidewalk improvement projects, the following criteria are recommended:

- Lack of sidewalk
- Existing or projected pedestrian volumes exceed sidewalk capacity
- Major pedestrian generators are located within ¼ mile
- Speeds on adjacent roadways make the use of shoulders unsafe or uncomfortable for pedestrians
- Local and Collector Streets generally have a higher level of pedestrian use, and higher sidewalk priority, than Arterials—except in the Downtown and Commercial Activity Centers
- Crash data suggests that a safety problem exists
- The sidewalk is within a walk-to-school zone as specified by school district policy
- Opportunity of scale: If there is a project in the area, explore incorporation of other projects nearby
- The sidewalk is within a walk-to-transit zone (0.75 mile)
- The sidewalk is within a medium (or higher) density neighborhood or mixed use center
- The sidewalk is in a neighborhood with an average income of less than 50% Area Median Income (AMI)
- Sidewalk section is (or would be) part of linkage to a significant destination
- There is strong neighborhood support for the sidewalk improvement(s)
- The sidewalk improvement can be funded and constructed in conjunction with other street improvements

The locations of many of these conditions are mapped in Appendix 13.7. The above could be used as a checklist for evaluating competing projects. For example, projects in areas exhibiting more of the conditions would have a higher priority than areas with fewer of these conditions. The relative importance of these factors may need to be considered (perhaps by assigning a weighting factor) on a case-by-case, or year-by-year basis. For example, over the next 5 years, a high priority should be given to ADA-related sidewalk and intersection improvements that Carson City is required to make by an agreement with the U.S. Department of Justice.

Key locations for ADA intersection improvements:

- *Roop Street and Hot Springs Road*
- *Goni Road and College Parkway*
- *Arrowhead Drive and Highway 50*
- *Carson Street and Hot Springs Road*
- *Lompa Lane and Highway 50*
- *Roop Street and Highway 50*
- *Saliman Road and Highway 50*
- *Russell Way and Highway 50*
- *Stewart Street and Washington Street*
- *Saliman Road and Fifth Street*
- *Roop Street and Little Lane*
- *Saliman Road and Fairview Drive*

The following ADA-related improvements are prioritized according to the Department of Justice agreement:

1. Pedestrian signals with non-accessible push buttons
2. Grooved ramp surfaces
3. Corners without ramp surfaces
4. Ramp lip heights greater than 0.5 inches
5. Ramps without treatment
6. Driveway side slope issue
7. Sidewalk clearance issue
8. Sidewalk obstruction
9. Check for connectivity
10. Include ADA improvements with roadway improvement projects

7.6.3 PRIORITY CORRIDORS FOR SIDEWALK IMPROVEMENTS

Combining all of the sidewalk demand factors described in Section 7.2 and the prioritization criteria above, leads to the following areas (and corridors) for sidewalk improvements, in order of priority:

- The pedestrian zone around elementary and middle schools
- Carson Street Corridor (including immediately adjacent and parallel streets):
 - Stewart Street to Hot Springs Road
 - Koontz Lane to Stewart Street
 - Hot Springs Road to College Parkway
- William Street Corridor (including immediately adjacent and parallel streets):
 - Division Street to Saliman Road
 - Saliman Road to Graves Lane
 - Graves Lane to Deer Run Road

School zones are given the highest priority to provide safety for, and encourage walking by, children. The Carson Street and William Street corridors are given higher priorities because their land uses (retail commercial, and single- and multi-family residential) are more likely to encourage walking.¹

¹ Currently, the Carson City School District's walking boundary is one mile for elementary schools and two miles for middle and high school. Therefore, school-age pedestrians are more likely to be present in the areas near schools.

7.6.4 RECOMMENDED PROCEDURES

As future road projects are identified and potential corridors or improvement areas are determined, they can be overlaid on the Pedestrian Inventory maps to determine the pedestrian improvements that should be incorporated.

The determination of specific projects will depend on a number of factors, such as funding, public requests, or adjacent roadway improvement projects. Location priorities may also change over time as funding and other opportunities arise. The following sections provide potential projects to be included in the City's Capital Improvement Plan as well as recommended practice for prioritizing these projects.

An important step in this process is to assemble the various projects into short- and long-term action plans (packages of projects). For example, one element could be a plan to replace below-standard sidewalks along collector roads within 0.5-1.0 miles of a school. The objective is to develop an overall plan that will address some of the most critical sidewalk needs in the community.

To assist in this process, a series of maps are included herein depicting potential pedestrian projects within the priority zones. These are included in Appendix 13.3. Additional projects may be determined from the Sidewalk Inventory.

7.6.5 ON-GOING SIDEWALK IMPROVEMENT ACTIONS

1. Maintain an inventory of existing pedestrian facilities, including site-specific and systemic deficiencies, particularly those which constitute "missing links." Develop a plan to prioritize and improve deficiencies. Identify all available funding sources for pedestrian enhancements.
2. Regularly evaluate available pedestrian crash histories to determine if specific safety concerns can be identified and remedied. Establish a plan to improve safety at high crash locations.
3. Develop sidewalk and street crossing design, construction, and maintenance standards. Standards should distinguish between urban and rural standards. Base standards on the Nevada Pedestrian Plan and Design Guidance (NDOT, due for release in early 2006) and Guide for the Planning, Design, and Operation of Pedestrian Facilities (AASHTO, 2004), with modifications as appropriate to address specific Carson City-area needs. Where traffic control devices are involved, standards should conform to the Manual on Uniform Traffic Control Devices (FHWA, 2003 or subsequent updates).
4. Develop and adopt crosswalk marking standards which are attractive and safe and which comply with NDOT practices to be issued in 2006 as an addendum to the AASHTO, Guide for Planning Design, and Operation of Pedestrian Facilities. Utilize the pedestrian facility inventory database to identify locations requiring improvement.
5. To ensure compliance with appropriate ADA Accessibility Guidelines, develop a plan and a funding program to retrofit existing facilities to a state of ADA compliance over a reasonable period of time. Utilize the pedestrian facility inventory database to identify and prioritize locations requiring improvement.
6. Develop standards for landscaping sidewalks and paths incorporating practical constraints imposed by geometrics, ADA accessibility requirements, budgetary considerations, and maintenance feasibility.
7. Work with other agencies, including the Carson City Convention and Visitors Bureau, to develop walking maps that make sidewalks more useful and attractive to residents and visitors.
8. Develop and maintain a community-wide Safe Routes to School Program in accordance with the federal legislation (such as the 2005 SAFETEA-LU), and seek funding available under that legislation. Carson City should take an aggressive stance in applying for a fair share of Nevada's portion (5 million dollars) of the \$612 million dollars available for the 2006-2009 timeframe.
9. Develop specific standards for sidewalks in higher density districts (governmental core, the historic district, or areas of concentrated gaming and resort development) that generate extraordinary pedestrian demands not reflected in conventional development standards. Consider for example, wider sidewalks, crosswalks, and ramps.

Improved on-street bike lanes increase the safety of riders and potentially encourage more bike travel - reducing congestion and pollution and an increasing the health of the community. Specific objectives include the following:

- High degree of safety
- Relative ease of maintenance
- Continuity and Interconnectivity
- Coordination with land use planning

8.1 DEFINITIONS

The following terms are derived from the Manual on Uniform Traffic Control Devices (MUTCD) and American Association of State Highway and Transportation Officials (AASHTO):

TERM	DEFINITIONS
Bicycle facilities	A general term denoting improvements and provisions that accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically designed for bicycle use.
Bicycle lane	A portion of a roadway that has been designated by signs and pavement marking for preferential or exclusive use by bicyclists.
Bikeway	A generic term for any road, street, path, or way that in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes. Bicycle routes, which might be a combination of various types of bikeways, should establish a continuous routing. Bikeway route signs may have specific bicycle route numbers.
Designated bicycle route	A shared roadway designated for bicycle use only by signage.
Shared-use path	A bikeway outside the traveled way and physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent alignment. Shared-use paths are also used by pedestrians (including skaters, users of manual and motorized wheelchairs, and joggers) and other authorized motorized and non-motorized users.
Shared roadway	A roadway open to both bicycle and motor vehicle travel.
Bicycle route system	A system of bikeways designated to establish a continuous routing, but may be a combination of any and all types of bikeways.
Signed shared roadway (signed bike route)	A shared roadway which has been designated by signing as a preferred route for bicycle use.
Roadway	The portion of the highway, including shoulders, intended for vehicular use.

¹ Excerpted from "Pedestrian Plan and Update to the Bicycle Plan" Inventory Database. Orth Rodgers, 2005.

8.2 CRASH HISTORY

Pedestrian and bicycle crash data for Carson City for the 3 years from January 2001 through December 2003 indicate 109 total crashes occurred with 3 fatalities. Bicycle crashes accounted for 50 percent (54 crashes). The 3 fatalities were pedestrian crashes. The raw crash data and percentage breakdowns are listed in Appendix 13.3. The bicycle crash data was analyzed against time of year, time of day, weather conditions, light conditions, vehicle direction, vehicle contributing factor, and cyclist action. The following statements summarize the results of these analyses:

- ⌘ Time of year, time of day, weather conditions, and light conditions all led to the same conclusion: More crashes occurred during bicycle friendly conditions (i.e. warm weather, afternoon, daylight, etc.).
- ⌘ Over 75% of the bicycle crashes were head-on. This maintains that cyclists are present in the roadway, or drivers are not staying attentive as they progress through crosswalks. Major vehicular contributing factors are improper action on a pedalcycle (60% -- 32 crashes) and failure to yield (31% -- 17 crashes).
- ⌘ Another telling contributing factor of this study was the location of each crash in regards to the street. Over half of the crashes occurred at an intersection (31 crashes total), while 35% of these (19 crashes) occurred at unsignalized intersections.

The crash data analysis revealed the need to increase the awareness of cyclists and reduce the mixing of vehicular traffic and cyclists. Increasing bicycle lane striping and signage will raise driver awareness of cyclists. Increased crosswalks, bike lanes, and signage will help provide positive guidance to the cyclists and limit their presence on the roadways. As the cyclists are provided more designated facilities, the interactions between them and the nearby traffic will decrease.

8.3 BIKEWAY DEMAND

Factors affecting the use of bicycle facilities and a methodology for determining the bicycle travel demand are summarized in this section.

8.3.1 FACTORS AFFECTING BICYCLE FACILITY USE

As with pedestrian facilities, there are a number of influencing factors that should be taken into account in the planning and design stages of future bicycle facilities. These include, but are not limited to, the following:

- ⌘ **Trip Distance** – Bicycle trips typically begin or end approximately 2 to 3 miles from the facility or destination being considered, significantly further than the thresholds for pedestrian trips.
- ⌘ **Trip Purpose** – Some trip purposes to consider specific to bicycling are:
 - Work
 - School
 - Recreation
 - Shopping
 - Errands
- ⌘ **Land Use Density** – As with walking, areas with higher densities and mixed land uses are more likely to encourage biking. Again, this occurs because destinations in higher density areas are often located within the general thresholds for bicycling.
- ⌘ **Demographics** – A variety of demographics have an effect on the amount of bicycle travel in an area. These factors include:
 - **Vehicle Ownership** – Like walking, biking is a convenient mode of transportation, especially for households without vehicles.

- Income – Because bicycling is relatively inexpensive, it is a viable travel mode for low income households.
 - Age – As with walking, the younger members of the population (i.e., school-age children who do not yet have driving privileges) often rely on bicycles as their primary mode of travel to school and for recreation.
- Population and Employment Densities** – As mentioned previously, biking is a popular way to travel in higher density areas, as destinations tend to be close to trip origins. Also, the roadway network in these highly occupied areas is often congested, causing significant travel delays that can be avoided by bicycling.

- ⌘ **Facility Continuity** – Facility continuity is important to bicycle travel, as bicycles are generally traveling at a faster rate and don't have as much time to make decisions on where to stop or turn. Traffic control devices like signing and pavement markings can be used to improve bicycle facility continuity, as they provide users with guidance.
- ⌘ **Facility Safety/User Security** – Some specific design factors should be taken into account including bike lane width, grade and cross slope, vertical clearance, alignment, sight distance, traffic control devices, and security lighting.
- ⌘ **Amenities** – Bicycle racks, bicycle lockers, showers, water fountains, etc.

8.4 BIKE LANE POLICIES

1. Consider bicycles to the same extent as other travel modes in all aspects of developing the transportation system.
2. Keep the UPMP current.
3. Ensure bicycle facilities are included in all roadway improvement and development projects within the Carson City boundaries. Consider bicyclists as users in the design and construction of all roadway projects.
4. Provide adequate, predictable, and dedicated funding to construct and maintain bicycle lane improvement projects as identified in the UPMP.
5. Recognize the importance of bicycling for commuter trips, destination trips, and recreation trips when defining and prioritizing the Bicycle Plan.
6. Coordinate the planning, design, and construction of bicycle lanes with other agencies and municipalities within Carson City boundaries, continuing into neighboring jurisdictions.
7. Integrate bicycle lanes and facilities into the future fixed route transit system. Include bicycle storage at fixed route stops or bicycle racks on the transit vehicles.
8. Public Works department will be primarily responsible for the planning, construction, and maintenance of bicycle lanes. Coordinate bicycle lanes with other pathways of the UPMP to ensure continuity of routes.
9. Use the following criteria to assign priorities to bicycle lane projects:
 - address safety or hazardous conditions
 - provide key bicycle linkages in the urban area of the Carson City first
 - provide access to community activity centers (parks, schools, etc.)
 - take advantage of bicycle lanes provided by roadway improvement projects by providing key linkages
 - complete planned bicycle lanes or trails
 - provide linkages to the transit and school bus systems
10. Design standards for bicycle lanes shall be the most current edition of the "Guide for the Development of Bicycle Facilities" (AASHTO) and the "Manual of Uniform Traffic Control Devices" (MUTCD).
11. Address persons with special needs in designing, implementing, and maintaining bicycle transportation projects. Requirements of the Americans with Disabilities Act as amended shall be addressed for both public and private projects.
12. Establish and fund a training and education program to increase the awareness of City staff about bicycle needs including design standards, construction signing, maintenance needs, and increased technical expertise.
13. On- street bike lanes should be designed and monitored to improve security and safety. Establish regular, scheduled pathway maintenance, pavement and shoulder repair, vegetation placement/removal, and police pa-

trols. Allow different levels of maintenance for each facility based on amount and type of use or exposure to risk.

14. Assure that bicycle lanes are provided, where consistent with the UPMP, in and adjacent to development projects. Encourage development projects to provide linkages to existing or proposed bicycle facilities.
15. Require new or renovating properties to provide bicycle parking. Consider other facilities to encourage the use of bicycles.
16. Coordinate the planning, development, and funding of bicycle systems with affected citizens, neighborhood associations, and business groups.
17. Establish numbered bike routes with other counties, such as US395 and US50. Work toward interstate bike routes with adjoining states
18. Carson City may periodically close trails for rehabilitation of trails, sensitive lands, and watersheds.

8.5 BIKE LANE PROJECTS

The following projects are recommended for addition to the bicycle lane system:

1. Provide signage as required by the Manual on Uniform Traffic Control Devices
2. Provide additional bicycle routes in the vicinity of two schools, Mark Twain Elementary and Empire Elementary. Evaluate the feasibility of implementing bikeways along these routes.
3. Continue to review opportunities to accommodate a shared-use trail adjacent to the freeway corridor from the Linear Park south to the Edmonds Sports Complex, working with NDOT staff during the freeway design process. This is the preferred route over the Saliman Road path alignment if feasible.
4. Provide bike lanes from the Carson City Freeway's paved multi-use path along Emerson Drive south to College Parkway and establish a path along the Freeway from Emerson Drive to Hot Springs Road and bicycle lanes along Hot Springs Road to College Parkway.
5. Study the feasibility of creating bicycle corridors (bikeways) along Mountain Street and Saliman Road.

TABLE 8-1 - PROPOSED SCHOOL-RELATED BICYCLE ROUTES

SCHOOL	FACILITY ADDED TO:	STARTING POINT	ENDING POINT
Mark Twain Elementary Area	Marian Avenue	Long Street	Rolling Hills Drive
	Lindsay Lane	Joshua Drive	Carriage Crest Drive
	Carriage Crest Drive	Camille Drive	Wind Ridge Drive
Empire Elementary Area	Gordonia Drive	Airport Road	Monte Rosa Drive
	Stanton Drive	Mone Rosa Drive	Woodside Drive
	Monte Rosa Drive	Desatoya Drive	Woodside Drive
	La Loma Drive	Desatoya Drive	Selby Street

9.1 PROPOSED TRAIL COMPONENTS

There are many more actual trails than shown on the UPMP. The trail alignments shown are intended to represent the primary 'framework,' or major structure of Carson City's trail system. It is intended to serve as the guiding document for the expansion of Carson City's trail system and will be incorporated into the City's overall Master Plan.

For trails on land on which the City does not have jurisdiction (federal, state, Washoe Tribe, Bureau of Indian Affairs (B.I.A.) or adjacent counties), the Plan is intended to reflect proposals or wishes of the City with regard to pathway connectivity and continuity of uses between Carson City and the respective agency, as well as the potential sharing of maintenance, signage, and management. Of course, Carson City recognizes that the actual uses of those trails and decisions about changes in uses or alignment are the purview of the respective agencies. The City encourages these agencies to consider the designations on the UPMP as input to the decision-making process of each agency. The City stands ready to provide planning and coordinating efforts with these agencies and to cooperate in resolving inconsistencies and in making adjustments to the UPMP that are beneficial to the overall system.

The proposed trail system reflects the general desires of Carson City residents as well as the future recreation and transportation needs of the City. Comments from residents were incorporated into the UPMP as were comments from City staff.

In general, trail alignments were chosen based on the following criteria:

9.1.1 CONNECTING EXISTING TRAIL CORRIDORS

Carson City currently has a number of existing trails. However, these trails are disconnected and do not provide a comprehensive trail system. Many trail alignments are proposed to connect existing trail segments together.

9.1.2 LINKS TO DESTINATIONS

From the public workshops and public meetings, it became evident that Carson City residents desire a trail system that offers linkages to existing destinations. Currently, parks, trails, shopping areas, neighborhoods, and the open lands surrounding Carson City are not accessible from many areas of the City. Many proposed trail corridors create linkages to the City's major destinations from each of the City's neighborhoods.

9.1.3 UPGRADE EXISTING TRAIL CORRIDORS

While Carson City has a number of existing trails, some of the trails must be upgraded to expand their usage. In some cases, this plan proposes enhancing parts of Carson City's trail system by paving existing off-street trails or adding off-street paths to replace existing on-street bike lanes. By upgrading portions of the Carson City trail system, it is hoped that these pathways will become accessible to a greater variety of user groups.

9.1.4 EXISTING RIGHT-OF-WAY

Many of the trail types chosen in this plan reflect existing road right-of-ways. Therefore, in certain portions of the city, trail types may have been restricted to shared street or on-street bicycle lanes due to space limitations. Where existing rights-of-way were wide enough to accommodate off-street trails, paved paths have been recommended.

9.1.5 AVAILABILITY OF RIGHT-OF-WAY

Many of the trail types chosen in this plan reflect existing road right-of-ways. Therefore, in certain portions of the city, trail types may have been restricted to shared street or on-street bicycle lanes due to space limitations. Where existing rights-of-way were wide enough to accommodate off-street trails, paved paths have been recommended.

9.1.6 RESPECTING PRIVATE PROPERTY

Where possible, trail alignments were chosen to be located on federal, state, or City lands to avoid private property or Washoe Tribe lands (Bureau of Indian Affairs (B.I.A.)). The trails proposed in the UPMP take advantage of existing utilities easements; City owned land; and land owned by the BLM, USFS, or the State of Nevada. In some areas, trails do cross through privately owned land. In most cases, the alignments shown are intended to be “desire lines” (flexible) to make crucial linkages in the City’s trail system.

For trails on City or private land, the UPMP represents the trails over which the City does (existing trails) or would (proposed trails) intend to provide management responsibility. However, trail alignments shown on the plan do not imply existing legal access rights.

9.1.6 HISTORIC AND NATIONAL TRAILS

There are known routes for (and in some cases actual remnants of) a number of historic trails that once crossed the Carson City area. There are also several significant national and regional trails in the vicinity of Carson City. These trails are indicated on maps in Appendix 13.5 and include:

- the Pony Express Trail
- the California / Overland Trail (including Carson Pass and the Johnson cutoff)
- the American Discovery Trail, located to the north of the City,
- the original V&T Railroad now converted to a trail along the western foothills
- the Tahoe Rim Trail
- Kings Canyon Road (The Lincoln Highway)

9.1.7 THE INNER AND OUTER LOOP TRAILS

The inner loop trail travels within Carson City’s perimeter. This trail links a number of destinations and can be used for recreational purposes as well as by commuters. The outer loop trail encircles the City an extensive off-road trail circuit



A recreation access to the Pine Nut Mountains, open to OHV’s.



Access to Riverview Park and off-limits to OHV’s.



Access to Silver Saddle Ranch, which future trail development will make it more accessible to equestrian users.

through the foothills of Carson City. Not only will this challenging trail serve existing Carson City residents, but it can also serve as a tourist attraction, drawing a number of visitors.

9.1.9 OHV AREAS

OHV use is designated for a number of double track trails and several general areas. The areas designated for general OHV use reflect existing use areas in the northeast and southeastern portion of the City—in the Pine Nut Mountain area and the south end of Prison Hill. OHV-designated trails include routes to and between these general OHV use areas, as well as fire roads and other double track trails that are currently used by OHV's.

It is acknowledged that there are other trails, especially single track, that may be currently used by OHVs but are not so designated on the UPMP. The detailed documentation of all trails in the Eagle Valley, and the types of use they experience, is beyond the scope of this Master Plan. It is recommended that detailed trail/use mapping be completed as an early implementation action of the UPMP, followed by a more detailed analysis of OHV needs, opportunities, and compatibilities. This effort should be coordinated with an update of the BLM's Pine Nut Mountain area management plan.

9.1.10 EQUESTRIAN TRAILS

Horses may be ridden legally on any street in Carson City, unless otherwise posted. In the UPMP, horses are also shown as allowed uses on the multi-use trails (soft surface portion) and off-street unpaved trails.

In addition, there are areas of the city that have concentrations of horse properties, and areas in and around Carson City (e.g. southeast quadrant, Prison Hill area) that have traditionally been destinations for equestrian use. For this reason, it is recommended that equestrian signs be installed in these areas to alert automobiles and other types of trail users of the potential for higher-than-usual equestrian use.

9.2 TRAIL AMENITIES

9.2.1 SIGNAGE

Signs add to the enjoyment, convenience, and safety of pathway users. To increase comprehension, it is recommended that the City develop standard types of signs for the pathway system. It may be desirable to develop a theme or logo that can be used on all of the signs along the trail to promote the identity of the pathway. Pathway signs should be created to perform some or all of the following functions:

- 📍 **Direction:** On-street signs to direct people to trail access points. The design of these signs should be coordinated with the City's transportation department. On-street signs generally must conform to the Manual of Uniform Traffic Control Devices and therefore may need to differ in size and style from trailside signs.♦
- ♦ **Trailhead:** Identify trail access points and parking areas.



An example of where signage would be helpful to inform users about the purpose of the bollards.

- Information:** These may include a map with a “you are here” type of orientation and provide information about the trail, places it accesses, trail rules, and seasonal closures. They may also acknowledge groups and individuals that contributed to the funding, maintenance, or construction of the trail.
- Guideposts:** Small trail markers used to mark points of interest and distances. Guideposts can also be used to provide locational information for emergency response.
- Regulatory:** On paved trails, small, trail-sized versions of traffic signs (stop, yield, curves, slow, dismount, etc.) may be warranted to alert pathway users to unexpected conditions.
- Mile Markers:** Identify distances on trails. May be used to deter people from manually marking mileage on trails.
- Trail Difficulty Rating:** Adoption of a trail difficulty rating system can help trail users make informed decisions, encourage visitors to use trails that match their skill level, manage risk and minimize injuries, improve the outdoor experience for a wide variety of visitors, and aid in the planning of trails and trail systems. A recommended system is one developed by the International Mountain Bicycling Association (IMBA). Their system is widely used and recognized throughout the world and is very easy to understand. It can be found at: www.imba.com.



Trail signage that evidences incompatible uses too close together.

Trail Difficulty Rating System					
	Easiest White Circle	Easy Green Circle	More Difficult Blue Square	Very Difficult Black Diamond	Extremely Difficult Dbl. Black Diamond
Trail Width	72" or more	36" or more	24" or more	12" or more	6" or more
Tread Surface	Hardened or surfaced	Firm and stable	Mostly stable with some variability	Widely variable	Widely variable and unpredictable
Average Trail Grade	Less than 5%	5% or less	10% or less	15% or less	20% or more
Maximum Trail Grade	Max 10%	Max 15%	Max 15% or greater	Max 15% or greater	Max 15% or greater
Natural Obstacles and Technical Trail Features (TTF)	None	Unavoidable obstacles 2" tall or less Avoidable obstacles may be present Unavoidable bridges 36" or wider	Unavoidable obstacles 8" tall or less Avoidable obstacles may be present Unavoidable bridges 24" or wider TTF's 2' high or less, width of deck is greater than 1/2 the height	Unavoidable obstacles 15" tall or less Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or wider TTF's 4' high or less, width of deck is less than 1/2 the height Short sections may exceed criteria	Unavoidable obstacles 15" tall or greater Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or narrower TTF's 4' high or greater, width of deck is unpredictable Many sections may exceed criteria

The other trail agencies have their own requirements and limitations for signage. The City will need to work with all of them to develop a consistent system.

9.2.2 TRAIL NAMING SYSTEM

A trail naming system is proposed to differentiate Carson City's numerous trails. The naming/numbering system will be used to designate major trail alignments that traverse the City. Trail names do not take into account trail types and many different trail types may be incorporated into a single trail route. In general, trails that run from north to south should be given an odd number while trails that run from east to west should be given an even number. Some trail names were chosen based on roadways that parallel the trail alignment such as 395 and 50.

9.2.3 TRAILHEADS

The plan designates three types of trail heads: trailheads with parking, trailheads with equestrian trailer parking, and non-parking access points. Trailheads that offer parking are typically located outside of the urban area near trails that are heavily utilized. The amount of parking offered at these trailheads is dependent on trail usage and space availability. Parking may consist of on-street parking or a small parking lot.

Trailheads with equestrian trailer parking are proposed in areas where there are a number of equestrian trails. Parking at these trailheads consists of a small parking lot that is large enough to accommodate the parking and maneuvering of horse trailers.

Non-parking access points are typically located in neighborhood areas. Since these trailheads are located in residential areas, they do not provide parking.

- ❧ **Rules and Regulations:** Rules and regulations should be located at all trailheads. The regulations should include trail etiquette, trash pickup, animal waste clean up, warnings about potential safety hazards, and which uses are permitted in the area.
- ❧ **Trash Cans:** By providing a number of conveniently located trash cans, the amount of litter along Carson City's pathways can be greatly decreased. Trash cans should be located at all City-maintained trailheads. They should also be placed along the heavily used pathways located within the City's urban area.
- ❧ **Dog Waste Disposal Stations:** One of the most effective ways to decrease the amount of dog waste along pathways is by providing dog waste stations. On pathways where dogs are allowed, dog waste stations should be provided at all trailheads. They should also be provided along pathways located within the City's urban area.
- ❧ **Shade Structures with Benches:** Shade structures offer relief from the summer sun and shelter from inclement weather. Where possible, shade structures should be located at the trailheads of heavily utilized trails. The City may also wish to consider placing smaller shade structures along some of its heavily utilized urban pathways.
- ❧ **Lighting:** In areas likely to receive use at night, pathway lighting helps users avoid conflicts at intersections and allows users to better observe trail direction, surface conditions, and obstacles. Lighting can also increase the sense of security along a pathway. Lighting use may vary from no lighting on rural soft surface trails to full coverage lighting in promenade areas.
- ❧ **Restrooms:** A number of Carson City's trails are located in the outskirts of the City, away from restroom facilities. The City should do a demonstration project to test the level of use and service costs of temporary restrooms at the trailheads of its heavily used trails.

9.3 OFF-STREET TRAILS POLICIES

1. Off-street trails shall be designed for multiple uses unless constrained by available land (steepness, ROW width), incompatible adjacent land uses, the comfort and safety of users, or environmental considerations dictate restricted uses. OHV usage shall be on designated trails only.
2. In creating recreational trails, off-street paths are strongly preferred over on-street bike lanes.
3. The City supports the continued designation and use of areas for specific forms of non-automobile usage. An example is the portion of Prison Hill designated for non-motorized use.
4. Horses are allowed on all streets in Carson City. However, in some areas of the City with significant horse ownership, equestrian routes may be signed to alert drivers and other users.
5. The trailhead symbols on the UPMP are inclusive of those below. That is, OHV trail heads include equestrians and other trail users. Equestrian trailheads exclude OHV use, but include parking for hikers, bikes, etc. Pedestrian trail heads exclude OHV and equestrian use. Walk-to trail heads exclude any kind of vehicle parking.
6. In order to impact the least amount of private property possible, off-street trails should generally be aligned along property lines or in locations compatible with existing or proposed land uses, so long as the intent of the pathways system is accomplished.
7. Carson City may periodically close trails for rehabilitation of trails, sensitive lands, and watersheds.

The Carson River through Carson City is a beautiful resource that provides a source of water, wildlife habitat, and recreational opportunities such as fishing, swimming and boating. The undeveloped nature of the Carson River offers unique scenic and recreational opportunities adjacent to the urban core. An exceptional feature of the river is that it offers two different segments that provide excellent boating opportunities to both beginner and intermediate skill levels.

The Carson City portion of the Carson River Aquatic Trail extends from the BLM river access area at Sierra Vista Lane 10.1 miles downstream to the Lyon County line (see Map). This river section currently has public access points, active public river use, and approximately 30% of it is bounded by public lands.

10.1 GENERAL DESCRIPTION OF THE CARSON RIVER

The Carson River begins in the Sierra Nevada Mountains and flows over 180 miles to its terminus in Lahontan Reservoir and the Carson Sink. The Carson River’s primary source of water is from precipitation and snow pack in the Sierra Nevada Mountains. The East and West forks of the Carson River merge on the west side of the Carson Valley, near Genoa in Douglas County, Nevada. From Genoa, the main stem of the Carson River flows to the northeast out of Carson Valley and into Eagle Valley on the east side of Carson City. The river then turns east and cuts through the Carson River Canyon, Dayton Valley, Churchill Valley, and ultimately terminates in the Lahontan Reservoir and the Carson Sink.



Carson River Aquatic Trail

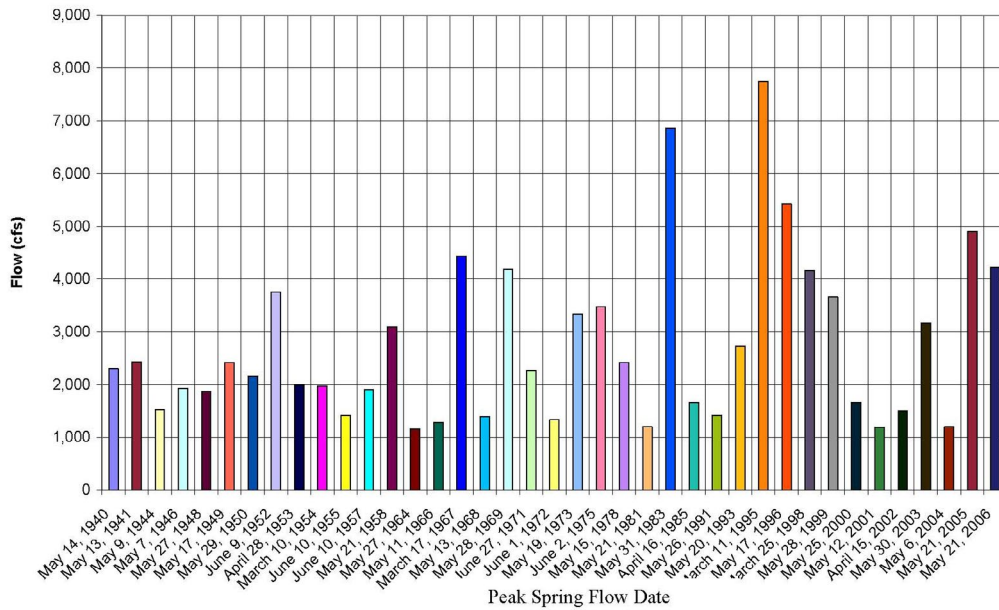


Chart 10-1

The comparison of Carson River peak spring flows - dates and magnitudes - exhibits the rivers' great variability. The flows range from March 25 to June 27 and from 1,200 cfs to 7,700 cfs.

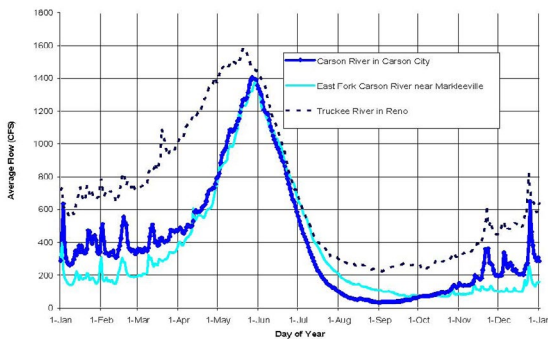


Chart 10-2

Comparison of the annual flows of the Carson River, Truckee River, the East Fork of the Carson River and the Truckee River.

Eddy - When current flows past an object it creates a void behind the object. There, the current typically flows back upstream, creating an eddy.

Hydraulic - As water flows over an object it creates a depression behind the object and water flows upstream to fill that depression. A hydraulic results when the water flowing upstream is pronounced and recirculates behind the object. A boil line appears where the upstream and downstream waters separate. Hydraulics can tip over boats and hold swimmers.

Hole - A hole is the area where recirculating water meets the downstream current behind an object such as a boulder. If the edges of a hole point upstream, then the hole is difficult to get out of.

Wave - As water flows down a chute it gains speed. When the water hits the river bottom the energy is dissipated into a series of standing waves. Large waves can tip over boats.

Strainer - A strainer is an obstruction, such as a fallen tree, that allows water to flow through it but does not allow solid objects, such

as a person, to pass. Common strainers are downed trees, logs, or discarded fences.

Undercut Rock - Water sometimes flows under large boulders or cliffs due to their shape and the effects of erosion. This creates a situation where objects, such as a person, can be trapped under water. If the water flowing into a rock does NOT form a pillow (white, bubbly water against the upstream side of the rock), the rock is probably undercut. Never boat or swim near and undercut rock.

Cold Water - Immersion in cold water can result in hypothermia. Always prepare for cold water immersion. If the air and water temperature combined equal less than 120°F, wear a wet suit or dry suit.

High Water - During snow melts or heavy rain water levels can rise dramatically. The current flows more rapidly and there are often foreign objects being carried away by the water. Check the water levels before you begin any trip. High water can be extremely dangerous.

10.1.1 RIVER HYDROLOGY

The US Geological Survey (USGS) has monitored the flow of the Carson River in Carson City since 1940. Peak spring run-off occurs between March and June. On average, the Carson River peaks on May 26th at 1,430 cubic feet per second (cfs¹). The highest flows ever recorded are associated with winter storms between November and February. The Carson River has similar flows to the Truckee River and the East Fork of the Carson River as illustrated by the hydrographs in Chart 10-2.

10.1.2 GENERAL RIVER TERMINOLOGY

“River difficulty” is described by an international scale system (1998 Revisions to The Safety Code of American White-water Complete). The Carson River Aquatic Trail difficulty ranges from Class I to Class III.

10.1.3 DAMS ON THE CARSON RIVER

Dams may be navigable if the drop is not too great and hydraulics at the base of the dam is acceptable. There is one small rock dam on the Carson River Aquatic Trail in Carson City. The dam is located just downstream of the Carson River Road Bridge. The dam is usually passable by watercraft at flows above 500 cfs but occasionally catches debris that can be hazardous. There are numerous rock diversions along the Carson River, which divert water into irrigation ditches, which are important to agriculture and ranching along the Carson River. Rock diversions, concrete dams and water conditions at the base are often difficult for boaters to identify from the upstream side of the dam.



The Andersen Dam, a rockdam downstream of Carson River Road Bridge.

10.2 JURISDICTION

10.2.1 THE UNITED STATES

The Carson River is a navigable water of the United States as defined in Title 33 of the Code of Federal Regulations Chapter 329 (33 CFR 329). As such, the Carson River is a public resource and the general public has the right of navigation on the water surface.

10.2.1 THE STATE OF NEVADA

The Carson River is also a navigable water of the State of Nevada. Therefore, the State of Nevada owns the bed and bank of the river up to the ordinary and permanent high water mark. This means that the river is owned and managed by the Nevada Division of State Lands up to the line to which the water ordinarily rises in season, synonymous to the mean high water line. At the Carson River Road bridge, the ordinary high water line is approximately 1,500 cfs. (See Chart 10-1)

The policy regarding use of state lands is described by Nevada Revised Statutes (NRS) 321. In general, state lands must be used in the best interest of the residents of the state, and to that end may be used for recreational activities. In determining the best uses of state lands, the appropriate state agencies must give primary consideration to the principles of multiple use and sustained yield as the status and resources of the lands permit.

¹ Cubic feet per second is the hydrologic term used to express the rate of flow in a river. It is the rate of flow representing a volume of 1 cubic foot passing a given point in 1 second. One cfs is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute.

10.2.2 PROPERTY ADJACENT TO THE RIVER

As a navigable water of the State of Nevada the State has sovereign capacity to the bed and bank up to the mean high water line. Above the mean high waterline, the bulk of the Carson River corridor is private property.

The vast majority of land adjacent to the Carson River is managed as agricultural and ranching land. In Carson City, two large ranches have been acquired for use by the public. The Silver Saddle ranch in southeastern Carson City is managed by the BLM and offers public access to the Carson River. Likewise, the Eagle Valley Golf Course and River View Park offer the public access to an area of the Carson River that was historically private property. Other areas along the river in Eagle Valley include small private parcels with homes near the river. In Carson River Canyon, there are several large undeveloped parcels and one large parcel in industrial use.



Class I float section of the Carson River is visible on the left side of the photo.

10.2.3 WATER RIGHTS

Water rights have a significant impact on the amount of water in a river. The Carson River is an important water source for agricultural, private and municipal uses in the surrounding area. All waters within the boundaries of the State of Nevada, including surface and ground water, belong to the public and are managed on their behalf by the State.

Nevada water law is based on prior appropriation - "first in time, first in right." This means that in low water conditions a downstream user with a "senior" (older) water rights can require upstream users with more "junior" rights to leave water in the river for the use of the "senior" water user. The reverse is also true - an upstream user with "senior" water rights can divert quantities that may leave downstream "junior" users with little water. This explains why the Carson River can become a dry stream bed during drought years and often in late summer even in "wet" years. Therefore, the Aquatic Trail is of necessity, a seasonal use trail - when there is enough water in river - typically April through July.

Class I: Easy Fast-moving water with riffles and small waves. Few obstructions, all are obvious and are missed easily with little training. Risk to swimmers is slight, self-rescue is easy.

Class II: Novice Straightforward rapids with wide, clear channels, which are evident without scouting. Occasional maneuvering may be required, but rocks and medium-sized waves can be missed easily by trained paddlers. Swimmers are seldom injured and group assistance, while helpful, is seldom needed.

Class III: Intermediate Rapids with moderate, irregular waves, which may be difficult to avoid and can swamp an open canoe. Complex maneuvers in fast current and good boat control in tight passages or around obstacles are often required. Large waves or "strainers" such as fallen trees may be present but can be avoided. Strong eddies and powerful currents can be found, particularly at high flows. Scouting is advisable for inexperienced parties. Self-rescue is more difficult and group assistance may be required to avoid a long swim.

Classes IV & V: Advanced and Expert. Intense, powerful or very violent rapids requiring precise boat handling in turbulent water. Group assistance for rescue is often essential and requires consistent and practiced skills. Proper equipment, extensive experience, and practiced rescue skills are essential.

10.3 THE EXISTING AQUATIC TRAIL

The Aquatic Trail consists of two distinct segments of the Carson River in Carson City. The Aquatic Trail is illustrated by Map 1 and 2 and briefly described below.

10.3.1 EAGLE VALLEY CLASS I/II FLOAT

This float may begin at either the BLM river access area (mile 0.0) or the Carson River Park (mile 1.0), and ends at the Morgan Mill Road River Access Area (mile 4.4). This section has one small rock diversion hazard (the Andersen Dam) just downstream of the Carson River Road Bridge. The run is appropriate for beginner canoeists, kayakers and rafters. Public land abuts the river in several areas, offering shady cottonwood groves to stretch your legs or picnic. It is an excellent section for birding.



A Class I float section of the Carson River.

The Eagle Valley Float can be completed in as little as an hour, with paddling. The float can be stretched to several hours with stops for picnicking or birding in the cottonwood groves. The time to complete the float depends primarily on the amount of flow in the river. The minimum river flow required to comfortably float a watercraft in this section is roughly 500 cfs.

10.3.2 CARSON RIVER CANYON CLASS II/III WHITEWATER RUN

This section begins at the Morgan Mill Road River Access and ends in Lyon County at the Santa Maria Ranch River Access (roughly 6 miles in Carson City and 3.6 miles in Lyon County).. This section flows through a beautiful canyon that gives the feeling of seclusion and wilderness. There is one long Class III rapid roughly one mile downstream of the put-in. This rapid has a large river-wide wave at the top of the rapid and numerous holes and large waves for approximately $\frac{1}{4}$ mile downstream. There is one rock diversion hazard (Dayton Valley Dam or Ophir Dam) in Lyon County that should be scouted by persons unfamiliar with the diversion. There are several large Class II rapids with numerous tight meanders continuing downstream into Lyon County.



A Class II/III whitewater section of the Carson River.

The relative remote nature of this section and its difficulty requires intermediate boating skills and is not appropriate for unguided beginners. This section offers great views of historic roads and bridges from the Comstock Era. The V&T railroad grade is adjacent to this section of river through Carson City. Currently there is no public land adjacent to the river through this section. There are several dirt roads in this area and, unfortunately, there are several abandoned vehicles along the river. The trash is unsightly and hazardous during high flow conditions and should be removed.

The Carson River Canyon section can be boated in as little as two hours at 1,500 cfs. The minimal flow required to raft this section is roughly 800 cfs. The minimal flow required to comfortably kayak this section is roughly 600 cfs.

10.4 CONNECTIVITY TO OTHER TRAILS

The Carson River is currently connected with other trails at Silver Saddle Ranch, Riverview Park, and Ambrose Natural Area along the east side of Eagle Valley. Several existing dirt roads and proposed trails parallel the river through the Carson River Canyon. Future connectivity as envisioned in the Carson City Unified Trails Master Plan will allow persons to walk, bike, or ride horses along sections accessible by boat to enjoy the Carson River corridor.

10.5 LIABILITY

Many private landowners have concerns regarding liability if someone gets hurt on their property. This section describes the protection provided by Nevada Revised Statute (NRS) 41.510. (The complete statute text is provided in Appendix 13.7)

If a person engaged in recreational activities trespasses, or if such a person is given permission to use private property, private landowners are protected by NRS 41.510. Water sport activities that may require the use of private land such as portaging a dam is a type of recreational activity specifically covered by NRS 41.510 and this statute would be a “bar to recovery”. A “bar to recovery” means that a person could file a lawsuit but a trial and judgment against a landowner would be highly unlikely. This statute, however, will not protect a landowner who is responsible for willful or malicious acts or if the landowner is charging a fee to use the property for the recreational purpose.

Under NRS 41.510:

- A landowner is not required to keep the land safe for entry or use by others for any recreational activity
- A landowner is not required to give warning of any hazardous condition, activity or use of any structure on the land to persons entering for those purposes.
- By giving permission, a landowner does not extend any assurance that the premises are safe or assume responsibility or liability for any injury to person or property caused by any act of persons to whom the permission is granted.

Even though a landowner is not required to give warning, if an owner of a diversion dam is aware of a specific hazard created by the dam then the failure to give notice could possibly be construed under NRS 41.510(3)(a)(1) as a willful or malicious failure to warn. This might be problem, for example, in the event rebar was sticking up out of a dam or some type of known but concealed hazard exists. If the dam is built and maintained according to a certain standard, such as a state standard, and the only danger is strong current and hydraulics caused by the dam, then the NRS would provide the limitation of liability.

If a dam is removed in such a way as to reduce or eliminate a potential danger then the former owner will enjoy the protection of the NRS liability limitation. If the dam is modified in a way to specifically provide a safer route then the best way to limit liability is to place a sign that one passage is safer than another. However, if signs are placed on the property, the signs must be maintained.

If a dam is modified so the resulting wave at the base of the dam is a fun place to play, then the owner is still protected by NRS 41.510. According to a 1977 Federal case decided under Nevada State law, the doctrine of attractive nuisance has not been adopted, and if there is no evidence of a willful failure to warn or guard, and no monetary payments for the access to the river, then attractive nuisance is not a concern.

Carson City will coordinate with landowners adjacent to the Andersen Dam below Carson River Road bridge and the Mexican Dam operators to consider a means of providing notice to the aquatic trail users that traveling over the dam may be a hazardous activity.

10.6 RIVER SAFETY

Persons can safely use the Carson River Aquatic Trail by following standard river safety guidelines (American Whitewater has developed a set of comprehensive guidelines). The mission of American Whitewater is to conserve and restore America's whitewater resources and to enhance opportunities to enjoy them safely. The safety code was prepared using the best available information and has been reviewed by a broad cross-section of whitewater experts. The code is a collection of guidelines for individuals to avoid and minimize their risks and river accidents.

River accidents and deaths are tracked by the American Whitewater Safety Committee and statistics and accident details area available on their web page at www.americanwhitewater.org/content/Safety/. Since 2000, the number of whitewater fatalities nationwide has ranged between 30 and 58 per year. The majority of these fatalities (78) have occurred in California. Between 1975 and 2005, two fatalities were reported in Nevada. In 2006 through May, there were three reported whitewater fatalities in the western states. One of these was on a Class V river and two were on Class III rivers with high water and the victims came out of their boats and were drowned by strainers (thick tree branches in the river current).

The Carson City Fire Department responds to calls for help in and along the Carson River. Certain response units have specialized training and equipment to help river accident victims.

10.7 ECONOMIC IMPACTS

The economic impacts of the availability of safe river rafting and canoeing on the Carson River will come from two areas. First, the Aquatic Trail will provide a local recreational area for local river enthusiasts. Second, it will draw overnight and out-of-town visitors to the area. Both of these types of economic impacts are difficult to quantify. An economic analysis may be performed but is outside the scope of the current study.

An economic analysis for the Truckee River Recreation Plan was conducted in 2000 and underestimated the positive economic impact of implementing improvements to the Truckee River. The results of the economic analysis predicted that river related uses would generate an economic impact of approximately \$1.9 to \$4.1 million, annually. This level of economic activity was projected to generate 33 to 67 jobs and generate tax revenues in the amount of \$123,000 to \$263,600, annually. The economic model assumptions were conservative in terms of total use and recreational expenditures when compared to the range of expected use in the plan. The potential maximum level of use could result in a total annual economic impact to the Reno/Sparks area that is 3 to 5 times the amount estimated by the conservative model.

Whitewater rafting and kayaking may increase the number of overnight visitors and day trip visitors as well as the level of expenditures made in the local economy. The economic analysis conducted for the Truckee River Recreation Plan assumed no overnight visitors for whitewater rafting and a level of daily expenditures that is significantly less than expenditures typically made at other whitewater rafting rivers. The analysis assumed that Truckee River whitewater rafting would generate \$59 per user per day whereas the actual economic impact could be as high as \$154 per user per day.

Increasing the level of use on the Carson River will depend on a number of factors such as the willingness of the community to promote events and river use, and the overall quality of the experience as a result of the constructed facilities.

Both the Truckee and the East Fork of the Carson River are run commercially. The unique aspect of the Carson River is that it offers both whitewater and flat water paddling. Both Lyon County and Carson City could benefit from equipment rental and shuttle fees. In addition, the Truckee River whitewater park draws boaters from across the country. These boaters want to explore other local rivers and the Carson River is a natural choice.

10.8 PROPOSED AQUATIC TRAIL COMPONENTS—NEEDS AND OPPORTUNITIES

The primary drivers for improvements to the Carson River Aquatic Trail are public health and safety and respect for private property. Each of these needs, as well as opportunities for improvements are described below. Estimates for key improvements are included in Appendix 13.7.1. Potential funding sources are listed in Appendix 13.1.8.

10.8.1 PUBLIC SAFETY IMPROVEMENTS

Public awareness must be raised regarding all aspects of river safety and navigation. Every year, there are abandoned rubber, plastic, wooden or metal boats found in the eddies and rocky rapids in Carson River Canyon. This is evidence that persons without the proper training and equipment attempt to boat through the canyon. Public safety can be improved through signage, in-stream hazard reduction, and public education as described below.

A. Signage:

- River information signs: These signs include “you are here” maps with information regarding the river, access, safety, private and public land locations along the river. They may also have information regarding natural, historical and/or cultural resources. These signs would be placed at all river access points.
- Guideposts: Small signs to mark points of interest.
- Direction signs: On-street signs to direct people to river access areas.
- River access signs: Identify river access points and parking areas
- Staff Gauge: A staff gauge could be affixed to the bridge abutment at Deer Run Road that indicates the river flow level.
- Dam and river safety signage:
 - Hazards ahead. Advanced skills required
 - Low Head Dam ahead
 - Submerged hazards above and below dams
 - LStrong unpredictable currents above or below the dam
 - SDangerous reverse currents below dams



River cleanup is a high priority action for Carson River Aquatic Trail

B. In-Stream Hazard Reductions:

- Strainer removal: Strainers periodically obstruct the main flow of the channel in both river sections and should be cut and removed
- Rock diversion alteration: The private diversion dam downstream of Carson River Road should either be altered to allow safer passage by canoes or signed to warn boaters of the hazard.
- Coordinated river cleanup: There are car bodies and other large appliances dumped along the edge of the river through Carson River Canyon.

C. Public Outreach for River Safety Education:

- **River Safety Education:** River safety education should be expanded through classes for kids and adults in a river setting.
- **River Map Publication and Distribution:** The river map with the river safety information will assist recreationists in understanding river hazards.
- **River Guidebook Publication:** A river guidebook would be a companion to the river map with detailed physical, historical and



A young adult river safety class.

cultural information.

- Public Service announcements and news articles: Public service announcements and news articles can help with public awareness especially during high flows in the spring. Information should include the following key messages:
 - Be aware of cold, swift water
 - Always wear a personal floatation device when near water
 - Never boat alone
 - Never fish alone when near a dam
 - Never boat on a section of the river unless you know what the difficulty level is and you have the proper equipment and training
 - Never swim near a dam or rock diversion
 - Always heed and obey warning signs

10.8.2 RIVER ACCESS IMPROVEMENTS

River access improvements are needed to minimize impacts to the natural environment and avoid conflicts with private landowners.

- All formal river access areas need the following:
 - Trashcans: Trash cans reduce the amount of litter along the river.
 - Restrooms: Restrooms are essential in maintaining sanitary conditions at high use areas such as put-in and take-out locations.
 - Defined parking areas: Defined parking and river access will minimize vegetation trampling.
 - Sign-In Register: A sign-in register at the put-in location will help with river safety and serve as a measure tool to assess the number of river users.
- Improvements to the Morgan Mill road river access point: The Morgan Mill Road river access point is difficult to see from the river and difficult to use because the river current is very swift near shore. This river access area can be improved through vegetation management and rock placement to create a larger eddy along the shore.

10.8.3. NATURAL RESOURCE MANAGEMENT IMPROVEMENTS

Weed invasions present a major concern for the Carson River function and values for native species, species diversity, recreation, and water availability. Russian olive is an invasive species that takes over where willow would naturally occur along the river. The City should coordinate with the Nevada Division of Forestry and private landowners in developing a weed management program for the Aquatic Trail corridor.

10.8.4 REGIONAL COORDINATION AND PARTNERSHIP IMPROVEMENTS

- Private, public, and local coordination is needed to improve public safety and river hazard awareness .
- Coordination with Lyon County is necessary to ensure a safe, reliable take-out area for the Carson River Canyon Class III run at the Santa Maria Ranch.
- Regional coordination is needed to provide a minimum of one area to stop and rest within the scenic Carson River Canyon. This area could be within Carson City or Lyon County.

10.8.5 AQUATIC TRAIL ACTIONS

1. Install signage regarding location, points of interest, and safety access.
2. Develop annual maintenance program, using volunteers to remove in-stream hazards, upgrade rock diversions and to clean up the river.
3. Organize Safety Education Classes and conduct periodic “friendly” objectives. If warranted, establish permit process to assure users are educated.
4. Provide basic amenities at all river access points.
5. Develop a weed management program for the River Corridor.
6. Conduct annual planning coordination meeting with Lyon County.
7. Provide regional coordination to locate one public river rest area within the Carson River canyon.
8. Provide training and equipment to the Carson City Fire Department to increase their agency’s river rescue capabilities.
9. Develop aquatic recreation and education programs through the Carson City Recreation Division to promote outdoor river experience for youth and adults.
10. The primary need for improvements to the Carson River Aquatic Trail are related to public safety, river access and natural resource management.

Due to its limited resources, it is important for the City to carefully manage all existing and potential resources for the development and maintenance of pathways. The following section addresses priorities, partnerships and potential funding sources.

II.I PRIORITIES

II.I.I PRIORITY I: INCREASING PATHWAY CONNECTIVITY—COMPLETING THE MISSING LINKS

The overarching goal of the UPMP is to link Carson City's neighborhoods to destinations such as schools, employment centers, shopping, parks, and surrounding open space. Therefore, the first priority of this plan is to provide the means for everyone in Carson City to access major destinations. This plan recommends that the City focus its efforts on constructing in-town linkages and linkages from existing neighborhoods to recreation areas located outside of the City's developed areas. Pathways leading to Mills Park and the Carson City High School should be given a high priority, as should pathways connecting from the central core area to WNCC.

Within this overall priority are seven specific objectives for implementation by 2015:

First Tier Connectivity Projects

1. Completion of the V&T trail north to the Carson-Tahoe Regional Healthcare facility with continuation to Lakeview Drive. This trail segment will provide an almost continuous north/south trail on the west side of Eagle Valley.
2. Connecting a trail from the Moffat Open Space Property north to the Carson River. This segment will provide a significant north/south trail on the east side of the Eagle Valley from Silver Saddle Ranch to the Empire Ranch Golf Course.
3. Develop an east/west connection from the Carson River to the Downtown and Kings Canyon.

A recommended east-west connection follows the route of E. 5th Street from Carson Street to its eastern terminus at Marsh Road. Carson River Road and the Mexican Ditch Trail provide access to the Carson River and Deer Run Road on the east side of the Carson River. Bike lanes already exist on E. 5th Street from Nevada Street to Saliman Road. Bike lanes are proposed from Saliman Road to its eastern terminus at Marsh Road. Generally, sidewalks exist from Carson Street to Saliman Road and from Carson River Road to Marsh Road, but do not exist between Saliman Road and Carson River Road.

E. 5th Street/King Street/Kings Canyon Road: Kings Canyon Road from Ormsby Boulevard to the west end is designated as a bike route, but not currently signed. King Street from Ormsby Boulevard to Nevada Street has existing bicycle lanes. Nevada Street from King Street to 5th Street is a designated bicycle route, but not currently signed. East 5th Street from Nevada Street to Saliman Road has existing bicycle lanes and sidewalks. East 5th Street from Saliman Road to Carson River Road has no sidewalk or bicycle facilities. Sidewalks exist from Carson River Road to Marsh Road on East 5th Street. Bicycle lanes are proposed on East 5th Street from Saliman Road to Marsh Road.

4. Access to the north and east side of the Carson River can also be developed along the Deer Run Road alignment to Williams Street (US 50). A multi-use path generally exists along Williams Street (US 50) from Deer Run Road to Roop Street, except for the section from Saliman Road to Lompa Lane. A proposed trail along Washington Street will provide access to the Downtown area. Generally, sidewalks exist along Roop Street.

5. Extend the Linear Park Path from Governors Field west to US 395 (Carson Street) and north to the new capital complex.
6. In the future, develop a multi-use path adjacent to the south portion of the Carson City Freeway. With the existing multi-use path along the northern portion of the Freeway, this segment will provide a critical north/south connection through the center of Eagle Valley.
7. In the future, develop a crossing of Carson City Freeway, near Valley View Drive and Edmonds Drive, for non-automobile use. The Freeway will block a number of traditional routes to recreation and open space areas from the neighborhoods of south Carson City. These projects will maintain historic access corresponding to the routes of the California and Overland Trail and the Pony Express Trail.

Second Tier Connectivity Projects

Linkages to WNCC can be provided by the development of pedestrian and/or bicycle facilities on access routes to the campus. These pedestrian and/or bicycle facilities are in place on some of the access routes. Bicycle lanes exist on College Parkway from Lompa Lane to the campus. Generally, there are sidewalks on College Parkway from Lompa Lane to the campus. On the western side of the campus there is a shared-use path from the intersection of Ash Canyon Road and Longview Way south of the campus to the intersection of Murphy Drive and Van Patten Avenue north of the campus. A link between this shared-use path and the campus needs to be developed. Other access routes to WNCC are as follows:

- Bicycle route on Combs Canyon Road from Numaga Pass Road to Ormsby Boulevard, but no signs present
- Bicycle route on Ash Canyon Road from Ormsby Boulevard to Longview Way, but no signs present
- Bicycle route on Kings Canyon Road from Longview Way to Ormsby Boulevard, but no signs present
- Existing bicycle lanes on King Street from Ormsby Boulevard to Nevada Street
- Existing bicycle lanes on Longview Way from Ash Canyon Road to Bedford Way
- Existing bicycle lanes on Winnie Lane from Ormsby Boulevard to Carson Street
- Bicycle lanes are proposed on Ormsby Boulevard from Combs Canyon Road to Winnie Lane
- Bicycle lanes are proposed on Longview Way from Bedford Way to Kings Canyon Road
- A shared-use trail is proposed from the intersection of Ormsby Boulevard and Ash Canyon Road to the intersection of Ormsby Boulevard to Winnie Lane

Linkages to Carson City High School and Mills Park will be discussed together. The linkages can be provided by the development of pedestrian and/or bicycle facilities on access routes to the campus. These pedestrian and/or bicycle facilities are in place on some of the access routes. Generally, the areas around both locations have sidewalks, except for Williams Street (US 50) from Saliman Road to Lompa Lane due to Carson City Freeway construction and E. 5th Street from Saliman Road to Carson River Road. Access to Carson City High School and Mills Park are detailed as follows:

- Bicycle route on Robinson Street from Roop Street to Saliman Road, but no signs present
- Bicycle route on Washington Street from Mountain Street to Roop Street, but no signs present
- Bicycle route on Long Street from Mountain Street to Roop Street, but no signs present
- Existing bicycle lanes on Saliman Road from Long Street to Koontz Lane
- Existing bicycle lanes on East 5th Street from Nevada Street to Saliman Road
- Existing bicycle lanes on Roop Street from Colorado Street to East 5th Street
- Bicycle lanes are proposed on East 5th Street from Saliman Road to Marsh Road
- Bicycle lanes are proposed on Roop Street from East 5th Street to College Parkway
- Bicycle lanes are proposed on Long Street from Roop Street to Saliman Road
- A shared-use path on Williams Street (US 50) from Roop Street to Deer Run Road except for Saliman Road to Lompa Lane due to Carson City Freeway construction

Linkages to all Elementary schools can be provided by the development of pedestrian and/or bicycle facilities along “sug-

gested or safe routes to school” within a radius buffer area complying with school district policy around each school. Bike lanes or routes exist near all the schools except Mark Twain Elementary School and Empire Elementary School. Linkages are recommended to Mark Twain Elementary School and Empire Elementary School as follows:

- Mark Twain Elementary School -
 - Marian Avenue from Long Street to Rolling Hills Drive
 - Lindsay Lane from Joshua Drive to Carriage Crest Drive
 - Carriage Crest Drive from Camille Drive to Wind Ridge Drive
- Empire Elementary School -
 - Gordonia Drive from Airport Road to Monte Rosa Drive
 - Stanton Drive from Monte Rosa Drive to Woodside Drive
 - Monte Rosa Drive from Desatoya Drive to Woodside Drive
 - La Loma Drive from Desatoya Drive to Selby Street

II.1.2 PRIORITY 2: ACCESS TO CARSON RIVER FOR GREATER RANGE OF USERS

The Carson River is a unique attribute in Carson City. It is one of the few areas in the City that offers a natural water feature. All of the City’s residents should be able to enjoy this amenity; therefore, this plan recommends two first-tier trail projects. Several Aquatic Trail improvements are also given 1st tier ranking due to the potential of the Aquatic Trail to become a unique regional resource, the potential economic benefits, and the availability of funding/development partnerships.

First Tier Carson River Projects

1. Trail Improvements
 - Development of a trail system along the northern reach of the river in conjunction with the V&T Railroad Reconstruction Project (V&TRR). This area is currently designated as a ‘study area,’ but the alignment should be determined reasonably soon in order to take advantage of funding opportunities associated with the V&T RR project¹.
 - Where appropriate and practical, provide a concrete or other all-weather surface pathway along portions of the Carson River Trail that are accessible from Riverview Park (via a loop trail) to provide access for user groups of all ability levels².
2. Aquatic Trail Improvements
 - Improvements to the existing Morgan Mill Road River Access Area
 - Carson River signage, in-stream hazard reduction and public outreach/safety education.
 - Upgrades to existing access areas
 - River cleanup

Second Tier Carson River Projects

1. Non-motorized bridge crossing from the Empire Ranch Trail (near the southern end of the Empire Ranch Golf Course) to the Ambrose/Carson River Natural Area.

II.1.3 PRIORITY 3: COMMUTER BIKEWAYS

As the population of Carson City continues to grow, additional traffic will need to be accommodated within the City. One of the ways to alleviate much of Carson City’s traffic is to provide bikeways as an alternative means of transportation. The City must focus its efforts on creating on-street bikeways and other pathways that connect across the City. Bikeways connecting throughout the City can be used by commuters and will offer the City a viable alternative mode of transpor-

1 Generally, these pathways are “recreational” in use, but “transportation-related” pathways should be identified when the V&T rail line route is defined.

2 It should be noted that per the Carson River Master Plan it is intended that the Carson River have a trail on only one side in order to protect riparian habitat areas from public access.

tation. Some of the major bikeways that the City should prioritize include creating bikeways along Carson Street once traffic is re-routed to the new freeway, Curry Street, and Koontz Lane.

First Tier Commuter Link Projects

1. ***Carson Street bikeways/sidewalks generally from north of Arrowhead Drive southerly to Old Clear Creek Road.*** Currently, no bikeways or multi-use paths exist along Carson Street in this segment.
2. ***Curry Street/Mountain Streets bikeways/sidewalks from East 5th Street generally to US 50.*** Sidewalks only exist in the Downtown area from about 7th Street to 10th Street (There is construction in progress between East 5th Street to 7th Street). A bike route exists (not signed) from 10th Street to Lake Glen Drive.
3. ***Koontz Lane bikeways/sidewalks from Curry Street to Edmonds Drive.*** Koontz Lane has bikeways from Curry Street to Silver Sage Drive and has proposed bikeways from Silver Sage Drive to Edmonds Drive. Sidewalks exist from Curry Street to Center Drive only.

Second Tier Commuter Link Projects

Tier 2 projects that provide additional commuter links are shown in Appendix 13.4. Information provided in the table includes a north to south or east to west orientation, functional classification (arterial or collector), end points, and existing and proposed bicycle facilities from the UPMP.

The results of the neighborhood survey were tabulated by combining the “very important” and “important” responses corresponding to “Off Street Walking/Bike Paths” and “On Street Lanes” categories for each neighborhood. These results, as shown in Appendix 13.4, can be considered in the prioritization process.

II.1.4 PRIORITY 4: CARSON CITY LOOP TRAIL

During many of the public meetings and workshops, residents expressed a desire to create a loop trail around Carson City. This plan recommends creating two separate Carson City loop trails, one that skirts the outside of the City’s developed areas and one that takes advantage of the open lands surrounding the City.

First Tier Loop Trail Projects

The Tier 1 project for this priority would be the inner loop trail around Carson City. The inner loop trail will consist of on-road and off-road facilities and would be considered a transportation element. Further analysis of the inner loop will be conducted once the specific route has been determined.

II.1.5 PRIORITY 5: INCREASING OFF-STREET/UNPAVED SINGLE-TRACK OPPORTUNITIES

The Eagle Valley Trail Committee, a voluntary community-based group comprised of members representing different trail user groups, led a local effort to improve the non-motorized trail network within the Eagle Valley. Their work included community workshops and an online survey. The end result of this effort is the document titled “The Eagle Valley Trail Committee Community Trail Inventory, Review, Evaluation and User Needs Assessment Report”, which can be found online at: www.carson.org/PROSdocuments. The following recommendations are summarized from this report.

Single-track trails should be designed and constructed primarily using the standards established in the U.S. Forest Service Trail Construction and Maintenance Notebook, latest edition. This notebook lists other references that may also be used, including those published by the International Mountain Bicycling Association (IMBA), the Student Conservation Association (SCA), “Natural Surface Trails by Design” (Parker, latest edition), “Building Mountain Bike Trails: Sustainable Singletrack” (Davies and Outka-Perkins, latest edition), “Wilderness and Backcountry Site Restoration Guide” (Therrell and others, latest edition), “Accessibility Guidebook for Outdoor Recreation and Trails”

(Zeller and others, latest edition), and others. Single-track trails should be designed and constructed with the following goals in mind:

- Promote user safety
- Protect natural resources
- Provide high-quality user experiences
- Be sustainable over the long term with low maintenance costs

Trail projects are divided into two tiers with the 'First Tier' being the highest priority. The priorities are to be modified as opportunities, funding, partnerships, or easements become available, or as public needs evolve and change.

First Tier Trail Projects

1. Prison Hill Recreation Area, Golden Eagle Open Space, Mexican Dam Open Space
 - Develop a trail plan for this area
 - Re-align unsustainable sections of the North Loop Trail and the North Loop to 5th Street connection
 - Develop a sustainable trail connection from the Koontz Lane Trailhead to the North Loop Trail. Decommission the existing trail
 - Re-align unsustainable sections of the Dead Truck Canyon Trail
 - Re-align unsustainable sections of the West Loop Trail
 - Develop a sustainable trail connection from Golden Eagle Open Space to Silver Saddle Ranch
 - Improve access around the Mexican Dam and Mexican Ditch diversion
2. Ambrose Carson River Natural Area, Carson River Canyon Open Space, Old Buzzy's Ranch, Morgan Mill Preserve Open Space
 - Develop a trail plan for these areas and evaluate connection opportunities
 - Construct a safe crossing from Old Buzzy's Ranch to Carson River Park
3. Silver Saddle Ranch / East Silver Saddle Ranch
 - Develop a trail plan for this area with consideration for connections
 - Improve trailheads, access points, and signage
 - Establish barrier systems and parking areas at East Silver Saddle Ranch that protect the resources along the river and provide a safe environment for users
4. Ash Canyon
 - Acquire or secure easements for trail use in the Ash Canyon and Vice Canyon areas
 - Develop a trail connecting the Ash to Kings Trail to the Hobart Road water tank
5. C-Hill
 - Acquire or secure easements for trail use on the southeast side of C-Hill
 - Adopt the EZ Trail into the system
 - Secure public access for the FEMA Trail
 - Re-align unsustainable sections of trails on C-Hill, including the Zorro Trail, Ridge Trail, and trail from Kings Canyon
 - Develop connections between Longview Trail, Ash to Kings Trail, EZ Trail, Voltaire Canyon, FEMA Trail, and Clear Creek
 - Develop a sustainable trail connection from the McKay Drive Trailhead to the Zorro Trail

- Extend the FEMA Trail west to the multi-use trail on the south side of Kings Canyon Road
6. Kings Canyon
 - Acquire easements and permits to construct a trail from the Ash to Kings Trail to Lake Tahoe Nevada State Park
 - Adopt the Longview Trail into the system and extend to the Ash to Kings Trail
 - Develop a trail connecting Kings Canyon to Clear Creek
 - Obtain access for trailhead and connections at the Golf Club Drive/Highway 50 off-ramp
 - Improve the trailhead at the Kings Canyon/Waterfall Trail and improve access for equestrian users
 7. Lakeview Area
 - Re-align the Secret Trail to make it sustainable
 - Develop a connection between the Lakeview Trailhead and the Secret Trail
 - Develop a connection between the Lakeview Trailhead and Timberline Subdivision
 8. V&T (Coombs Canyon area)
 - Construct V&T connector between Hobart Road and Carson Tahoe Hospital
 9. Centennial Park and Goni Canyon
 - Acquire public access to the JohnD Winters Centennial Park trail system
 - Develop a trail plan to include a stacked loop trail system from Centennial Park to McClellan Peak and connections to Washoe Lake State Park and a lower elevation trail from Goni to I-580
 - Review trailhead opportunities and improvements

Second Tier Trail Projects

1. Prison Hill Recreation Area, Golden Eagle Open Space, Mexican Dam Open Space
 - Review unnamed connector trails for re-alignment or decommissioning
 - Re-align or construct a new sustainable trail to the scenic high point
 - Decommission existing trails on steep slopes and erodible soils
 - Develop a stacked loop system of trails
 - Develop a trail circling Prison Hill and connecting with Silver Saddle Ranch
 - Improve trailheads and access points
 - Construct a bridge across the Carson River connecting with off-street/unpaved/double track including OHV use
2. Ambrose Carson River Natural Area, Carson River Canyon Open Space, Old Buzzy's Ranch, Morgan Mill Preserve Open Space, Silver Saddle Ranch
 - Connect Moffat Open Space to the Empire Ranch Trail
 - Identify a safe crossing on Carson River Road to connect the Mexican Ditch Trail to the Red House at Silver Saddle Ranch
 - Develop a trail parallel to the V&T Railroad connecting to Virginia City
3. East Silver Saddle Ranch
 - Consider developing a loop trail between the river and Sierra Vista Lane

4. Ash Canyon
 - Develop a lower elevation trail connecting Ash Canyon and Kings Canyon
 - Develop connections between trails and links to Washoe Valley and Carson Valley
5. C-Hill
 - Re-align unsustainable sections of the EZ Trail
6. Kings Canyon
 - Construct a lower elevation trail connecting Kings Canyon to Ash Canyon, with the intent of providing a trail loop
 - Improve information for motorized travelers on the dirt segment of King Canyon Road/Old Lincoln Highway
7. JohnD Winters Centennial Park and Goni Canyon
 - Develop a trail from JohnD Winters Centennial Park to Bohr Road

II.2 WORKING WITH PARTNERS

Carson City has the opportunity to work with a variety of agencies to complete its pathways system. The UPMP is intended to show trails in the entire Carson City region. Not only does the plan show trails in the City's developed areas, but it also shows trails in outer-lying areas in public lands managed by the BLM, USFS, surrounding counties, or the State of Nevada. By creating partnerships and utilizing local, regional, county, state, and federal money, the number of pathways that the City can construct will be greatly improved. The City must look into the options of applying for grants, donations, and creating special improvement districts in order to construct proposed pathway alignments.

For trails on land on which the City does not have jurisdiction (federal, state, adjacent counties, Washoe Tribe Land), the Plan is intended to reflect proposals, or wishes of the City with regard to pathway connectivity and continuity of uses between Carson City and the respective agency, as well as the potential sharing of maintenance, signage, and management. Of course, Carson City recognizes that the actual uses of those trails and decisions about changes in uses or alignment are the purview of the respective agencies. The City encourages these agencies to consider the designations on the UPMP as input to the decision-making process of each agency. The City stands ready to provide planning and coordinating efforts with these agencies and to cooperate in resolving inconsistencies and in making adjustments to the UPMP that are beneficial to the overall system.

II.2.1 NEVADA DIVISION OF STATE PARKS

Nevada Division of State Parks lands are located primarily on the northern side (Washoe Lake State Park) and the western side (Lake Tahoe Nevada State Park) of Carson City. These lands have great potential for connecting Carson City with the Tahoe Rim Trail and other regional trails.

II.2.2 BUREAU OF LAND MANAGEMENT

The Bureau of Land Management has stewardship over vast areas of land on the north and eastern portions of Carson City. This land represents a significant recreation resource to Carson City residents and visitors. Significant areas are used by equestrian and OHV users. The BLM has had challenges effectively managing such a large land area close to the city. Many areas are scarred by heavy use. By partnering with the BLM, Carson City and many user groups have the potential to improve the planning effectiveness and stewardship of the trails, and thus increase the enjoyment of the extensive trail system.

II.2.3 UNITED STATES FOREST SERVICE, CARSON RANGER DISTRICT

The Carson Ranger District recently compiled a landscape analysis and strategy for the Clear Creek/Kings Canyon area, which is directly adjacent to Carson City. Within this study are several recommendations for trailhead locations, non-motorized trail, and motorized trail locations. Many of the recommendations within this document indicate the desire to create a partnership between the Carson Ranger District and Carson City in order to implement the proposed trails. The City would encourage and support a future landscape analysis and strategy for the remaining west side canyons.

The Carson Ranger District is currently in the process of creating a recreational analysis of the Humboldt-Toiyabe National Forest. This study will be used to designate both motorized and non-motorized trails. Completion of this analysis will lead to further partnership possibilities between the Carson Ranger District and Carson City.

II.2.4 NEVADA DEPARTMENT OF TRANSPORTATION

The Nevada Department of Transportation is an important pathway partner on several counts:

- ❏ Implementation of the multi-use path sections included in the design of the northern portion of the Carson City Freeway
- ❏ Implementation of bicycle and pedestrian facilities on City's street and freeway grade separations
- ❏ The design and implementation of pathways in conjunction with existing NDOT roadways, such as Highway 50
- ❏ Implementation of the Linear Park's multi-use path through the freeway corridor near East 5th street
- ❏ Currently, Carson City and NDOT have an agreement not to construct a multi-use path within the right-of-way as a part of Phase 2 (southern leg) of the Carson City Freeway. After construction begins on Phase 2A and 2B of the freeway, the City will pursue planning and construction of a multi-use path adjacent to the freeway.

II.2.5 VOLUNTEERS, ORGANIZATIONS, AND USER GROUPS

Carson City is fortunate to have many volunteers, organizations, and user groups that focus on pathways. In many cases these groups and organizations partner with the City to help provide planning, construction, maintenance, clean-up, courtesy patrols, and community awareness. These groups and organizations include Muscle Powered, Tahoe Rim Trail Association, Eagle Valley Trail Committee, Sierra Front Recreation Coalition, Eastern Sierra Trails Coalition, Pine Nut Mountains Trail Association, Nevada All-State Trail Riders, Friends of Silver Saddle Ranch, and other similar groups.

II.2.6 WASHOE TRIBE

Some of the potential pathway linkages cross tribal lands that are located near "C" Hill (the Carson Colony), the Stewart Colony (near the Edmonds Sports Complex), and individually held lands in the Pine Nut Mountains southeast of the city. The Tribe has indicated that they are doing their own strategic land planning, including evaluating lands that have potential for development. The Tribe has indicated concerns about respecting cultural resources on and off Tribal lands. At the same time, they have expressed an interest in working with the City to develop pathways that will help connect the Tribal communities. There is also a potential to work with the Tribe to identify historic Tribal migratory paths through Eagle Valley to Lake Tahoe and incorporate them into the pathway system (with interpretive signage).

II.2.7 PRIVATE PROPERTY OWNERS

A number of segments of the trails are, or are proposed to be, on private property. The map is for long-range planning purposes. The trail alignments shown do not imply existing legal access rights or exact final locations. It will be important for the City to work closely with property owners in exploring opportunities for trail access and alignments that will be beneficial to the public and the property owner. Property owners will likely have concerns about land value, liability, security, maintenance, respect for property rights, and conflicts between public and private uses. Direct communication and a willingness to see concerns from both sides of the table will go far to reach successful, amicable conclusions.

II.2.8 CARSON AREA METROPOLITAN PLANNING ORGANIZATION (CAMPO)

The UPMP will serve as the “umbrella” document for guiding the development of Carson City’s sidewalks, bike lanes, and trail system. The portions of the UPMP that relate primarily to transportation ¹ will be exported to and refined in the bicycle and pedestrian elements of the Carson Area Metropolitan Planning Organization (CAMPO). A key purpose of the CAMPO elements is to identify transportation related facilities that can be candidates for funding through federal highway funds.

II.2.9 BUREAU OF INDIAN AFFAIRS (BIA)

The Bureau of Indian Affairs has indicated interest in being a planning partner with Carson City on the Unified Pathways Master Plan. Their lands are critical in planning for connectivity to Douglas County and the Pinenut Mountains.

II.2.10 NEIGHBORING COUNTIES

Partnering with adjacent counties is important in order to expand regional connectivity with our trail system. Washoe County, Douglas County, Lyon County, and Storey County have all expressed a desire to work with Carson City in this effort.

II.3 POTENTIAL FUNDING SOURCES FOR PATHWAYS

There are several potential funding sources for pathways projects in Carson City. Brief descriptions are provided below. More extensive information about several of the programs (noted with an asterix) can be found in the Appendix.

II.3.1 CITY GENERAL FUND ALLOCATIONS

Traditional requests from the City’s General Fund are justified by the extremely high and broad public support for pathways as evidenced in the public opinion survey.

II.3.2 QUESTION 18

The Quality of Life Initiative included provision for funding of trails projects. However, there are numerous competing priorities for Q18 funding that have significant fiscal demands and few options for funding.

¹ Largely sidewalks and bike lanes, although many portion of the trail system will also qualify as transportation facilities.

11.3.3 QUESTION 1*

The Nevada Conservation and Resource Protection (Question 1) Grant Program is designed to provide funding to protect, preserve, and obtain the benefits of the natural resources of Nevada. The program publicly funds conservation programs through the issuance of bonds.

Project criteria include the ability to conserve and protect natural resources, enhance recreational opportunities, increase public access to lands and waters, and achieve goals identified in adopted open space plans. Recreational trails qualify.

- o Acquisition of easements and fee simple title to property
- o Operation of educational programs to promote safety and environmental protection

The program provides grants for projects. Planning is eligible only if it is part of an on-the-ground trail project. Grants range from \$4,000 to \$100,000 and are available to organizations, cities, and county governments.

11.3.5 NEVADA RECREATIONAL TOURISM PROGRAM

The Nevada RTP provides funding for motorized, non-motorized, and diversified (shared use) recreational trails projects that are open to the public and use acceptable trail design standards. Eligible project include:

- o Maintenance and restoration of existing trails.
- o Development and rehabilitation of trailside and trailhead facilities and trail linkages
- o Purchase and lease of recreation; trail construction and maintenance equipment
- o Construction of new recreational trails
- o Acquisition of easements and fee simple title to property
- o operation of educational programs to promote safety and environmental protection

The program provides grants for projects. Planning is eligible only if it is part of an on-the-ground trail project. Grants range from \$4,000 to \$100,000 and are available to organizations, cities, and county governments.

11.3.5 NEVADA COMMISSION ON TOURISM

They provide grants for trailhead amenities, brochures, and trails programs.

11.3.6 GRANTS TO NON-GOVERNMENT ORGANIZATIONS*

There are a number of smaller grants available from a range of organizations such as Kodak American Greenways Grants, REI grants, and the Conservation Alliance. These grants are typically available primarily to citizens and non-government organizations (NGO's).

The Kodak American Greenways Awards Program provides small grants to stimulate the planning and design of greenways in communities throughout America, including mapping; eco-logical assessments; surveying; conferences and design activities; developing brochures, interpretative displays, audio-visual productions or public opinion surveys; and/or building footbridges; planning bike paths; or other creative projects. The maximum grant is \$2,500.

The REI (Recreational Equipment, Inc.) grant is to support grassroots efforts to protect public lands, rivers, and trails for muscle-powered outdoor recreation. Grants fall between \$1,000 and \$50,000. One recipient was The Phoenix Parks and Conservation Foundation. REI's support will go toward their work on a new trail, revegetating damaged areas, and completing signage for the barrier-free interpretive trail.

The Conservation Alliance is a non-profit organization of outdoor businesses who support grassroots citizen-action groups and their efforts to protect wild and natural areas where outdoor enthusiasts recreate. Projects focus primarily on direct citizen action and advocacy for recreation, including rivers, trails, and wild lands. Grants are typically between \$10,000 and \$50,000.

11.3.7 FHWA TRANSPORTATION FUNDING

Transportation-related trail projects qualify for federal funding in conjunction with highway construction and transportation enhancements (SAFTEA LU). They include most of the sidewalks and on-street bikeways as well as many of the off-street paved (and potentially unpaved) trails.

11.3.8 MEMORIALS

Some communities have had success in providing memorial opportunities to fund individual amenities, such as benches and small garden areas along trails, as well as individual trails. The memorial, usually identified in accordance with Parks & Recreation Department policy, can be for any purpose or limited to specific achievement criteria.

11.3.9 ADOPT-A-TRAIL MATCHING FUNDS

An adopt-a-trail program might provide the opportunity for a volunteer/advocacy group to sponsor a section of a pathway. They could assist in pathway construction or provide pathway maintenance/trash pick-up responsibilities.

The key to successfully implementing Carson City’s UPMP depends upon consistent decision-making and collective action by the individual user groups, agencies, and local governments involved with trails in the City. This chapter outlines the key policies that will achieve the vision of this plan and provide consistent direction in day-to-day decision-making. It also includes specific actions that should be taken to ensure that the plan is implemented in its entirety.

12.1 POLICIES

Policies are statements of official direction. They establish precedents for decision-making. They are sometimes referred to as “decisions made in advance” that are therefore more objective than if they are made in relation to a specific project. Actions are the “to-do” list for the City to implement the Plan.

1. The UPMP is intended to be a “living document,” that is, reflective of current attitudes, conditions, and needs. To remain so, the Master Plan must be reviewed and updated regularly, at least annually.
2. The City will not make land use decisions that are in conflict with the UPMP. When potential conflicts arise, prior to the proposed action, the City will either modify the proposed action, or amend the UPMP, or both.
3. Before a pathway project crossing private land is proposed by the City, a study must be performed to find another pathway alignment on Federal, State, or City lands.
4. The City will work with the U.S. Forest Service, BLM, Nevada State Parks, Washoe Tribe, Bureau of Indian Affairs (B.I.A.), and other agencies, developers, and user groups in a cooperative manner to develop and maintain the UPMP, including its trails, trailheads, and support facilities.
5. The City will work with the Washoe Tribe and Bureau of Indian Affairs (B.I.A.) to assure that pathways on or adjacent to Tribal lands are mutually beneficial to the Tribe, the Bureau of Indian Affairs (B.I.A.), and the public.
6. Any new development, and redevelopment adjacent to a pathway identified in the Unified Pathways Master Plan, will be required to provide pathways connections (sidewalks, bicycle routes, or multi-use trails) to these facilities. If any new development or redevelopment is not adjacent to a pathway identified in the Unified Pathways Master Plan, the developer will be required to provide connectivity to the surrounding land uses with a pathway system.
7. Unless physically impossible (steep terrain, rivers, highways), internal pathway systems of developments will connect with nearby elements of the UPMP by providing direct connections where adjacent to the UPMP, or links and easements to property boundaries so that future connections can be made.
8. Public Works Department will be responsible for the design, construction, and maintenance of sidewalks and on-street bike lanes within any road’s right-of-way. The Parks and Recreation Department will be responsible for the design, construction, and maintenance for off-street pathways – outside of any road’s right-of-way.
9. Unless otherwise agreed or stipulated, the City will have maintenance responsibilities for the pathways shown on the UPMP that are on City and private land.
10. As a routine part of future roadway projects, the City will incorporate sidewalks, on-street bicycle lanes, and adjacent off-street shared-use paths that are indicated on the UPMP.
11. Carson City will cooperate with other governmental agencies to help obtain and develop relevant portions of regional trails such as the Tahoe Lake Trail (between Highway 28 and Lake Tahoe).
12. In the event that public land is privatized (through land exchanges, etc.), existing pathways and trailheads designated in the City trails plan will be preserved.
13. Trails will be located or relocated in areas, and with trail design standards and construction specifications that will avoid environmental and visual impacts and will be consistent with sound, scientific environmental stewardship.

14. The standards of the Americans with Disabilities Act (ADA) should be applied to complete loops of pathways as well as individual segments that connect to trailheads. (Avoid ADA segments that are dead ends or inaccessible to people with disabilities.)
15. Comply with relevant ADA Accessibility Guidelines (ADAAG) and American Association of State Highway and Transportation Offices (AASHTO) guidelines in all facets of pedestrian accommodation, including sidewalks, intersections, traffic signals, transit interfaces, and parking facilities, as well as off-street development of public places.
16. Enhance the pedestrian experience
17. Coordinate all pedestrian transportation enhancement projects with the UPMP, the Parks and Recreation Plan, other portions of the Regional Transportation Plan, and other planning tools as may be appropriate.
18. Ensure the consistency of the Carson City pathways planning effort with that of adjacent or overlapping agencies.
19. Ensure the connectivity of pathways in developing areas by requiring sidewalk/path connections between cul-de-sacs, and connections to adjacent paths (existing or future).
20. Emphasize pedestrian needs in the design of downtown sidewalks, street crossings, and access design. Ensure that sidewalk/parking lot interfaces are properly sized and designed to accommodate anticipated pedestrian loads.
21. Sidewalks are a vital component of all new development, and on-site sidewalks design must include adequate provision for interface with off-site walkways.
22. Increase transportation system functionality by developing and promulgating standards and practices that enhance interface between pedestrians and other modes, including bicycle and transit. This may involve mandating new development place greater emphasis on bicycle rack placement, transit stop design, on and off-street parking accessibility, and related intermodal concerns.
23. At-grade crossings must be designed to equally consider vehicular and trail user safety (pedestrian-actuated crossing lights, median “safe zone,” raised or texture change crossing surface, etc.).
24. Shared-use street designation is appropriate for streets with less than 2000 ADT.
25. Consider bicycles to the same extent as other travel modes in all aspects of developing the transportation system.
26. Keep the UPMP current.
27. Ensure bicycle facilities are included in all roadway improvement and development projects within the Carson City boundaries. Consider bicyclists as users in the design and construction of all roadway projects.
28. Provide adequate, predictable, and dedicated funding to construct and maintain bicycle lane improvement projects as identified in the UPMP.
29. Recognize the importance of bicycling for commuter trips, destination trips, and recreation trips when defining and prioritizing the Bicycle Plan.
30. Coordinate the planning, design, and construction of bicycle lanes with other agencies and municipalities within Carson City boundaries, continuing into neighboring jurisdictions.
31. Integrate bicycle lanes and facilities into the future fixed route transit system. Include bicycle storage at fixed route stops or bicycle racks on the transit vehicles.
32. Public Works department will be primarily responsible for the planning, construction, and maintenance of bicycle lanes. Coordinate bicycle lanes with other pathways of the UPMP to ensure continuity of routes.
33. Use the following criteria to assign priorities to bicycle lane projects:
 - address safety or hazardous conditions
 - provide key bicycle linkages in the urban area of the Carson City first
 - provide access to community activity centers (parks, schools, etc.)
 - take advantage of bicycle lanes provided by roadway improvement projects by providing key linkages
 - complete planned bicycle lanes or trails
 - provide linkages to the transit and school bus systems
34. Design standards for bicycle lanes shall be the most current edition of the “Guide for the Development of Bicycle Facilities” (AASHTO) and the “Manual of Uniform Traffic Control Devices” (MUTCD).
35. Address persons with special needs in designing, implementing, and maintaining bicycle transportation projects.

- Requirements of the Americans with Disabilities Act as amended shall be addressed for both public and private projects.
36. Establish and fund a training and education program to increase the awareness of City staff about bicycle needs including design standards, construction signing, maintenance needs, and increased technical expertise.
 37. On- street bike lanes should be designed and monitored to improve security and safety. Establish regular, scheduled pathway maintenance, pavement and shoulder repair, vegetation placement/removal, and police patrols. Allow different levels of maintenance for each facility based on amount and type of use or exposure to risk.
 38. Assure that bicycle lanes are provided, where consistent with the UPMP, in and adjacent to development projects. Encourage development projects to provide linkages to existing or proposed bicycle facilities.
 39. Require new or renovating properties to provide bicycle parking. Consider other facilities to encourage the use of bicycles.
 40. Coordinate the planning, development, and funding of bicycle systems with affected citizens, neighborhood associations, and business groups.
 41. Establish numbered bike routes with other counties, such as US395 and US50. Work toward interstate bike routes with adjoining states
 42. Carson City may periodically close trails for rehabilitation of trails, sensitive lands, and watersheds.
 43. Off-street trails shall be designed for multiple uses unless constrained by available land (steepness, ROW width), incompatible adjacent land uses, the comfort and safety of users, or environmental considerations dictate restricted uses. OHV usage shall be on designated trails only.
 44. In creating recreational trails, off-street paths are strongly preferred over on-street bike lanes.
 45. The City supports the continued designation and use of areas for specific forms of non-automobile usage. An example is the portion of Prison Hill designated for non-motorized use.
 46. Horses are allowed on all streets in Carson City. However, in some areas of the City with significant horse ownership, equestrian routes may be signed to alert drivers and other users.
 47. The trailhead symbols on the UPMP are inclusive of those below. That is, OHV trail heads include equestrians and other trail users. Equestrian trailheads exclude OHV use, but include parking for hikers, bikes, etc. Pedestrian trail heads exclude OHV and equestrian use. Walk-to trail heads exclude any kind of vehicle parking.
 48. In order to impact the least amount of private property possible, off-street trails should generally be aligned along property lines or in locations compatible with existing or proposed land uses, so long as the intent of the pathways system is accomplished.

12.2 ACTIONS

1. Hire a Pathways Coordinator to have overall responsibility for coordinating the planning and design of all pathway projects (on- and off-street) and assist with the safe route to schools program, including pedestrian sidewalks and bikeways. In addition, this individual would apply for grants to implement the UPMP and could acquire funds which outweigh City's salary expenses. Recommendation: Assign the Pathways Coordinator to the Parks and Recreation Department. Ensure that this person is included in the design review/sign-off process for subdivisions, rezoning, and issuing of building permits.
2. Develop snow removal management plan for basic network of pathway system.
3. Allocate specific pathways responsibilities between Parks and Public Works (e.g. Parks = off-street, Public Works = sidewalks and on-street bike lanes), and develop interdepartmental procedures for consolidated construction and maintenance.
4. Amend as necessary City land use regulations (subdivision, zoning, building permits) to ensure that adequate mechanisms are in place to achieve the dedication of pathways and trailheads in all new development and major redevelopment. Evaluate the potential of dedication requirements, RCT parks credits, and development incentives (e.g. density bonus) as means of obtaining trails and trail easements from developers and draft recommended amendments to City ordinances incorporating these mechanisms.
5. Develop and adopt standards for maintenance of on- and off-street and pathway facilities, including year-round sweeping and winter snow removal.
6. Each year, develop and adopt both an annual and a 5-year Pathways Implementation Program. Include:
 - ♦ acquiring easements
 - ♦ pathway and trail head construction
 - ♦ repairs and maintenance
 - ♦ intersection improvements¹
 - ♦ signage
 - ♦ changes to regulations
 - ♦ educational programs
 - ♦ cultural and historical clearances
7. Develop a schedule, procedures, and supporting documentation (e.g. maps, property valuations, fiscal benefits) to work with private land owners, NDOT, the BLM, and the USFS to obtain easements, and assert prescriptive uses, etc. to implement the UPMP.
8. Work through the Open Space Manager to secure trail easements in City Open Space to implement the UPMP.
9. Work with the BLM and the Forest Service to increase the stewardship of the pathway system on public land. Convene a "working group" consisting of the City and local pathway user groups to explore ways to jointly improve pathway maintenance and oversight—either by increased federal funding and commitment or by cooperative efforts with other agencies and groups.
10. Work with the Washoe Tribe and the Bureau of Indian Affairs (B.I.A.) to identify pathways that will help connect Tribal communities as well as provide connectivity for public trails. Develop standards, signage, and regulations that will ensure public respect for Tribal lands and cultural resources. Explore opportunities to incorporate historic Tribal migration routes into the pathways system.
11. Develop detailed standards for all pathway types and components, including dimensions, paving materials, striping, landscaping, drainage, drain inlet grates, adjacent fencing, curbs, traffic control devices, and other design elements. Include regulations of adjacent uses, such as prohibiting the overhang of automobile parking onto sidewalks or paths, a standard for driveway spacing that cross off-street paths, etc.
12. Evaluate and adopt the Universal Access Trail standards for the accessible portions of the City's proposed pathway system.
13. With the aid of volunteers, complete a detailed mapping of all existing pathways in Eagle Valley, including type, condition, and current use.

¹ Place a high priority on improvements to intersections with high-volume trails or paths. Use innovative design treatments (e.g., lighted signage, different textured or colored bike lanes, advance bicycle stop lines at intersections, and bike path crossing markings) where appropriate.

14. Create a standard for trail signage (trail identification, responsible agency, permitted uses). Implement over 5-year period. For example:
 - Develop a uniform and consistent trail identification system (name, number)
 - Work with Public Works, NDOT, BLM, USFS, Washoe Tribe, B.I.A, and local stakeholder organizations to standardize information and symbols on signage across jurisdictional boundaries
 - Develop effective trail head signage regarding trail etiquette and use regulations
15. Make trail information available to visitors and residents. For example,
 - Working with other agencies and interest groups, develop and distribute trail maps and a web-resource regarding pathway locations, trail etiquette, and safety regulations.
 - Contact publishers of trail guides and maps and make UPMP information available to them (as unofficial maps).
16. Work with U.S. Forest Service, B.L.M., Nevada State Parks, Nevada Division of State Lands, Washoe Tribe, and the B.I.A in any future pathways planning efforts to refine the UPMP on properties managed by these agencies.
17. Enlist volunteers to:
 - Participate in annual “trail work days” to clean up, repair, revegetate, and even construct trails
 - Take sample counts of pathway use (to measure growth in use)
 - Monitor compliance with pathway etiquette (noise, yielding ROW, speed, safety, etc.)
 - Present pathway etiquette programs in schools and to local service organizations.
 - Develop educational materials and programs for the users of the pathways system
18. Collect available data and mapping of environmental factors. Augment with site-specific observations. Create suitability maps for trail types and conditions. Refine data and mapping as resources permit.
19. Develop standards for various trail and user types to ensure environmental sustainability and minimize visual impacts.
20. With the Open Space Manager, develop management programs for trails and adjacent areas. Reclaim areas subject to erosion and highly visible visual degradation.
21. With input from OHV users, other trail users, Federal and State agencies, resource management specialists, and the entire community, do a detailed evaluation and designation of trails suitable for OHV use.
22. Work with trail user groups to adopt pathway etiquette standards. Jointly disseminate pathway etiquette standards through: presentations to user groups, presentations at schools, trailhead signage, newspaper articles and/or paid advertisements and volunteer trail monitors observing compliance and reminding users.
23. Maintain an inventory of existing pedestrian facilities, including site-specific and systemic deficiencies, particularly those which constitute “missing links.” Develop a plan to prioritize and improve deficiencies. Identify all available funding sources for pedestrian enhancements.
24. Regularly evaluate available pedestrian crash histories to determine if specific safety concerns can be identified and remedied. Establish a plan to improve safety at high crash locations.
25. Develop sidewalk and street crossing design, construction, and maintenance standards. Standards should distinguish between urban and rural standards. Base standards on the Nevada Pedestrian Plan and Design Guidance (NDOT, due for release in early 2006) and Guide for the Planning, Design, and Operation of Pedestrian Facilities (AASHTO, 2004), with modifications as appropriate to address specific Carson City-area needs. Where traffic control devices are involved, standards should conform to the Manual on Uniform Traffic Control Devices (FHWA, 2003 or subsequent updates).
26. Develop and adopt crosswalk marking standards which are attractive and safe and which comply with NDOT practices to be issued in 2006 as an addendum to the AASHTO, Guide for Planning Design, and Operation of Pedestrian Facilities. Utilize the pedestrian facility inventory database to identify locations requiring improvement.
27. To ensure compliance with appropriate ADA Accessibility Guidelines, develop a plan and a funding program to retrofit existing facilities to a state of ADA compliance over a reasonable period of time. Utilize the pedestrian facility inventory database to identify and prioritize locations requiring improvement.
28. Develop standards for landscaping sidewalks and paths incorporating practical constraints imposed by geometrics, ADA accessibility requirements, budgetary considerations, and maintenance feasibility.
29. Work with other agencies, including the Carson City Convention and Visitors Bureau, to develop walking maps

that make sidewalks more useful and attractive to residents and visitors.

30. Develop and maintain a community-wide Safe Routes to School Program in accordance with the federal legislation (such as the 2005 SAFETEA-LU), and seek funding available under that legislation. Carson City should take an aggressive stance in applying for a fair share of Nevada's portion (5 million dollars) of the \$612 million dollars available for the 2006-2009 timeframe.
31. Develop specific standards for sidewalks in higher density districts (governmental core, the historic district, or areas of concentrated gaming and resort development) that generate extraordinary pedestrian demands not reflected in conventional development standards. Consider for example, wider sidewalks, crosswalks, and ramps.
32. Install signage regarding location, points of interest, and safety access.
33. Develop annual maintenance program, using volunteers to remove in-stream hazards, upgrade rock diversions and to clean up the river.
34. Organize Safety Education Classes and conduct periodic "friendly" objectives. If warranted, establish permit process to assure users are educated.
35. Provide basic amenities at all river access points.
36. Develop a weed management program for the River Corridor.
37. Conduct annual planning coordination meeting with Lyon County.
38. Provide regional coordination to locate one public river rest area within the Carson River canyon.
39. Provide training and equipment to the Carson City Fire Department to increase their agency's river rescue capabilities.
40. Develop aquatic recreation and education programs through the Carson City Recreation Division to promote outdoor river experience for youth and adults.
41. The primary need for improvements to the Carson River Aquatic Trail are related to public safety, river access and natural resource management.

I 3.1 POTENTIAL FUNDING SOURCE DETAILS

I 3.2 PUBLIC INPUT COMMENTS

I 3.3 SIDEWALK INVENTORY AND ANALYSIS

I 3.4 BIKE LANES INVENTORY AND ANALYSIS

I 3.5 NATIONAL AND HISTORIC TRAILS

I 3.6 BIKE/PEDESTRIAN DEMAND FACTORS

I 3.7 AQUATIC TRAIL TECHNICAL DATA

APPENDIX 13.1

POTENTIAL FUNDING SOURCE
DETAILS

13.1.1 KODAK AMERICAN GREENWAYS GRANTS

Purpose:	The Kodak American Greenways Awards Program, a partnership project of the Eastman Kodak Company, the Conservation Fund and the National Geographic Society, provides small grants to stimulate the planning and design of greenways in communities throughout America.
Funding Interests:	The organization is interested in funding activities such as mapping, eco-logical assessments, surveying, conferences and design activities; developing brochures, interpretative displays, audio-visual productions or public opinion surveys; hiring consultants; incorporating land trusts; and/or building footbridges, planning bike paths or other creative projects.
Geographic Focus:	Nationwide
Types of Support:	In general, grants can be used for all appropriate expenses needed to complete a greenway project, including planning, technical assistance, legal and other costs.
Grant Size:	The maximum grant is \$2,500. However, most grants range from \$500 to \$1,500.
Requirements & Limitations:	Awards will be given primarily to local, regional, or statewide nonprofit organizations. Although public agencies may also apply, community organizations will receive preference. Grants may not be used for academic research, general institutional support, lobbying, or political activities.
Grants will be awarded based on the following criteria:	Importance of the project to local greenway development efforts
	Demonstrated community support for the project
	Extent to which the grant will result in matching funds or other support
	Likelihood of tangible results
	Capacity of the organization to complete the project
Application Process:	Applications are due on June 1. Online applications and related hard copy materials must be received by that date. Applications or supplementary materials received after June 1 will not be considered. A postmark from June 1 will not be sufficient. To avoid mail delays, submittals by priority or overnight mail are encouraged. Faxed and e-mailed materials will not be accepted. Please submit all additional materials through the mail in one packet. The application packet should contain the two letters of reference; the 501(c)(3) status confirmation letter for non-profit organizations, documentation of public agency status for governmental organizations, or Social Security Number for individuals; and the one page budget. For further information on the required materials, see website.
Deadlines:	Applications may be submitted from March 1 through June 1 of each calendar year.
Recent Grants:	Grantee: Shorebank Enterprise Pacific, Ilwaco, Washington Purpose: Funding was given to create an urban Wetland Enhancement Trail on the Astoria River Trail (WET-ART), which will demonstrate innovations in wetland restoration, passive surface water management, and a public multi-use pathway.
	Grantee: Woodstock Conservation Commission Purpose: The grant funded a conceptual study for a greenway along the Little River in Woodstock, Connecticut. The greenway will protect a public drinking water supply, provide a wild-life corridor linking several parcels of open space, and link to other trails in adjacent towns.

13.1.2 NEVADA CONSERVATION AND RESOURCE PROTECTION (QUESTION 1) GRANT PROGRAM

Purpose:	The Nevada Conservation and Resource Protection (Question 1) Grant Program is designed to provide funding to citizens working to protect, preserve, and obtain the benefits of the property and natural resources of Nevada. The program was ballot Question Number 1, when the people of Nevada voted to publicly fund conservation programs through the issuance of bonds.
Funding Interests:	Project selection will be based predominantly on the project's ability to conserve and protect natural, scientific, cultural, archaeological, agricultural, paleontological, historical, wetland, or riparian resources. The project's ability to benefit the public towards an overall advancement in the conservation and protection of the natural resources of the state, an enhancement of recreational opportunities, increased public access to lands and waters, and the achievement of goals identified in adopted open space plans will also be considered.
Grants are awarded for the following project types:	Recreational trails
	Habitat conservation plans
	Open space plans
	Acquisition of land and interests in land
	Urban parks and greenbelts
	Carson River corridor
	Lake Tahoe path system
Geographic Focus:	Nevada
Types of Support:	Project
Grant Size:	There are no specified minimum or maximum funding levels.
Requirements & Limitations:	Grants may be awarded to counties, municipalities, state agencies, and non-profit conservation organizations. Projects that will achieve multiple purposes, leverage additional funding sources, and that are integrated with other existing projects (of the types describe above) are encouraged. Matching contributions of between 5 percent and 50 percent are required, depending upon project type. Program-specific matching requirements are posted on the website.
Application Process:	Applicants should submit one original, signed hardcopy and two photocopies of a completed general application, including required attachments, to Nevada Division of State Lands staff. The general application and additional resources are available on the website.
Deadlines:	The General Application acceptance period will be July 5 th to September 6 th or as determined by the State agency.

13.1.3 RECREATIONAL EQUIPMENT, INC.

Purpose:	The mission of Recreational Equipment, Inc.'s (REI) grant program is to support grassroots efforts to protect public lands, rivers, and trails for muscle-powered outdoor recreation.
Funding Interests:	The corporation is interested in the preservation of wildlands/open space, advocacy-oriented education of the public on specific conservation issues, working to organize a trails constituency and to advocate for trails at the state and local levels, helping trails happen that are: mixed ownership, used for commuting, rail-to-trail conversion projects, mixed or diverse use, or used by road or mountain bicycles.
Geographic Focus:	Nationwide
Types of Support:	Project. The group will not fund conferences, direct services, fundraising, or research.
Grant Size:	Grants fall between \$1,000 and \$50,000.
Requirements & Limitations:	Organizations must have IRS 501(c)(3) status to be eligible for funding. The following are ineligible for support: Botanical gardens, individuals, museums, public agencies, religious organizations, research institutions, and zoos. Application Process: REI does not accept unsolicited grant requests and proposals. REI's grant program begins with employees nominating organizations to which they are personally committed, focusing on environmental conservation and outdoor recreation. Upon receiving nominations, those select organizations are invited to submit proposals. A store directory is available online.
Deadlines:	After organizations are invited to submit proposals, they will be informed of any deadlines.
Recent Grants:	Grantee: New Mexico Friends of the Forest, Tijeras, NM Amount: \$5,000 Purpose: Friends of the Forest is a volunteer organization supporting the US Forest Service in maintaining trails, providing educational opportunities, and directing volunteer support in needed areas. REI's support will go toward the development of a field guide of heavily used open spaces and national forests on the Sandia Mountains. This guide will be used by USFS volunteers, students, and teachers visiting the Sandia Mountain Natural History Center, and local outdoor clubs.
	Grantee: Phoenix Parks & Conservation Foundation, Phoenix, AZ Amount: \$5,000 Purpose: The Phoenix Parks and Conservation Foundation facilitates private sector and community participation in the restoration, development, and preservation of Phoenix parks and preserves. REI's support will go toward their work on a new trail, the Judith Tunnell interpretive trail. In partnership with City of Phoenix South Mountain Preserve and the Phoenix Mountains Preservation Council, they are revegetating damaged areas and completing signage for the barrier-free interpretive trail located in the South Mountain Preserve.

13.1.4 THE CONSERVATION ALLIANCE

Purpose:	The Conservation Alliance is a non-profit organization of outdoor businesses whose collective contributions support grassroots citizen-action groups and their efforts to protect wild and natural areas where outdoor enthusiasts recreate.
Funding Interests:	The Alliance funds projects focused primarily on direct citizen action and advocacy addressing protection and enhancement of natural resources for recreation, including rivers, trails, and wild lands.
Geographic Focus:	Nationwide
Types of Support:	Project Support
Grant Size:	Grants are typically between \$10,000 and \$50,000.
Requirements & Limitations:	The Conservation Alliance is not looking for mainstream education or scientific research projects, but rather for active citizen-action campaigns. To be considered, requests for general operating expenses or staff payroll must be integral to campaign implementation. Proposed activities should be quantifiable, should include a measure for evaluating success, and should show a good chance for closure or measurable results over a fairly short term (one to two years).
Application Process:	Direct proposals are not accepted. Applicants must be nominated by an Alliance member company. A list of member companies is posted on the Alliance web site. This process is used to keep the member companies actively involved in local environmental efforts and to weed out proposals that do not meet Alliance objectives.
Deadlines:	Proposals are reviewed in January and August.
Recent Grants:	Grantee: Utah Rivers Council, Salt Lake City, UT Amount: \$33,000 Purpose: To support the Great Salt Lake Coalition's efforts to build a constituency to protect the Great Salt Lake wetlands by bringing attention to proposed diversion of the Bear River, the lake's primary water source, and to proven alternative water conservation practices. The lake's wetlands represent vital habitat for 270 bird species, including nearly one-third of North America's migratory ducks. The Utah Rivers Council is a community-based, grassroots, non-profit organization dedicated to conservation and stewardship of Utah's rivers and sustainable, clean water sources for Utah citizens and wildlife.
	Grantee: Sierra Club Grizzly Bear Ecosystems Project, Bozeman, MT Amount: \$30,000 Purpose: To rally public attention and prevent premature delisting of the grizzly bear as an endangered species, to develop measures to reduce the occurrence of human-bear conflicts, and to restore and protect bear habitat.

13.1.5 FEDERAL HIGHWAYS ADMINISTRATION (FHWA) BICYCLE & PEDESTRIAN PROGRAM

<p>Purpose:</p>	<p>The Bicycle & Pedestrian Program of the Federal Highway Administration’s Office of Human and Natural Environment promotes bicycle and pedestrian transportation accessibility, use, and safety.</p> <p>Each State has a Bicycle and Pedestrian Coordinator in its State Department of Transportation to promote and facilitate the increased use of non-motorized transportation, including developing facilities for the use of pedestrians and bicyclists and public educational, promotional, and safety programs for using such facilities.</p> <p>The FHWA Bicycle & Pedestrian Program issues guidance and is responsible for overseeing that requirements in legislation are understood and met by the States and other implementing agencies.</p>
<p>Non-motorized Transportation Pilot Program:</p>	<p>This program introduces a network of non-motorized transportation infrastructure facilities in 4 selected communities that connect directly with transit stations, schools, residences, businesses, recreation areas, and other community activity centers.</p> <p>The purpose of the program shall be to demonstrate the extent to which bicycling and walking can carry a significant part of the transportation load and represent a major portion of the transportation solution.</p>
<p>National Safe Routes to School:</p>	<p>This new program administered by the Federal Highway Administration’s (FHWA) Office of Safety is designed to increase the number of children safely walking and biking to school. To learn more about the program, please visit the Safe Routes to School Website.</p>
<p>Application Process:</p>	<p>Program Guidance to aid in the implementation of the Safe Routes to School Program is available at http://safety.fhwa.dot.gov/saferoutes/srtsguidance.htm.</p>

13.1.6 NEVADA RECREATIONAL TRAILS PROGRAM (FUNDING BY FEDERAL HIGHWAYS ADMINISTRATION)

Purpose:	The Nevada Recreational Trails Program provides funding for motorized, non-motorized, and diversified (shared use) recreational trails projects that are open to the public and use acceptable trail design standards.
Funding Interests:	Eligible projects include:
	Maintenance and restoration of existing trails
	Development and rehabilitation of trailside and trailhead facilities and trail linkages
	Purchase and lease of recreational trail construction and maintenance equipment
	Construction of new recreational trails
	Acquisition of easements and fee simple title to property
	Operation of educational programs to promote safety and environmental protection
Geographic Focus:	Nevada
Types of Support:	The program provides grants for projects. Planning is eligible only if it is part of an on-the-ground trail project.
Grant Size:	Applicants may apply for as little as \$4,000 and as much as \$100,000 for eligible projects.
Requirements & Limitations:	Private individuals, organizations, special government districts, and city, county, state, and federal governments are eligible to apply. Administrative costs may be funded on a limited basis; however, they must pertain to the approved project and be included in the approved budget.
Recreational Trails Program funds cannot be used for the following:	Property condemnation
	Hand tools (shovels, rakes, pry bars, etc.)
	GPS units and digital cameras
	Feasibility studies
	Law enforcement
	Projects within the right-of-way of a railroad
	The facilitation of motorized access on otherwise non-motorized trails
	Improvements to roads or bridges accessible by regular passenger cars or sidewalks

Application Process:	Applications must include project scope, justification, budget, narrative and supporting documentation. The application form, instructions, and requirements are available on the website.
Deadlines:	Complete applications are usually due in the last Friday in February: 24 February 2006. The federal funds become available October 1st of each year and, generally Nevada State Parks distributes application packages in November.
Comments:	Applicants can contact the Nevada Recreational Trails Program for technical assistance. Technical assistance is provided for help with grant writing, trail construction, compliance with standards/guidelines, grant management, request for reimbursement, other sources of funding, references, ideas/brainstorming, and general questions.
Recent Grants:	<p>Grantee: Friends of Wilson Canyon, Yerington, NV</p> <p>Amount: \$9,488</p> <p>Purpose: Funding was given to erect barriers to protect the exposed hillsides on the US Forest Service (USFS) side of the road as well as those near the private property fence on the Bureau of Land Management (BLM) side. These barriers will consist of a combination of fabricated railroad tie barriers and 2-3 foot diameter native rocks. The project also led to the installation of informative signage in the camping and day use areas. These signs will show the trail and camping areas, explain the rules and code of conduct for the area, and inform area users of the various recreation opportunities in the Wilson Canyon area. Funding was also given to GPS map all existing trails on both BLM and USFS lands. Once the trails are defined, the group will work with the respective agencies to determine the most appropriate routes, and erect signs trail users can use to follow loops back to the staging areas.</p>

13.1.7 ENHANCEMENT FUNDING

<p>General Information:</p>	<p>The Transportation Enhancement Program was established by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and was continued, with minor modifications, under the Transportation Equity Act for the 21st Century (TEA-21).</p> <p>Transportation enhancements are transportation-related activities designed to strengthen the cultural, aesthetic, and environmental aspects of the Nation's intermodal transportation system. The transportation enhancements program provides for the implementation of a variety of non-traditional projects, such as the restoration of historic transportation facilities, bicycle and pedestrian facilities, landscaping and scenic beautifications, and mitigation of water pollution from highway runoff.</p>
<p>Purpose:</p>	<p>To ensure the requirement that 10% of Surface Transportation Program funds be set aside for transportation enhancement activities. The transportation enhancements program provides for the implementation of a variety of non-traditional projects, such as the restoration of historic transportation facilities, scenic beautification and mitigation of water pollution.</p>
<p>Deadline:</p>	<p>December</p>
<p>Application Process:</p>	<p>Applications for enhancement projects are solicited on a 2-year cycle, beginning in July, with the application due in December. Prior to July of the application year, NDOT holds a workshop, which is video conferenced from NDOT Headquarters to centralized locations around the state. The workshops are advertised for public participation and letters are sent to all the counties and major cities requesting their participation. Only applications submitted to NDOT by state agencies, eligible federal agencies, city/county governments or other eligible local public agencies (including general improvement districts), and tribal governments will be accepted for consideration. Private groups may apply for project funding, but must apply through a public entity or agency. Projects must be for an eligible enhancement activity and must be related to surface transportation. A local match of 5 percent is required for this program.</p> <p>Applications for projects located within metropolitan planning areas must be submitted through the designated metropolitan Planning Organization (MPO). The State's designated MPOs are the Regional Transportation Commissions of Southern Nevada and Washoe County, the Tahoe MPO, and the Carson Area MPO. Copies of all applications submitted to the MPOs must also be sent to the NDOT. All other applications for projects must be submitted directly to the NDOT. Following an extensive review of the application for eligibility and consistency with state and federal requirements, projects are prioritized for funding by the Statewide Transportation Technical Advisory Committee (STTAC).</p> <p>Projects from the urban areas are initially prioritized by the area's MPO. A special subcommittee of the STTAC prioritizes projects from the non-urban areas of the state. The STTAC approves the subcommittee's selections and recommends to NDOT a final priority list of projects. Once approved by NDOT, the enhancement projects are included in the applicable MPOs Regional Transportation Improvement Programs (RTIP) and in the State's Transportation Systems Project (TSP) document. The TSP, including the RTIPs, is sent to FHWA for final approval. Selected applicants are notified as to whether or not their project was selected for funding. NDOT retains responsibility for the projects funded under the Enhancement Program.</p>

13.1.8 POTENTIAL FUNDING SOURCE OPPORTUNITIES FOR IMPLEMENTATION

State Ballot Question 1 Funds:	\$10 million dollars is earmarked for recreation, restoration, and enhancement projects on the Carson River. All Question 1 funds must be dedicated to projects by November 5, 2008. Some projects may continue to see reimbursements as late as 2011. All bond funds sold are to be expended within three years of issuance. For this reason, projects that are deemed ready to be implemented should rank higher to insure timely expenditure of funds.
Nevada Division of Wildlife	The Nevada Division of Wildlife (NDOW) can work through their federal aid program to procure grants and funds. The funding available depends on the scope of the project. Habitat and access improvements would be eligible for funding. In addition, NDOW has allocated funding for projects with Question 1 funds.
Concessionaire Fees:	In order to pay back improvements made to the Yampa River, the county instituted a “per-head” tax on the river equipment concessionaires. The park paid for itself within the first year and subsequent funds allowed the county to increase the maintenance and development of other recreation facilities. A similar fee could be imposed on Carson River concessionaires for equipment rental or guided river trips.
Donations:	In Farmington, New Mexico, a significant percentage of the annual city budget was devoted to construction of their whitewater park. The total park costs should have been \$300,000 but because of donated labor and materials it cost \$60,000.
General Funds and Capital Funds:	Cities such as Vail, Colorado, Farmington, New Mexico, and Boulder, Colorado paid for their river parks and improvements with capital funds. Carson City could potentially use city funds to partially pay for improvements.
GRANTS	
Recreation Trails Program:	Nevada State Parks administers the Recreational Trails Program in Nevada by awarding grants to successful applicants each year, on a competitive basis. Applicants may apply for up to \$100,000; a minimum 20% match is required for each trail project. Funding may be used to construct new trails, enhance existing trails, build trailside facilities, as well as to modify and remove dams. Eligible applicants include individuals, private organizations, municipal, county, and State and Federal government entities.
Land and Water Conservation Fund (L&WCF) Program:	The Land and Water Conservation Fund Act of 1965 is a federal program that provides matching grants to states and through the states to local governments for the acquisition and development of public outdoor recreation areas and facilities. The L&WCF assistance is provided on a 50/50 matching basis to individual projects. These projects are submitted through the Nevada State Parks liaison officer to the National Park Service for approval. There have been 240 projects funded by L&WCF since 1965.
PRIVATE FOUNDATIONS	
The Conservation Fund:	The Conservation Fund forges partnerships to protect America’s legacy of land and water resources. Through land acquisition, community initiatives, and leadership training, the Fund and its partners demonstrate sustainable conservation solutions emphasizing the integration of economic and environmental goals. Access and trails, including river trails, are types of projects that would match well with the goals of the Fund.
American Conservation Association, Inc.	Grants from \$5,000 to \$40,000 in areas including the environment, conservation of natural resources and recreation.
The William T. Kemper Foundations	Grants from \$1,000 to \$50,000 in areas including community development, the environment and recreation.
The William Kenney Watershed Protection Foundation	Grants from \$5,000 to \$15,000 in areas including work to protect rivers in the western United States.

The Union Pacific Foundation	UP concentrates its support in communities where the company has significant operations (including Nevada) and provides grants in areas related to natural resources and the environment among other things.
David and Lucile Packard Foundation	Grants up to \$300,000 (based on previous grantees) to nonprofits in areas including conservation and the community.
Watershed Protection Foundation	Grants from \$7,500 to \$15,000 to 501(c)3 organizations that seek to protect river ecosystems in the west.
Power Bar Inc. Direct Impact on Rivers and Trails (DIRT) Grant	Grants from \$1,000 to \$5,000 for projects that create, maintain, improve or restore access to valued recreational areas.
REI Community Recreation Grants	Grants range from \$500 to \$5,000 (financial support or REI-crafted gear) to nonprofit organizations for support of recreation opportunities linked to muscle-powered recreational activities.

APPENDIX 13.2

PUBLIC INPUT COMMENTS

13.2.1 TRAIL WORKSHOP

Trail Issues/Problems

- ⌘ Connectivity
 - North/south corridor
 - West to foothills
 - Schools connected with trails
 - Carson City rim trail with connectivity to Tahoe Rim Trail
 - Trail behind college widened and connect north to south
 - Connect trails to bus routes
- ⌘ Riverview Park
 - Not ADA accessible
 - Consider paving trail
 - Extend trail to river
 - Maintain interpretive signs (vandalism control)
 - Bike lane on East 5th Street needs to connect to Riverview Park
- ⌘ Access
 - Access through developments
 - Access to parks and regional parks
 - Equestrian connection and access
 - Maintain access
 - Trail system through town with access to other trails
 - Keep resources open to public
 - Encourage home owners to allow access behind houses
- ⌘ Trail Etiquette
 - Use conflicts
 - On-going trails committee?
 - Education is key for responsible usage
 - Need place to call for etiquette issues (call agencies that own land)
 - Equestrian responsibility to expose horses to trail users
 - Bells on mountain bikes
- ⌘ Motorized Access
 - Pine Nut Mountain Plan (BLM) is proposing to eliminate motorized use. BLM wants to keep challenging motorized trails
 - Motorcycle access
 - Rock crawling area
 - OHV and equestrians have large economic impacts
 - Pine Nut Trails Association is approved to give classes at the high school
- ⌘ Fire Roads
 - Tie in to public safety (fire access)
 - Fire break trail
 - Develop trails in fire area as part of rehabilitation
 - Use fire clearing as means to create new trails
- ⌘ Trail Alignments
 - Trails with destinations – loop around city
 - Work with surrounding counties
 - Step by step process, address sprawl
 - Work together and with government agencies
 - Urban trails vs. urban interface (hierarchy of trails)
 - Take advantage of city's unique assets

- West side of town – north/south trail
- Dirt trail along river
- Ensure that trail corridors will be preserved
- ⌘ Miscellaneous
 - Balance between paved/unpaved trails
 - Trail signage
 - Talk to commissioners
 - Carson Valley Trails Association (trails ignored by developers)
 - Involve community in cleanups
 - Eliminate danger
 - Continual public input is necessary
 - Put bike racks at bus stops and on buses

Carson City Trails (urban area)

- ⌘ Add urban system sidewalks
- ⌘ Identify parks and schools and assess how well the trails serve them
- ⌘ Identify appropriate locations for sidewalks based on urban/rural characteristics
- ⌘ Split rail fence separation between trail users
- ⌘ Require developers to dedicate a portion of each subdivision as open space
- ⌘ Dedicated zoning for trails and access and greenways
- ⌘ Access from Curry Street to Douglas County
- ⌘ Work with Douglas County to develop a north/south route
- ⌘ All interchanges should recognize and sign for bicycles
- ⌘ Better use of “C” Hill – needs a formalized trail
- ⌘ Try to define a better route north and south between Graves Lane and 395
- ⌘ Extend path along contours of “C” Hill as part of a “rim” trail
- ⌘ Connect the train museum to the V&T Line
- ⌘ Improve maintenance on “on system” and “off systems”
- ⌘ Local names for individual trails, i.e. V&T Trail
- ⌘ Southern end of freeway needs to include a parallel alignment for multi-use trail
- ⌘ Linear Park trail develop as a major east-west route
- ⌘ Create a fire protection and trail easement (may purchase or tax benefit) behind private property on “C” Hill
- ⌘ Goni: There needs to be safe bike access along Goni road.
- ⌘ Arrowhead Road: bike lane vanishes at the tightest part of the turn - a biker would get smooshed if they tried to ride there. Make a bike lane along Arrowhead and do something with those roundabouts.
- ⌘ Sutro – The road is super narrow, and there are ditches on BOTH sides of the road. Any way to get a walking/bike path on at least one side of the road?
- ⌘ Acquire right-of-way for River Trail from Riverview Park to Centennial Recreation area
- ⌘ Create pedestrian bridge over Carson River to connect Carson City with BLM area
- ⌘ Create pedestrian crossing over/under Highway 50 to create trail to Centennial Park

Western Carson City Trails

- ⌘ Improvements to Curry/Cochise to include child-suitable bicycle access (off-street preferred when possible)
- ⌘ Contoured greenbelt connecting trails, a north/south trail across the urban/Sierra interface across from Kings Canyon to Lakeview and to Tahoe Rim Trail – Multi-use dirt non-motorized
- ⌘ Consider Spooner Summit as access point (future shuttle stop for mass transit)
- ⌘ Connect V&T grade trail to Washoe Valley – paved with dirt shoulder

- ⌘ Bike lanes from Ormsby Boulevard to continue west on King Street to Long Ranch subdivision
- ⌘ Access across Highway 50 east and west
- ⌘ Connect from Greenhouse Nursery up canyon to Kings Canyon (see map) Borda Meadow – connect with existing road to dry lake
- ⌘ Market a loop trail for tourism – connect to hotels, etc.
- ⌘ Abandon dead-end trails where appropriate and develop new, logical trail connections (don't connect existing trails where it doesn't make sense) show trails where you really want them
- ⌘ Connect Vicee Trail to Hobart/Lakeview Trail (use existing trails – expand) loop back to Timberline
- ⌘ Connection from Vicee Canyon to Ash Canyon, connect to Kings Canyon – improve existing trails
- ⌘ Connect through Meason property
- ⌘ Connection to Tahoe Rim
- ⌘ Spooner Summit maintenance SHFD/sand pit access point for horse parking
- ⌘ Connectivity on southern side
- ⌘ Parking for horse trailers
- ⌘ Mountain bike skills park

Eastern Carson City Trails

- ⌘ Prison Hill has no BLM designated trails – either open or closed
- ⌘ Bridges across river for trails
- ⌘ Paved trail on one side of river and unpaved on the other
- ⌘ Washoe Tribe of Nevada/California
 - Lands in valley floor
 - Stewart area (cemeteries and burials)
- ⌘ Utilities easements
 - Sierra Pacific (Lee Simpkins)
 - Southwest Gas
 - Paiute Pipeline
 - SBC Nevada phone company
- ⌘ Multi-use paved non-motorized trail along freeway corridor from Hwy 50 East to Edmonds Sports Complex and from sports complex to Hwy 50 West / 395
- ⌘ Connection from Mexican Dam to Snyder Avenue (dirt, non-motorized)
- ⌘ Pedestrian/equestrian crossing of southern portion of freeway to connect southeast Carson to Prison Hill and Carson River
- ⌘ Common idea “ring” trail, Multi-use trail around Carson City outside urban area – dirt, non-motorized
- ⌘ Keep Prison Hill open to OHV. Maybe even build a track to keep motorcycle riders in the designated area
- ⌘ 4x4 trails and rock crawling at Prison Hill and Pine Nut Mountains
- ⌘ Check with NDOT about parking
- ⌘ Trail “ambassador” program for enforcement
- ⌘ Fire road – 12' ideal
 - Wide enough to get something in there (fire/ambulance)
 - Gate it
 - Incorporate into new stuff
 - Trails right behind subdivisions to allow access
 - Turn-arounds
 - Improve existing roads to 4-wheel drive
- ⌘ Urban
 - North-south in town
 - Off-road east-west corridor

13.2.2 NEIGHBORHOOD MEETING COMMENTS

Trails

- ⊗ More trails and trail connectivity:
 - Longer bike trails
 - Mountain bike
 - Horses
 - Backcountry/non-paved
 - For families
 - For walkers
 - Access Tahoe Rim Trail
 - Along river (adjacent)
- ⊗ Prioritize trails
- ⊗ Create biker friendly city with stoplights that recognize bikers, less street crossings, and bike lanes
- ⊗ Fire area can provide access to back country
- ⊗ Pave trails for skaters
- ⊗ Trail network with trails throughout city, both in and around residential areas
- ⊗ Dirt trail parallel to paved trail
- ⊗ Trails from golf courses to vistas (loop)
- ⊗ Bike trail on south gateway
- ⊗ Underpasses
- ⊗ Improve sidewalks
- ⊗ Park and school access for kids (trails)
- ⊗ Publicize trails map on-line
- ⊗ Promote Prison Hill's trails and possible shelter on summit
- ⊗ Sign national trails "Pony Express" "American Discovery Trail" and "California/Overland Trail"
- ⊗ Need equestrian access over new freeway
- ⊗ Equestrian access should have proper design criteria, i.e. height
- ⊗ Maintain public access to public lands
- ⊗ Develop a "ring" recreation trail around Carson, linking parks
- ⊗ Do not remove Mountain Street Trailhead and add trail

Recreation Facilities

- ⊗ Year-round swim lessons
- ⊗ Individual activities
- ⊗ Swimming pool – more public use (afternoons)
- ⊗ Challenging activities for kids are needed
- ⊗ No one uses playgrounds
- ⊗ Enclosed hockey rink
- ⊗ New skate park
- ⊗ Adult baseball field (Centennial)
- ⊗ Disc golf course
- ⊗ Basketball facility (covered) (outdoor)
- ⊗ Leisure pool needed (Douglas pool)
- ⊗ Year-round hockey facility
- ⊗ More indoor and outdoor basketball courts
- ⊗ More gyms for youth basketball and volleyball
- ⊗ Indoor soccer facility
- ⊗ Racquetball courts!!

Additional Facilities

- ⊗ Expanded concert facility (outdoor) i.e. like Red Rocks

- ⌘ Larger fairgrounds with better location – State Fair?
- ⌘ Horse facilities – east side of city
- ⌘ Stewart facility – explore opportunities with State
- ⌘ Retreat center
- ⌘ Campgrounds
- ⌘ Senior facility for classes (with transportation to site) for large groups
- ⌘ Rest stop in town
- ⌘ Upgrade Community Center
- ⌘ Community garden program that links seniors and youth

Parks

- ⌘ Create residential/neighborhood parks with new developments/apartment complexes
- ⌘ Charge non-residents fee for park usage
- ⌘ Dog parks needed
- ⌘ Address dog clean-up
- ⌘ Enforce dogs off-leash policies
- ⌘ Park in freeway right-of-way (sculptures) “Freedom Park” concept
- ⌘ Post regulations
- ⌘ Small equestrian parks (horse park)
- ⌘ More nature parks with low maintenance (i.e. Riverview Park)
- ⌘ Every park should have a restroom
- ⌘ Maintain Fuji Park, better access for equestrian use. The arena needs maintenance.
- ⌘ Need another multi-purpose park – community park
- ⌘ Don’t add more neighborhood parks
- ⌘ Patrol Mills Park via carts
- ⌘ Mills Park needs renovation including replacing old trees and improving maintenance and cleanliness
- ⌘ Keep Edmonds going!
- ⌘ More parking on the north end of Edmonds
- ⌘ Parks in the northwest part of town
 - Silver Oak, Lakeview, and Arrowhead
 - Natural state, open space (between Lakeview and University Heights)
- ⌘ Renovate horseshoe pits at Mills Park

Miscellaneous

- ⌘ Greenbelt at Borda Ranch is a good idea
- ⌘ Preserve hillsides for open space
- ⌘ Lighting needs (preserve night sky)
- ⌘ Mitigate freeway impact on residents
- ⌘ Girls softball – improve administration
- ⌘ Good theater productions
- ⌘ Co-op work with Brewery Arts Center
- ⌘ Equestrian programs:
 - Horse shows
 - Exercise ring or small riding arena
 - Indoor riding arena
- ⌘ Corner of Carson River Road and East of 5th Street
 - Limit off-road vehicles
 - Illegal dumping
- ⌘ Concerned about subdividing Bigelow and Koontz – keep at 1+ acre – need to keep property zoned for horses
- ⌘ Favorite part of Carson is the PEP

13.2.3 SIDEWALK/BIKEWAY PUBLIC MEETING COMMENTS

ITEMS DISCUSSED:

- ⌘ Introduction to project.
- ⌘ Orth-Rodgers (ORA) is the engineering consultant firm selected for this project.
- ⌘ ORA's responsibility in this project.
- ⌘ Tasks 1-10 were discussed. For further clarification, please see the scope outlined in ORA's proposal.
- ⌘ The public was involved in the pedestrian and bicycle parts of the project. The following items were discussed on the public's "vision" of Carson City, as it relates to bicycles and pedestrians. All comments were provided by the public participants, unless otherwise specified.

Item	Description
1	Continuous sidewalk.
2	Divide between transportation and recreation – setback, etc.
2a	Look at it from a transportation standpoint.
2b	Unified Trail Plan was explained by Jeff Winston.
3	“Carson City is a place where people of all ages and abilities can walk and bike (and all other modes of transportation) in an environment that is safe, comfortable, and convenient as that provided for motor vehicles.”
4	Someone can walk to Starbucks from Douglas, if desired.
5	Anyone can ride their bike without risking their life.
6	Equestrian issues.
6a	Definition of “bicycles” by AASHTO
6b	Legal definition of “bicycles” in Nevada Revised Statutes.
6c	A mixed use trail should be constructed to accommodate equestrian use.
6d	Put trails that accommodate equestrian usage where horses are more prominent.
7	A standard is needed for all of these trails. The trails and this project should coordinate.
8	A hike/bike trail along the V&T Railroad is desired.
9	A trail that connects Carson City and Virginia City must be constructed.
10	A mixed-use trail is desired by the community college. This trail would be used heavily. It should then extend to the north to Washoe Valley.
11	Cut off bicycle access to Douglas County. Douglas has its own bike plan. Curry lane extends through Douglas County.
12	Connect interior and exterior spaces (public). Network different kinds of trails (paved and un-paved).
13	Horses are a big issue in this.
14	Carson City should be a nice place to go with a bike. However, the existing trails (equestrian and other) should not be adversely affected with this project. The potential freeway construction should be closely monitored.
15	The funding issue was re-inforced. Cost-benefits should be used to estimate the priorities of future projects.
16	Topsy Lane can get bicyclists from Carson City to Douglas County.
17	Health needs to be a big part of this project.
18	Use equestrian trails as a tourist attraction by providing good access.
18a	The lack of equestrian access can bring the value of properties down.
19	A trail should be tied with historic trails. These include the American Discovery Trail, the Pony Express Trail, and the California Overland Trail. These trail connections could grow in time.
20	Is there funding available for equestrian trails in this Project?

20a	Possibly. Noted by Rich Romer.
21	There should not be a major distinction made between motorized and non-motorized vehicles.
22	All recreational trails are transportation-related. The Virginia City Trail is the only one funded. There should be a definition on what trails are transportation-related.
23	Bicycles should be used as transportation. This includes direct connections to commercial areas, schools, etc.
24	There should be the ability to link all regions; the Capital-to-Capital Trail is an example. The regions around Carson City should be addressed.
25	Accommodate maintenance and cleaning. It seems like trails take a “back seat” to roadways for motorized vehicles. All modes of transportation should be considered.

The following items were discussed on what the public views as “issues” for this project.

Item	Description
1	Transportation and recreation should be separate. Education on how the two differ is desired.
2	Transportation-related trails should have an origin and a destination, not a loop without an origin or destination. Noted by Michael Dulude.
3	The laws of side paths (next to the highway) are an issue. The law states that if a trail is adjacent to a highway, it is required to be a trail.
3a	Expansion joints are difficult to ride a bike over.
3b	This law could be altered or deleted. Smooth side paths are needed.
4	There is a lack of continuity.
5	A safe route to school plan needs to be addressed, specifically as it relates to engineering and education/law enforcement.
6	An inventory should be taken to determine where sidewalk is missing, and where it is needed.
7	Link between land use and pedestrian facilities, especially downtown. A transportation plan and/or land use planning should be used to accomplish this.
8	It is very hard to cross the street, especially downtown, where traffic moves quickly.
9	Educate the public on how to drive when a bicycle or pedestrian is around.
9a	Bicyclists and pedestrians also must adhere to the laws of the road.
10	It seems like things get pushed aside when it comes to trails. Implementation and maintenance are examples of this.
11	The recreation plan and the master plan should be done at the same time, in order to coordinate.
12	There is a statewide survey that provides information on sidewalks, connectivity, trails, etc.
13	Downtown should be decreased to 2 lanes with parking on each side.
14	The I-395 area should be cut off from trails, etc. The old 395/new 395 created an “island” that could be dangerous to pedestrians and bicyclists.
15	The trails should be made more “achievable.”

The following items were discussed on what the public views as “policies” for this project.

Item	Description
1	There was a list prepared by the public and provided to CAMPO prior to the meeting.
2	Bicycle policies should be looked at carefully.
3	Coordinate with the recreational plan.

The following items were discussed on the public's ideas for possible funding sources for future projects.

Item	Description
1	There was a 3% increase in taxes in Olympia, WA. Something like this could work locally (the utility tax franchise fee).
2	Projects could be bonded.
3	Health benefits like the Kaiser Foundation could be utilized.
4	Private funding could be used.
5	Tourism money could be used.
6	Question 1 money could be used.
7	Lake Tahoe money could be used.
8	The Open Space Committee could shift the way they do business and build facilities like trails.
9	A prioritized plan should be created in order to achieve efficiency and get more funds.

The following items were discussed on the public's ideas for possible future projects.

Item	Description
1	US 395 Bypass.
2	Capital-to-Capital Trail.
3	Walkable schools.
4	A path along V&T Railroad to Virginia City.
5	Retro-fitting to provide connectivity of sidewalk.
6	Connectivity to Washoe, Douglas, Lake Tahoe.
7	Raised median pedestrian crossings.
8	City-wide traffic calming.
9	Synchronize traffic signals.
10	Non-motorized freeway crossings. Specifically, South Carson, Spooner, Highway 50 E, and the Highway 50/I-395 S area.
11	Prioritization of future projects. This should be done later.

The following items were discussed on what should be included in the next meeting.

Item	Description	Status	Opened	Due	Respond to Issue
1	Maps that show where future projects could go	Open	7/7/05	Next meeting	Rich Romer
2	Any comments or concerns provided by the public between now and the next meeting. Comment sheets were provided to the public.	Open	7/7/05	Next meeting	Rich Romer
Meeting concluded at 9:00 p.m.					

NEXT MEETING

Date to be determined by CAMPO staff, Carson City Staff, and ORA.

ATTACHMENT: Policies provided by the public prior to this meeting

The proceeding minutes are based on ORA's understanding of the above meeting; however, should your recollection differ, please notify us in writing so that corrections can be made.

13.2.4 CARSON RIVER AQUATIC TRAIL PUBLIC INFORMATION MEETING COMMENTS

Santa Maria River Access

- ⓧ Access is already available, facilities are not
- ⓧ By Spring 2007, river signage should be installed to inform boaters to exit here

River Access above Mexican Dam and below Santa Maria

- ⓧ Not recognized as part of this plan
- ⓧ Opposition from private landowners and many river hazards
- ⓧ In Lyon County, Dayton State Park offers public access but there are many diversion hazards between Santa Maria and the Park.

Boating Rentals

- ⓧ Some rentals already available at Sporting Rage in Carson City (Lynn, I know Kevin has lake kayaks, but does he have whitewater kayaks and rafts?)
- ⓧ A rental business near the river can offer economic potential and safety education

Great Basin Sports (Pat Fried)

- ⓧ Has guided on the East Fork of the Carson River, and can offer boating services here
- ⓧ Already gives school presentations on water quality and related water education
- ⓧ Already works cooperatively with Paul Pugsley and Dan Kaffer on many programs, including “Kids Don’t Float”

Shooting Activities in Carson River Canyon

- ⓧ The area is private property, so patrol is difficult
- ⓧ When/if there is patrol, radio communication is difficult. Therefore, sheriff’s department must send two deputies
- ⓧ Class I section had similar problems in past
- ⓧ Problems should be mitigated with the V&T Railroad and/or Carson City Open Space property acquisition

Junk Cars

- ⓧ Similar to shooting activities, problems should be mitigated with the V&T Railroad and/or Carson City Open Space property acquisition

Residential Neighborhoods and Road

- ⓧ Posted speed limit is 25 mph
- ⓧ Education on respect of speed limits and related safety

Overnight Camping Along River

- ⓧ This is a day-use only facility

Funding Sources

- ⓧ \$2.5 million is available from Question 1 to Carson City for property acquisition, environmental and improvement projects, etc.
- ⓧ Federal Lands Bill may help with some acquisitions such as Buzzy’s Ranch
- ⓧ We have money to implement

Reference of Registration and Permitting in Master Plan

- ⓧ Users may be requested to register at access areas, which will help track user numbers, etc. Users will not need a permit and there will not be user fees.
- ⓧ Clarification that permitting is required for river projects

Rescue and Emergency

- ⓧ Interaction with Fire Department for swift water rescue and hasty teams (I know Sheriff Department has a Search and Rescue team. What are their capabilities?)
- ⓧ Ensure funding for Fire Department to meet additional needs
- ⓧ Additional repeater towers to allow cell phone coverage throughout canyon

Education on River Flows and Safety

- ⓧ Install a flow meter on bridges and have a corresponding chart to translate river safety

Liability on Carson City

- ⓧ River policy everywhere is “At your own risk”

Miscellaneous

- ⓧ I am all for this project and the education “tourism”. Advertising it for day use. I can’t wait to do this. When can you do this in the year, what months? Work on land trails to combine with this project. Cell phone tower and fire and rescue team.
- ⓧ Please consider Repeater Towers for 2-way radios or cell phones service. This allows much better response in the event of an accident. This allows for the public to police the property.
- ⓧ Do you have insurance for liability issues? Recommendation to Supervisors prior to developing signage that funding and training be made to the police & fire department developing a hasty team. Ensure this is in the plan and well documented.
- ⓧ Kiosk with info and warnings at put-ins.
- ⓧ Signage
 - CFS - What is the flow that day
 - Upper limits excerpt
 - Life Vests required (strongly recommended)
 - Holes - How to handle
 - Strainers - How to handle
 - Fall out of boat - How to handle
 - Swim - Upstream Ferry
 - Bike trail along river
 - Homeless structures at beginning of Brunswick Canyon
- ⓧ Morgan Mill needs a lot of work to be a take-out at high water. Get the name of the golf course right on the map. It is Empire Ranch (do it right)

13.2.5 ONLINE AND TRAIL WORKSHOP COMMENTS FROM THE EAGLE VALLEY TRAIL COMMITTEE REPORT

General

- ⓧ Is it possible to remove the plastic protectors that were used to reforest Kings Cyn after the waterfall fire? They’re kind of an eyesore I could help take them away.
- ⓧ I have only utilized the trails in Washoe valley. I plan starting to use Carson trails this fall, so cannot really rank the above trails.
- ⓧ More trails for mountain biking. If you build it the tourists will come.
- ⓧ Carson City has some of the best trails anywhere. Let’s keep it that way! It’s part of the reason I choose to live here.
- ⓧ I don’t know why there are so many trails that you must learn about ‘word of mouth’.

SignageMaps

- ⓧ Trail system is not well marked in system; might consider way finding signs along routes.
- ⓧ While I appreciate the trail from Morgan Mill south is a work in progress, it’s too easy to miss the south bound trail at the first westward intersection.
- ⓧ I think from Curry Street the trail systems should be marked and connect all the way to Ash Canyon.
- ⓧ I want a map that shows the Carson trails.
- ⓧ Would like maps available for each area.
- ⓧ Need more signage mileage, names at turns & intersections, maps more available.
- ⓧ Love the trails! Well maintained!
- ⓧ Lots of user trails/roads that are steep, washed out / no markings.

Trail Conditions

- ⌘ The “poor” for the waterfall trail is because the trail to the base of the waterfall is marked/signed as closed.
- ⌘ Trails lack maintenance.
- ⌘ Too much trash/dog poop.
- ⌘ ORV trails ALL need extensive maintenance, and restoration.
- ⌘ OHV’s have done a lot of damage to the Carson River Corridor which greatly contributes to flash flooding and a high sediment load entering the Carson River. Also, allowing vehicles and OHV’s direct access to the Carson River, east of Silver Saddle, has damaged the riparian area and the scenic quality.
- ⌘ The ridge trail on north side of C Hill is dangerous. Needs to be rerouted to have safer grade.
- ⌘ Would ride the centennial park trail if the trail was less rocky.
- ⌘ Some of the Centennial/Moundhouse trails are showing erosion in spots.
- ⌘ Recently, in the Ash Canyon area OHV traffic, specifically motorcycles and quads, have led to a decline in trail condition.
- ⌘ Lots of user trails/roads that are steep, washed out / no markings.
- ⌘ Prison Hill trails are in great shape now, but need to be rerouted before next big flood (and fix up existing trail drainage to prevent washouts into homes west of Prison Hill).
- ⌘ C-Hill trails are in very poor condition, especially with the anticipated wet winter. Too steep, no water bars.
- ⌘ C Hill trail beginning from shoulder to top is in terrible condition and needs improvements. Prison Hill is sandy at base and could use improvements for mountain biking.
- ⌘ We are clearly using old roads and social trails as our trails. they need to be rerouted and built to sustainable standard to be able to handle the increased use. Some of these “trails” I don’t use because they are “pitiful? Inherited these Carson City did! We can make them awesome!
- ⌘ Some of the trails would be easier to trail run on if they were less rocky.
- ⌘ The Prison Hills OHV trails are pretty torn up. But the OHV users may prefer the trails in that condition.
- ⌘ Centennial trails need some attention.
- ⌘ C-Hill needs work for hike to the peak and to the “C”.
- ⌘ Prison Hill trails are very sandy and I cannot ride my mountain bike on them.
- ⌘ NE ridge on C hill. Heavy use to the flag. Bad trail.
- ⌘ I would love to see the roads going to Ash and Kings fixed so walkers can have safe access. love C hill and the Prison Hill area. I live near Centennial and love all the open space up there. Want to see the Empire to Riverview loop finished.
- ⌘ Damage due to thunder storms.
- ⌘ It is difficult to tell where trail segments are-- not labelled on the map. Trail that goes up C hill from Kings canyon side is awful--right up the fall line but there are segments tied to it that are in good condition--improving that segment would make a great loop and decrease erosion on a popular trail.
- ⌘ The “Epic Mtn. Bike” event organizer should be responsible for “re-habing” Carson City’s trail system post event?
- ⌘ Silver Saddle Ranch trails have improved recently after a summer of neglect.
- ⌘ Trails at Silver Saddle and the south side of Ambrose were washed out and need repair.
- ⌘ The Creek Trail in Ash Canyon should become an official trail and be maintained better. Centennial needs a lot of trail maintenance.
- ⌘ I’m very concerned about the non-sustainable (and numerous social trails) that cause erosion.

Conflicts

- _____ ⌘ On two separate occasions, I have stumbled upon young people doing drugs and on another occasion found a drug pipe along the empire ranch trail.
- _____ ⌘ Safety. From ATVs, Motorcycles, Bikes and Bike riders and vicious dogs.
- _____ ⌘ I don’t like crowded trails, so I tend to focus my trips on weekdays.
- _____ ⌘ OHV riders on NON OHV trails.

Pets

- ⌘ Dog crap on CHill “service road”/perimeter trail is offensive and an eyesore.-Too much trash/dog poop. ORVtrails ALL need extensive maintenance, and restoration.
- ⌘ Way too much dog poop on the Riverview Park trails!
- ⌘ COYOTES are attacking my dogs, I love the wildlife. Lived here all my life with dogs, but lately the coyotes are a HUGE PROBLEM even with my big dogs. My Siberian Husky has been bitten and attacked numerous times in North Carson and at the end of 5th and Silver Saddle Ranch. I used to be anti-hunting, but I can hardly hike with my BIG dogs anymore without constant issues with them. I do think they need to be culled in some areas unfortunately. I live at the edge of BLM in North Carson and all predators are a fact of life here...we gave up on cats and small dogs... but coyotes attacking BIG dogs in broad daylight with humans with yards is really scary and causing a lot of problems :(

Local and regional Connectivity

- ⌘ I think from Curry Street the trail systems should be marked and connect all the way to Ash Canyon.
- ⌘ Let's get well designed single-track trail connections made between the Carson Valley and Tahoe (TRT)!
- ⌘ It would be nice to have an alternate trail at the beginning of the Centennial Park trail by the baseball fields that bypasses the very rocky section (for mountain biking).
- ⌘ A trail up and around private property where SSR trail, east, ends. road base a must.

Trail Use

- ⌘ I primarily hike and bike the trails, but also have an ATV. I like the idea of designated and separate areas for these activities, as I don't think they are compatible.
- ⌘ Use the linear trail from Fremont school east to Airport Road, Salomon street along to governor's field.
- ⌘ Please fund more mountain bike trails.

Trail Experience

- ⌘ Location, convenience, and access to desirable destinations - mountain peaks or lakes. High quality trail is more important than challenge. Challenge for biking can be increased by adding dirt/rock features like jumps, berms, rails or rollers.
- ⌘ Maintenance and trash control especially on ohv trails.
- ⌘ Well implemented trail systems incorporate all of the above. Loop trail are preferable, but a lengthy valley to ridge trail is also highly desirable (but shorter out and backs get “old” to ride). Non-motorized multi use trails are fine, but an occasional bike specific designed trail is even better! A well - designed trail will require less maintenance, but if let go, will slowly erode the trail's popularity / use. Well used trails do diminish a user's experience if it reflects an outdoor version of commute traffic. Finally, a visitor from out of town should be able to find their way on the trail system, without asking a favor from a local!
- ⌘ I appreciate that many of the trail have minimum elevation gain.
- ⌘ The Ash to Kings trail is a great example of a high-quality trail experience. Kudos to all that made it possible! I primarily bike and hike, but also have an ATV. Unfortunately, not all ATVers follow the rules (or the rules aren't in place) which results in damage to the environment. I would like to see more education on proper trail use. I also like the idea of separate and designated trails for ATVs.
- ⌘ I'm tired of looking over my back for other inconsiderate users, especially those on bikes.
- ⌘ Access & Parking are important too.
- ⌘ Restricted use to same users: Unless you are talking OHV. Hiking and OHV must be separate.
- ⌘ Dog poop is removed much more frequently on high dog use trails such as Riverview park. Also, removal of goat head plants earlier in the season.
- ⌘ I like connections/options to mix up the route or make it shorter or longer.
- ⌘ Addition of a long (10+ miles) flat trail would be great for long runs! I mostly value opportunity for solitude and nature appreciation.

- ☒ Make specific equestrian trails to limit encounters with bikes and maintain quality of trail for hikers and bikers A well-built and well designed trail that can handle water runoff.
- ☒ Proximity is key for local users, as is flexibility (ability to tailor outing by using loops and interconnects).
- ☒ Restricting OHV use only (peds and bikes okay).
- ☒ Well built, signed and maintained!!!
- ☒ Make trailheads encouraging to school busses.
- ☒ My experience with mountain bikers has been that they do not share the trails well, nor do they follow the rules if you prohibit them on certain days. I don't mind sharing with horses.
- ☒ I do not mind sharing the trails with other users except I avoid trails that are shared with OHV traffic whenever possible.
- ☒ I appreciate multiple use trails. I believe over developing trails takes away from the intent of getting out into nature.
- ☒ I don't think OHV and non-OHV are compatible on the same trail system.
- ☒ Make sure trails are open to all.
- ☒ Love hiking trails not on roads -also bird/nature watching opportunities.
- ☒ Variety of trail is nice.
- ☒ Some challenging sections, some cruising sections.
- ☒ 2-4 miles & less than 500 ft.altitude gain.
- ☒ Informational/educational brochures about area plants, wildlife, soil, biology and the value and threats for each.
- ☒ Non bike/ohv use.
- ☒ I am an equestrian. There are no horse staging areas in Carson. The west side is primarily bikes.
- ☒ Connectivity with other trails/areas of town.
- ☒ Linking the trail systems throughout the Eagle Valley to the extent possible would be fantastic.

Safety/Conflicts

- ☒ Occasionally runners must pass other trail users, and hopefully those other users when they are startled understand that runners may not have the ability to call out or signal a pass.
- ☒ Motorcycles in Ash Canyon area riding off the designated roads and destroying vegetation and causing major erosion problems.
- ☒ Certain dogs off leash on Carson River Trail that owner can't control. In my experience owner apologizes then continues to do the same thing week after week. Combination of unrestrained untrained dogs, clumps of walkers and cyclists can be challenging when all meet with lack of trail etiquette mixed in. A noticeable number of people don't keep to their right on trails and family groups or dog walkers will take up whole width of trail.
- ☒ I think spelling out proper etiquette is important, over regulating is too California. Isolated problems should not become a burden that prevents enjoyment by most. I have an overly friendly golden who was attacked by a border collie on C Hill. It could have happened walking with him in my neighborhood too.
- ☒ The use of firearms within congested recreation areas is increasing. I've had 3 occasions on Prison Hill of people shooting directly towards houses and people. Better posting and enforcement should stop the problem.
- ☒ The majority of trail incidents seem to involve a lack of knowledge regarding trail etiquette. Education of all trail users as to their responsibilities would eliminate most conflicts.
- ☒ Motorcycles on non-motorized use trails.
- ☒ Any negative experiences I have had have been dwarfed by positive ones.
- ☒ Generally people are great. Bitten deeply-did not require ER visit though. Owner was appalled.

- ☒ Some morons cut the lower Ash-Kings trail (on the Ash Cyn side) between turns 3 and 6; the trail building crew noticed it about a month ago; also, noticed some skidding into turns on that same section of trail about a month ago.
- ☒ Local trail users really seem excited to see other users and seem to appreciate and welcome all users.
- ☒ When building trails, please make them “extra wide” for the safety of hikers and bikers. Erosion narrows the trails over time so please start wide especially along steep areas.
- ☒ Lack of education and signage.
- ☒ I have more safety issues with mountain bikers speeding and not calling out than with dogs. The mountain bikers tend to be extremely rude, while the people with aggressive dogs seem simply clueless.
- ☒ Other than some bicyclists not knowing to call out as they approach on single-track, my only conflict involving other trail users was one incident of an uncontrolled dog biting one of my dogs by the water tank approach on Prison Hill.
- ☒ I tend to have great encounters on trail because I try to be positive and respect multiple use.
- ☒ For safety, some trails with incline and limited line of sight should be off-limits to bicycles at least part of the week. I haven’t had any close calls in Carson but had several before they addressed that issue on North Canyon Road up above Spooner Lake by creating a no-bikes trail (Marlette Creek Trail) paralleling the road.
- ☒ Dirt bikes on trail system just west of V&T paved path.
- ☒ When I’ve observed instances of these they haven’t necessarily become “conflicts”, just instances.
- ☒ The shooters in Brunswick freak me out.
- ☒ Bicyclist are not required to “call out” every instance they over take a pedestrian. 10+ incidents are in reference to WNC path, where some user education is necessary.
- ☒ I prefer not to have bicyclist on hiking trails. Bicycles tend to disrupt the wilderness experience when one is seeking the solitude and tranquility of hiking.
- ☒ Motorcycles on trails and areas where they are not allowed is a common problem.
- ☒ COYOTES big problem lately, they are attacking big dogs in daylight now. I love that Carson is mostly dogs off leash allowed, but there are some breeds and dogs that should be leashed and muzzled unfortunately. I choose friendly dog breeds and love that I can let them off leash at almost any trail. I avoid any trails that have car access for safety reasons. (I am a woman and do not want a car approaching me in a semi-deserted road).
- ☒ Cyclists need to remember that hearing impaired hikers may not hear their ball bearings in their wheels-- please make noise so we can hear you and not be startled by your sudden appearances.
- ☒ I have witnessed OHV users on hiking/biking/horse trails in Ash Canyon where they should not be.
- ☒ People not controlling their dogs, bicyclists not warning (bells would be nice), OHV’s kicking up dust, smells, and stones, shooters.

End Comments

- ☒ Carson City has a good trails network but it suffers from connectivity to neighborhoods, especially when it comes to on-street infrastructure. Recreational trails are great, but there are some important safety barriers that reduce use. Carson City is a smaller city and could easily improve its on-street bike and pedestrian corridors so that recreational/fitness/commuter users can use the trail/lane/sidewalk network with confidence. Ideally, a biker or pedestrian should be able to access trailheads, do a quick run/hike/walk loop, or commute to work without worrying about whether there is a sidewalk or a bike lane/shoulder marked on their route. Many of these improvements are low cost, and are as simple as street signage and painting, and don’t require bricks-and-mortar improvements.
- ☒ There are already many places that youth can mountain bike in or near Carson City. That said, if there is open space/quality of life funding available that seems reasonable. The main thing I am looking for is access to public lands so that trespassing is not required. The second thing that I am looking for is biking and running trails/lanes that are safe - probably a good one to consider would be Winnie Lane/Ormsby Boulevard since many walkers, runners, and bikers use that road (and at least one runner was hit/injured by a car).

- ☒ I would like a bike skills & pump track in Carson. The lot defined by Roop St. just north of the back of NV Dept. Of Ed., next to the dog park would be perfect! Large trees for shade, close to downtown etc.
- ☒ I was born and raised here, and am now raising my two sons here. A major part of my upbringing and now my family's normal recreation is exploring these trails. Thank you for taking the worn down, dilapidated trails and rebuilding them for the community. Keep up the great work!
- ☒ the trails you have created, connected and maintained -thank you so much.
- ☒ I greatly appreciate what Carson City Parks has already done with the Prison Hill trail system. Good job. The one regret I have is that we don't have access to tribal land trails above the end of Koontz. If some agreement could be made that would be a huge asset to Carson City.
- ☒ It's amazing how quickly a 10-mile bike ride can pass and I'd appreciate extended loops.
- ☒ A bike park to improve the biking skills for all ages would be a great addition. Locals are going to Truckee or now south shore to gain that experience.
- ☒ I've used trails in this town for over 35 years. I've ridden my bike to work for 25 of those years and each time out I took my life in my hands. Now when I walk my dogs I always have to keep a look out for bicyclists and I see a lot of trails being created around town which are destroying what little plant and wildlife we have. It's not a matter of more trails, it's a matter of using the ones we have better. The parks and rec dept. do a very poor job of maintaining what we have. We should not build more until we can maintain what we have. And we should be educating the public on how to deal with bicyclists and how to care for their pets. Aren't you glad you asked?
- ☒ Thanks, all the work you're doing putting the package and process together. All existing trails that are old roadways that erode during storms should have new environmentally sound trails installed and then the old roads rehabbed.
- ☒ dogs to avoid being hit. Please commend city employees who install and service mutt mitt holders and empty trash. Also, thanks to those who eliminated tagging in 40 minutes from reporting.
- ☒ Need more connections. Link to Rim Trail, Washoe Valley, and under US50 to Clear Creek and Carson Valley.
- ☒ Connectivity: Lets prioritize so this is reality, especially on the flat. Sustainable: I understand EVTC has looked at about all the 'bootleg' trails and is determining which should be closed because their use constitutes and erosion hazard or cannot sustain large water flow. This process needs to be done while the CC pathways plan is being updated. Allowance for OHV: Needs to be made and advertised so people use these rather than non-OHV trails. Make them 'fun', steep, turns, whatever.
- ☒ The Ash Canyon trails have significantly improved life in Carson City. I think they are a major attraction for both tourism and for professionals considering moving to the area. I think further development, linking the Ash Canyon trails to Rim/Flume trail, improving the Centennial trails are important goals.
- ☒ Would like to see trails designed for all users so everyone can enjoy the trails regardless of their mode of travel.
- ☒ I would like to see better printable maps, or color printed maps available at the trailheads that include mileage. I would also be interested in helping with trail building days.
- ☒ I'm on Jeff Potter's email list already for trail building through Muscle Powered. Would like to see some thought given to building the trailhead at the upper end of the Clear Creek Trail (but that may be in CVTA's area of responsibility). A connector between upper Kings Canyon over to the Clear Creek trail would be great as well.
- ☒ Thank you for caring about mountain biking. More trails would boost the economy and quality of life here in Carson.
- ☒ We need more trails!
- ☒ Let's go, time to make Carson trails awesome!!!! increase quality of life for all!

- ⌘ Continue coordinating with adjacent entities in all directions. Keep up the good work.
- ⌘ On #14, I don't care--I don't know what this is. #20, sometimes Thank you for all your time and effort. It is organizations like this that make living in Carson City great! Keep up the good work!
- ⌘ We live in Dayton, but work in Carson. Much of our exercise is done in Carson on many of these trails after work. We really enjoy getting out on the trails!!
- ⌘ Many of the great trails in Ash Canyon area need to be made "official" or approved before they are closed to public use.
- ⌘ Thank you for doing this. It's important to advocate for a safe, healthy community.
- ⌘ Carson City does an awesome job with trail concerns and improvements! Thank you!
- ⌘ Keep up the great work -build more trails! Even though we live in Tahoe with lots of great trails of our own, trails like Ash to Kings Canyon are worth traveling to, especially in the times of year when snow is covering our trails up in the Tahoe Basin. We spend our money in Carson City - Food, gas, supplies, repairs, etc.
- ⌘ Keep up the good work. Would be nice to have a technical MTB trail and maybe a single-track that connects to the Genoa & TRT trail systems.
- ⌘ Overall the trails of in and around Carson are most impressive. Although, I prefer the old days when fewer people were on the trails. There was more solicitude and tranquility. The trails are a victim of their success.
- ⌘ We need good trail maps, and good info on trail access. You can't get to the Kings Canyon access with a car that isn't said anywhere. Cold Creek from Jacks Valley is so sandy you must have at least 2 inch tires, and Fat Bikes are best-but there's no warning as to how sandy it is. Things like this make the trails a crapshoot until you try them out. Some of the above trails I've never even heard of, never knew they existed. Other trails I know about don't seem to be mentioned.
- ⌘ Weekend rides are critically important to both my physical and mental health. Eventually, I may retire, and then I'll ride every day, so I suppose my daily rides will become even more critical.
- ⌘ I would like to see equestrian trails preserved and developed. There are no horse trailer parking areas other than Ambrose, and even that is not officially set up for horse trailers, and Silver Saddle. We need one south past Mexican Ditch area and one on the west side so we can enjoy the trails over there. Thanks.
- ⌘ I would like to see more trails in general, more linked trail systems, and more trail maintenance. The Creek Trail in Ash Canyon should become an official trail and be maintained better. Ash Canyon and/or Ash to Kings should be connected to the Tahoe Rim Trail. A single-track trail should be constructed to bypass the fire road at the top of the Ash to Kings trail. A single-track trail should be constructed to connect the Ash to Kings trail to the Longview and EZ Trails. Trails in Centennial Park need a lot of maintenance. Thank you very much for all your hard work.
- ⌘ We would be happy to ride trails for you to check out their suitability for equestrians.

Other Trail Workshop Comments

- ⌘ Complete the Freeway Multi-Use Path all the way to 395/50 intersection
- ⌘ Need a non-motorized freeway crossing near the Edmonds Sports Complex
- ⌘ Trails in Brunswick Canyon area (Loop) trailhead at Deer Run Rd.
- ⌘ Connect Curry St. to Jacks Valley Rd.
- ⌘ Signage all trails; Kiosk -trail conditions
- ⌘ Loop options -sensible
- ⌘ Work with Tribal Lands to create trail access.

⌘ Addressing the Mountain Street Trail Head (to nowhere) -when we first moved to Carson City 14 years ago, we were so stoked to see this trail head right near where we lived. We, like many others we have talked to, got suckered and searched around the parking lot, only to be baffled. Was this some kind of practical joke? Where were the hidden cameras? In my opinion, this is a key property not only for open space (which I understand is beyond the trail committee's purview), but more importantly for an ADA compliant loop trail with connectors to Ash, Vicee and Kings canyons trails networks.

⌘ Connect Clear Creek Rd. to Jack's Valley Rd.

APPENDIX 13.4

BIKE LANES INVENTORY AND
ANALYSIS

APPENDIX 13.5

NATIONAL AND HISTORIC TRAILS

APPENDIX 13.6

BIKE/PEDESTRIAN DEMAND FAC- TORS

APPENDIX 13.7

AQUATIC TRAIL TECHNICAL DATA

LIABILITY OF OWNERS, LESSEES AND OCCUPANTS OF PREMISES TO PERSONS USING PREMISES FOR RECREATIONAL PURPOSES

NRS 41.510 Limitation of liability; exceptions for malicious acts if consideration is given or other duty exists.

1. Except as otherwise provided in subsection 3, an owner of any estate or interest in any premises, or a lessee or an occupant of any premises, owes no duty to keep the premises safe for entry or use by others for participating in any recreational activity, or to give warning of any hazardous condition, activity or use of any structure on the premises to persons entering for those purposes.
2. Except as otherwise provided in subsection 3, if an owner, lessee or occupant of premises gives permission to another person to participate in recreational activities, upon his premises:
 - (a) He does not thereby extend any assurance that the premises are safe for that purpose or assume responsibility for or incur liability for any injury to person or property caused by any act of persons to whom the permission is granted.
 - (b) That person does not thereby acquire any property rights in or rights of easement to the premises.
3. This section does not:
 - (a) Limit the liability which would otherwise exist for:
 - (1) Willful or malicious failure to guard, or to warn against, a dangerous condition, use, structure or activity.
 - (2) Injury suffered in any case where permission to participate in recreational activities, was granted for a consideration other than the consideration, if any, paid to the landowner by the State or any subdivision thereof. For the purposes of this subparagraph, the price paid for a game tag sold pursuant to NRS 502.145 by an owner, lessee or manager of the premises shall not be deemed consideration given for permission to hunt on the premises.
 - (3) Injury caused by acts of persons to whom permission to participate in recreational activities was granted, to other persons as to whom the person granting permission, or the owner, lessee or occupant of the premises, owed a duty to keep the premises safe or to warn of danger.
 - (b) Create a duty of care or ground of liability for injury to person or property.
4. As used in this section, "recreational activity" includes, but is not limited to:
 - (a) Hunting, fishing or trapping;
 - (b) Camping, hiking or picnicking;
 - (c) Sightseeing or viewing or enjoying archaeological, scenic, natural or scientific sites;
 - (d) Hang gliding or para-gliding;
 - (e) Spelunking;
 - (f) Collecting rocks;
 - (g) Participation in winter sports, including riding a snowmobile, or water sports;
 - (h) Riding animals or in vehicles;
 - (i) Studying nature; (j) Gleaning;
 - (k) Recreational gardening; and
 - (l) Crossing over to public land or land dedicated for public use.

(Added to NRS by 1963, 799; A 1971, 192; 1973, 898; 1981, 157; 1991, 185, 2156; 1993, 1191; 1995, 54, 790)