

# We support the Vision and Goals of this Plan for a Boise River Trails System

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#### FORWARD

This Boise River Trails System Plan culminates 2 years of work by the Boise River Trails Coalition (BRTC) members. The Coalition composed of local citizens, members of non-profit organizations, and city and county employees, rotated meetings between Ada and Canyon County communities. This plan is their vision for a valleywide non-motorized system of trails along the Boise River. The plan encourages local communities to identify trail routes and to coordinate planning and development with neighboring communities. It does not replace any community plans. It simply identifies existing and possible routes for a valley-wide trail system along the Boise River coordinated with communities' existing and planned river paths.

### **ACKNOWLEDGEMENTS**

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A sincere thanks is extended to Coalition members.

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### I. INTRODUCTION

### A. Summary

This plan is the result of two years of work by Boise River Trails Coalition (BRTC) members, a diverse group composed of local citizens, members of non-profit organizations, and city and county employees from Ada and Canyon County communities. This plan represents their vision for a valley-wide, non-motorized system of trails along the Boise River. The planning effort encouraged local communities to identify existing and future trail routes and river paths, and to coordinate planning and development with neighboring communities. It does not replace any community plans

This Boise River Trails System Plan recommends trail facilities, alignment and design suggestions to connect Ada and Canyon Counties and the cities of Boise, Garden City, Eagle, Meridian, Star, Middleton, Caldwell, Nampa, Notus, and Parma with non-motorized paths and a water trail along the Boise River from Lucky Peak Dam to the Boise River confluence with the Snake River.

The resultant paths/trail system along 63 miles of river will:

- Connect 2 counties and 9 cities with non-motorized paths, bike routes, and a water trail
  on and adjacent to the Boise River.
- Tie riverside destinations together between and within cities
- Connect residential areas with employment centers and recreational areas
- Provide children safe routes to schools
- Provide opportunities to view and enjoy the Boise River, its wildlife, and riparian vegetation.

### B. The Boise River Trails Coalition

People have planned and created trails along the Boise River for decades. Boise City was among the first to institute local paths. Pathway planning in Ada County began in 1950 when an equestrian group proposed a bridle path along the Boise River in Boise City. In the 1970s and 1980s, the bridle path idea grew into the paved Boise River greenbelt multipleuse path. Today's 34.8 mile long Greenbelt Path system continues to receive national recognition. In 1987, the 501-c(3) nonprofit Boise River Trail Foundation was created to provide trails bridging city and county jurisdictional boundaries. The Boise River Trail Foundation was succeeded in 1988 by the Foundation for Ada/Canyon Trail System (FACTS).

The BRTC is the most recent group to promote non-motorized community trails in the Treasure Valley. Coalition members represent Ada and Canyon Counties, the cities of

<sup>&</sup>lt;sup>1</sup> Boise City's 1970 video (<a href="http://www.youtube.com/watch?v=dskPRdi2k91">http://www.youtube.com/watch?v=dskPRdi2k91</a>) envisioned paths along the river through Boise. Ada Planning Association's 1993 "Ridge to Rivers Pathway Plan" proposed an Ada Countywide trail system of 1) on-street bikeways and 2) multiple-use paths and trails. Several Boise River water trail guides have been authored.

Boise, Garden City, Eagle, Star, Meridian, Middleton, Nampa, Caldwell, Notus, and Parma, businesses, non-profits, and citizens.

Coalition members, guided by National Park Service Community Planner Sue Abbott, met monthly beginning in late summer of 2007. They coalesced into a powerful advocacy group believing that, as the Boise River had connected Treasure Valley residents for thousands of years in the past, it should connect the valley's 21<sup>st</sup> century residents. The concept of a valley-wide river trail system parallels ongoing, multi-jurisdictional planning in transportation, recreation, air quality, water quality, open space, and other quality of life issues. The system's land paths will be used by pedestrians, cyclists, in-line skaters, equestrians, and runners. The Boise River Water Trail will provide water oriented explorations and enjoyment within short drive of hundreds of thousands of homes, all with a low-carbon footprint.

Ada County, Canyon County, and riverside cities provided staff expertise to this coordinated planning effort. Agencies, local organizations, and individuals represented user groups and resource managers. Participants shared their pathway needs and community plans, and Ada County's futuristic Open Space Task. The Coalition then identified:

- Existing paths/routes.
- Potential paths/routes.
- A bi-county cycling route (Class III bikeway) close to the river
- Water trail on the river for paddlers, floaters, and small watercraft

Maps depicted in the plan's Appendix show preferred path/trail alignments within the Boise River Corridor that illustrate possible path locations in relationship to the river, its communities, and adjoining land uses. They are not construction plans.

#### C. Vision and Goals

### 1. Vision:

A connected system of trails and paths, on land and water, on and near the Boise River from Lucky Peak Dam to the Snake River, that enhances the recreational, educational and economic opportunities of our river communities.

#### 2. Goals:

- Create a land and water trail system that will be supported by community participation
- Design connected pathways for community walking, bicycling, horseback riding, bird watching, river paddling, fishing and other non-motorized outdoor activities
- Connect community trail networks with alternative transportation routes

- Respect the rights of private landowners and the wishes of donors to the trail system
- Promote the health and wellness benefits of Boise River Trails to Treasure Valley residents and visitors
- Provide educational opportunities and interpretation of the natural and cultural resources along the land and water trails

Promote the economic development of Boise River communities through partnerships, programs and facilities

### 3. How this plan will be implemented

The Boise River Trails System Plan provides a unified vision for new paths and trails along and near the Boise River to be implemented by the city or county having jurisdiction. Cooperative ventures with civic clubs, donors, volunteer groups, etc. will expedite system completion. In some instances, local jurisdictions may partner with the development community to construct new segments during the development process. Most new trails and paths can be built independently of each other as funding becomes available.

Building this trails system will often entail obtaining permission from landowners and the Idaho Department of Lands, and permits to cross streets, railroad rights of way, and canals and drains. There will be additional needs to secure funding, easements, permits, and plans for constructing paths. This complexity will usually require projects to be built in phases. Some reaches will be ready for construction in the short term, while others will take longer for environmental, funding, and access issues to be resolved.

## II. THE NEED FOR A BOISE RIVER TRAILS SYSTEM

### A. Community Opinion & Outreach

In early 2009, after collecting information and inventorying existing community trail resources, the Coalition reached out to valley residents with public meetings and surveys. Responses reaffirmed citizen support for pathways and identified key design guidelines.

Over 90% of respondents support additional riverside paths. Half of respondents would use riverside paths and water trails at least weekly. Most frequently identified uses were walking, bicycling, nature watching, and rafting/kayaking/tubing. A smaller but significant number (18%) said that they would use paths to commute to work. Path improvements and amenities such as trashcans, bathrooms and landscaping were also identified as preferred infrastructure. Detailed survey results are presented in the appendix.

### B. Valley Growth and Increased Recreation Demand

The Treasure Valley is Idaho's most industrialized and urbanized area. The 2000 census population of Ada and Canyon Counties was 432,300 (U.S. Census Bureau, 2002), or about 33% of Idaho's population. Population growth in these two counties from 1990 to 2000 was 46 percent. Continued population growth is expected to increase use and demand for recreation amenities, including community paths designed for exercise, enjoying the outdoors, and getting around the community.

Demand for land and water trails is growing as more and more Treasure Valley residents live in small, urban homes, but live a lifestyle of ready access to outdoor recreation. Water-based recreation, including fishing, floating, hunting, and nature watching, is extremely popular on the Boise River all year. There is great potential to replicate the business success of the Barber Park Raft and Tube rental, which grosses in the medium 6 figures, at other valley locations. Increasing population, higher travel costs, and high interest in local "stay-cations" set the stage for paths and trails to spawn many direct and indirect service industries.

The Boise River plays a critical role as Treasure Valley's city's longest continuous riparian habitat and drainage corridor. Today, much of the river is inaccessible as it winds its way through the valley. The Boise River Trails System Plan's transportation, recreation, and environmental assets will build community identity by fostering understanding of local history and natural environments as well as by tying communities together.

### C. Alternative Transportation and Green Infrastructure

Non-motorized paths and trails are an integral part of 21st century transportation. Idahoans demand multimodal choices to get to work, shopping areas, schools and recreation. Trails are used by a larger percentage of the community and require less long-term maintenance than ball fields, tennis courts or other park facilities.<sup>2</sup>

The proposed Boise River Trails System has potential to be a key part of a valley-wide alternative transportation system. Alternative transportation reduces vehicle congestion on roadways, improves air quality<sup>3</sup> and improves Treasure Valley residents' overall health. Bicycling and walking are viable local commuting alternatives. Recreational biking and walking create local niche businesses serving those activities. Along with discretionary alternative transportation activity, high 2008 gasoline prices encouraged non-automotive commuting and recreating locally. Treasure Valley path use is increasing accordingly.

#### D. Health Benefits

<sup>2</sup> http://www.itd.idaho.gov/transporter/2004/051404\_Trans/051404\_Motion.html

<sup>&</sup>lt;sup>3</sup> Treasure Valley may be listed as an ozone non-attainment area under the federal Clean Air Act, which could limit federal highway funding.

### 1. Increasing Physical and Mental Wellness:

In addition to preserving greenspace and providing alternative modes of transportation, paths and trails increase citizen and community physical and mental wellness. America spends more for health care than any nation on earth. Pathways provide neighborhood opportunities for regular exercise and contemplation.

### 2. Promoting Health and Well-being

Paths and trails are simple, cost-effective ways to improve the health of our Treasure Valley citizens and control health-care costs. Whether trail users are walking, cycling, skating or rollerblading, they are on their way to a healthier lifestyle. Exercise helps maintain healthy bones and muscles, builds cardiovascular fitness, and relieves the psychological and physiological stress linked to poor health. Escaping city noise and bustle relieves stress, which might otherwise be expressed through aggression or the abuse of drugs and alcohol. Paths also contribute to public health by helping to mitigate air pollution, noise and other environmental stressors and by acting as green buffers between industrial areas and residential neighborhoods.

#### 3. Promoting Public Safety

When people are outside keeping an eye on their neighborhoods, perpetrators are less likely to attempt to commit crimes. Bicycle commuters using paved paths are not at risk of accidents with motor vehicles. Similarly, a good community path system facilitates children safely walking and bicycling to school. While doing so, pathways reduce traffic congestion and improve health and the environment, making communities more livable for everyone.

### 4. Water Trail Opportunities

The Boise River flows 63 miles from Discovery Park, just below Lucky Peak Dam to its confluence with the Snake River west of Parma. While most people are aware of rafting/tubing activities through downtown Boise, the river has largely untapped floating opportunities for its entire length. River floaters are currently challenged to portage more than 20 permanent irrigation diversions and intake structures. Temporary gravel dams commonly placed across the river downstream of the irrigation intake structures also challenge river users.

However community leaders and trail partners could easily enhance the river's recreational and economic potential as a water trail by improving and signing access points, providing shuttles, and promoting the educational and recreational opportunities along this quiet, meandering waterway. Riverbanks hide most of the homes flanking the river from water-level views. As a result, river users feel they are surrounded by nature. Floaters commonly

<sup>&</sup>lt;sup>4</sup> In 2007, the U.S. spent about \$2.26 trillion on health care, or \$7,439 per person. People who exercise regularly have 14 percent lower claims against their medical insurance, 30 percent fewer days in the hospital, and have 41 percent fewer claims greater than \$5,000 "Feasibility Study: Corporate Wellness Program", City of San Jose Department of Parks, Recreation, and Community Services, 1988.

see deer, beaver, osprey, bald eagles, herons, cormorants, and pelicans. Good fishing can be had for trout, whitefish, bass, catfish, and carp. Communities and groups could develop the river's recreational and also economic potential with publicity, signage, access points, and shuttles. The Boise River Trails website

http://www.adaweb.net/RecreationandEventServices/OpenSpaceandTrails/BoiseRiverTrails Coalition.aspx has a link to online, interactive map for Canoeing the Boise River.

### E. On- and Off-Road Bikeway Connections

Cyclists will use river paths for both commuting and local travel. Typical Treasure Valley Bicycle commuters will ride bikes to work, schools, and other destinations. These commute trips are relatively short, typically less than three miles. Bicycle access to a nearby public transit facility can extend the range of these commute trips.

The Boise River Trails website

http://www.adaweb.net/RecreationandEventServices/OpenSpaceandTrails/BoiseRiverTrails Coalition.aspx contains a link to an online, interactive map of the Boise River Bike Trail in Canyon and Ada Counties. The land trails envisioned in this plan will improve bicycle access by providing off-road (safer) routes and access to bus stops and park and ride lots. Paved Boise River pathways will serve the entire range of recreational cyclists by providing direct route through communities, reducing traffic conflicts found on parallel streets, and offering many shorter connections between local parks, schools, shops, employment centers and neighborhoods.

The bikeway bi-county cycling routes proposed in this plan originated with knowledgeable cyclists. These same routes are identified in and complement highway district bikeway plans. Further information on Highway District bikeway plans is available at <a href="http://www.achd.ada.id.us/PDF/Biking/BikewayMap.pdf">http://www.achd.ada.id.us/PDF/Biking/BikewayMap.pdf</a> and <a href="http://www.achd.ada.id.us/Projects/PublicProject.aspx?ProjectID=77">http://www.achd.ada.id.us/Projects/PublicProject.aspx?ProjectID=77</a>

### F. Equestrian Trail Opportunities

Mixed (pedestrian-cycling-equestrian) use trails along the Boise River could contribute significantly to the economic health of Idaho's horse industry by supporting continued rapid growth of Idaho's horse industry, Idaho's increasing population of pleasure horses, and the increasing popularity of trail riding. Adequate trail facilities are essential to recreational, competitive, and endurance trail riding. Trails close to where horses are stabled are very feasible for the envisioned Boise River trails, especially if a dirt track is available for equestrians alongside a gravel or paved path for other users.

Urban development is replacing Boise Valley farm land and open space with housing and commercial areas, forcing equestrians to live and ride ever further from the city center. Boise Valley equestrians who have good relations with landowners can ride their horses on farms if they keep gates closed and don't damage crops or disturb livestock. However,

horse owners without such connections have much more limited opportunity. Increased gasoline and food prices have reduced the affordability of pulling horse trailers to the mountains or the deserts. Urban equestrians need access to local, neighborhood trails envisioned in this plan.

The Boise River Trails System could contribute to a valley-wide focus on creating and preserving equestrian trails. Local trails are often unsuitable or unsafe for horses, do not connect to other trail networks, have inadequate facilities, or have insufficient parking to accommodate horse trailers. The Boise River trails vision has great potential to remedy these situations.

### G. Economic Development

Paths and trails boost property values by preserving open space and making nearby homes more attractive to buyers. Paths are now an integral part of residential and business developments. Community path connections are integral to successful residential and commercial developments, and are increasingly highly-sought and prized by residents. Urban trails present big entrepreneurial opportunities. Bike shops all over the valley benefit economically from path users. Similarly, restaurants and gas stations could profit from destination path users.

Boise Valley communities have not fully capitalized on potential tourism revenue from services associated with land and water trails. In Ada County, the Barber Park Raft & Tube rental has an annual gross of over \$300,000. Barber Park's raft and tube rental business model could be replicated in several communities. Entrepreneurs adjacent to a Boise River trails system could charge user fees for public campgrounds, rent stalls in barns, lease RV pads with water and electric hook-ups, and sell food, maps, equipment, and bedding.

Research shows that in other states, campgrounds bordering public trail networks provide significant revenue to the local economy. The 80 stalls at Maryland's only public equestrian campground at Fair Hill Wildlife Management Area are booked a year in advance. Similarly, the League of Maryland Horsemen, a private club adjacent to Patapsco State Park, restricts attendance at its events to 200 campers, and draws equestrians from Pennsylvania, Delaware, Virginia and the Carolinas

Detailed expenditures by Wisconsin trail users were documented by Marcouiller, et al:

Table 1. Trail Expenditures for the State of Wisconsin (Marcouiller et al. 2002)

	Local Tra	ail Visitors	Non-Local Trail Visitors		
	Spending	m . 1	Spending	Total	
Spending Category	Per Visit Day	Total Spending	Per Visit Day	Spending	Total
groceries and liquor	\$3,63	51,836,000	55.84	\$571,000	\$2,407,000
restaurants and bars	\$5.42	\$2,741,000	\$13.00	\$1,271,000	\$4,012,000
casinos/ gambling	\$0.00	\$0	50.00	\$0	50
gasoline and automobile service	\$4.53	52,291,000	57.26	\$710,000	\$3,001,000
Lodging at hotels, motels or resorts	\$4.92	52,489,000	\$13.90	51,359,000	\$3,848,000
recreational equipment purchases	\$3.24	\$1,639,000	\$0.40	\$39,000	\$1,678,000
recreation equipment rental	50.18	\$91,000	50.69	\$67,000	\$158,000
gifts, toys and souvenirs	\$1.18	\$597,000	\$9.78	\$956,000	\$1,553,000
bait and tackle	\$0.02	\$11,000	50.12	\$12,000	\$23,000
entrance fees	\$0.30	\$152,000	\$0.06	\$6,000	\$158,000
recreational licenses	51.37	\$693,000	51.80	\$176,000	\$869,000
Totals	\$24.79	\$12,540,000	\$52.85	\$5,167,000	\$17,707,000

Table 2. Average Daily Expenditure Patterns for Trail Users of Different Types (Carleyolsen et al. 2006 from a variety of sources)\*

	User Category:						
		Wildlife		41.0		ЖC	Horseback
Spending Category:	Bicycling	Watching	Fishing	Camping	Hilang	Skiing	Riding
Dining and Drink	\$6.12	\$21.90	\$16.58	\$3.00	\$3.76	\$3.86	\$6.28
Grocery/Convenience Stores	54.08	\$14.60	\$11.05	\$2.00	\$2.50	\$2.57	\$6.27
Retail Shopping	\$1.87	\$5.87	\$6.61	\$2.46	\$1.30	\$1.72	\$2.49
Entertainment	\$1.25	\$3.91	\$4.41	\$1.64	50.87	51.14	\$2.48
Transportation (Gas & Auto)	\$6.24	\$28.55	\$20.89	\$4.14	\$3.27	\$4.28	\$13.62
Accommodation	54.53	\$18.25	513.82	\$5.75	\$1.90	50.48	\$1.42
Miscellaneous Retail	\$4.25	\$0.00	\$12.38	\$4.60	\$3.60	\$5.29	\$5.76
Total	528.34	\$93.08	\$85.74	\$23.59	\$17.20	\$19.34	\$38.33

Sources used in this compilation included a variety of studies from Canada and The United States. Certainly, a compilation of this sort requires comparability that is confused when combining studies that use different approaches and definitions. All estimates were, to the best of our abilities, placed on a comparable basis (accounting for inflation, exchange rate, and user demographics).



### III. BOISE RIVER COMMUNITY PATHS & PLANS

The sections below present existing and proposed trail plans and strategies for each of the Boise River Communities between Lucky Peak Dam and the confluence of the Snake River. Maps in the Appendix identify preferred path routes and capital projects.

### A. Canyon County River Paths

The Boise River Trails System will fulfill these 2005 Canyon County Comprehensive Plan policies:

Policy 1: Encourage the continuation of existing recreational areas and the opportunity for outdoor public recreation areas and activities.

Policy 2: Encourage the development of new parks, greenbelts and walking paths.

Policy 4: Encourage retention of existing access to public waterways and encourage the voluntary development of new access points to public waterways.

Policy 5: Encourage the preservation of historical sites, architectural landmarks and their functions.

Canyon County Parks, Recreation and Waterways Department priorities will be to:

- 1. Maintain the Boise River as a safe and accessible waterway.
- 2. Promote trail links between cities and with agencies.
- 3. Encourage public-private efforts to develop local economies.
- 4. Where appropriate, develop County trails, access points, and educational programs.

The Department will use the Boise River trails to implement its mission to preserve cultural and natural resources and develop recreational and educational opportunities along approximately 40 miles of river. Fulfilling the Department's educational mission to "Inspire Youth to Reach Their Highest Potential" will entail experiential outdoor learning using the rivers rich, historic past and current uses such as irrigation, recreational opportunities, hunting, fishing and wildlife habitat. The river is a unique setting to develop students' investigatory skills, encouraging discovery and challenges to explore the landscape as a way to understand the past, present and prepare for the future. Anticipated K-3 and K-12 year around educational programs will emphasize lifeways of Paleo, Archaic and Historic Indians. There are excellent settings for science curricula in which students can learn about "bugs, birds and fish" with custom instructional materials. These programs will enrich the understanding and appreciation of one of Idaho's most important aquatic ecosystems and promote its preservation as a future environmental, cultural and educational resource for Canyon County's over 170,000 residents.

### B. Ada County's River Paths

Ada County's population increased 50% between 1990 and 2000—from 205,775 to 300,904—then to 383,000 in 2006. About one-third of Idahoans live in Ada County, Idaho's most urban county, with 285 persons per square mile in 2000. If past growth continues, Ada County's population could approach one million in 2030. These new residents will need additional outdoor recreation facilities.

Ada County Recreation and Event Services Department operates and maintains the Boise River Greenbelt Path from Discovery Park at Lucky Peak dam 7.2 miles downstream to Boise City's path jurisdiction at Warm Springs Golf Course. Of the County's 7.2 path miles, 3.3 miles are within Boise city limits and 1.7 miles within the city impact area. Consistent with Boise City's 1997 Comprehensive Plan 1.6 miles of the county's 10-foot wide paved greenbelt path will be rerouted from the old railroad spur corridor toward the Boise River in the area between Warm Springs Mesa and Idaho Department of Parks and Recreation (IDPR) offices. Some sections of the Ada County's Greenbelt path are over 20 years old. Targeted work includes restoring deteriorated paving, widening to current Class I path standards, and tiling Penitentiary Canal sections to eliminate recurring fill-slope failures and resultant path damage.

The Ada County Comprehensive Plan, approved in November, 2007, identified a possible river path route largely within city limits or impact areas. Accordingly, Ada County will facilitate downriver greenbelt path extensions when requested by the cities.

The County's highest priorities for new river trails and paths are:

- Oregon Trail from Highway 21 to Bonneville Point
- Lucky Peak Trail from Highway 21 to Lucky Peak Dam
- North Southside Black Cliffs from Warm Springs Ave. to Sandy Point Lane atop Black Cliffs

Cycling routes identified in this plan overlay routes identified in Ada County Highway District (ACHD) "Roadways to Bikeways Plan" so are eligible for transportation funding.

### C. Boise City's River Paths

Boise City has 22.9 miles of Boise River Greenbelt. The total length of the Greenbelt path system within Boise's area of impact is 30.1 miles. The City maintains nearly all Greenbelt path segments within its boundaries. 3.3 miles of path are maintained by Ada County. The City desires to assume ownership and maintenance of the entire Greenbelt path within the City limits.

Proposed Greenbelt improvements include continued focus on maintaining surfaces, widening older sections of the paved path to meet current Class I (Guide for the Development of Bicycle Facilities. 1999. American Assn. of State Highway and Transportation Agencies. Washington D.C.) path standards, closing gaps in the pathway system, and supporting interconnection of the north and south sides of the path to improve public safety, convenience, and promote use of alternate transportation.

There are gaps in the path on the south side of the river from Americana Boulevard to Main Street and through the West Boise Wastewater Treatment Plant. The City will connect the north and south sides of the path in conjunction with future planned roadway projects, such as expansion of the Highway 21 bridge over the Boise River and extension of Highway 55 from State Street to Chinden Boulevard. Boise will work with Garden City on a new, non-motorized Class I bridge connection for the Greenbelt path in the vicinity of Pleasanton Street and East 36th. Street.

The City manages 11 of 13 trailhead parking facilities accessing the Boise River Greenbelt. Non-city neighborhood access points have inadequate public parking and/or restrooms. The City provides an average of one public trailhead access for every 2.1 miles of Greenbelt path that it manages. Using this figure, the City would need to provide 17 trailheads at completion of the proposed Greenbelt path system. But opportunities for providing new public trailhead accesses for the Greenbelt are limited within Boise's planning area. Seven additional trailheads are proposed to increase public parking and support facilities (restrooms, drinking fountain, trash, management signage, and other elements). Most of these are associated with existing or proposed public parks. The City will use park and trail

impact fees to acquire and construct Greenbelt trailheads as new sections of path are acquired through construction or annexation. The City works with landowners to provide neighborhood accesses to the river as properties are developed.

The City supports efforts by the Foundation for Ada-Canyon Trail Systems and local jurisdictions to complete the extension of the Boise River Greenbelt path system through Garden City and Eagle.

### D. Garden City's River Paths

Garden City's Greenbelt serves residents of the City and surrounding communities by providing a system that offers recreational opportunities and non-motorized, multi-modal transportation options. The Greenbelt connects people with activities such as walking, jogging, cycling, and fishing as well as with destinations and activities in neighboring cities. In its effort to continue to better people's interaction with the Greenbelt, the City is updating its Master Parks Plan and is continuing efforts with adjoining jurisdictions to complete gaps in the system, such as connections through properties on the West and South sides of Garden City, within the City's Area of Impact. Completing these Greenbelt sections would contribute toward the region's goal of a complete Greenbelt system along the Boise River.

### E. Eagle's River Paths

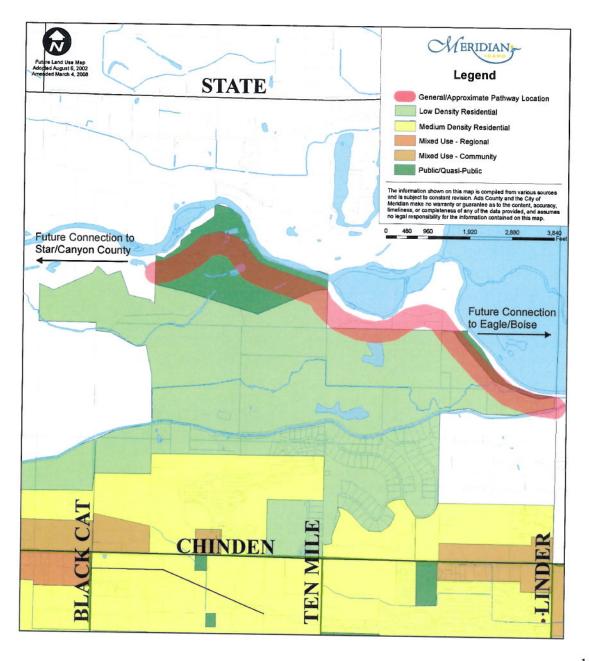
Eagle's Trails and Pathways will interconnect this city from its foothills to the Boise River to meet the needs of all of its citizens. Eagle's regional trail along the North bank of the Boise River was designed to serve more than community walkers and cyclists. It has sufficient width for emergency vehicle access and is sited to provide river access for floaters, fishermen, and other the river users. Well defined trail informational signage and benches for the weary spring from Eagle's comprehensive vision for its trail system.

Eagle will complete two new connections to the Boise River trail system in the spring of 2009. The path connection beneath Eagle Road will enable bicyclists and pedestrians to travel east and west along the river path without crossing heavy vehicle traffic on Eagle Road. A new bridge over the North Channel of the Boise River at Merrill Park will connect Eagle's trail system to Boise's trails. This bridge will be especially beneficial as path users will be able to access the regional trail system without crossing heavily traveled roads.

Eagle is working with Garden City to finish an eastern connection between those two cities and also planning westward path connections to the City of Star. Eagle is proud to be part of the regional collaboration that will finalize a long-held regional dream for many in the Treasure Valley.

### F. Meridian's River Paths

The City of Meridian's path system will connect destinations throughout Meridian to two planned City parks on the south side of the Boise River, one west of Linder Road and another between Black Cat Road and Ten Mile Road (see Map \_\_\_\_). In conjunction with the riverside parks, the City of Meridian anticipates path connections extending upriver and downriver along the river's south bank. The City also supports future connections to the river's north bank to interconnect the regional path system. These latter paths will ultimately connect to Eagle, Garden City, Star and Boise. The Meridian Pathways Master Plan also proposes a new pathway extending north from the intersection of Meridian Road and Chinden Boulevard to Eagle Island State Park. The City anticipates additional on-street connections to the area along Linder Road.



#### G. Star's River Paths

Many natural resources exist within the boundaries of the City of Star. The Mayor and City Council recognize these natural resources as valuable assets to the local citizens and neighboring communities. The City supports the vision of the citizens who desire a safe, walkable, family oriented community. The City will encourage environmentally sensitive development standards that will both protect and enhance the future of the pedestrian and water trails. Future development will include river access with minimal impact to surrounding wildlife, pedestrian/bike/equestrian paths and recreation areas. The City intends to provide a cohesive transition for interconnectivity to adjacent areas.

#### H. Middleton's River Paths

Middleton has been a leader in adopting path ordinances and planning path connections between downtown and the Boise River and to Caldwell's park and path system. The trails shown on Map \_\_\_ in this plan are those identified in Middleton's Comprehensive Plan. The City's goal is to provide connectivity from residential areas to the schools, parks, Boise River, and adjacent cities. Middleton hopes to locate some park land along the river which would provide a recreational area for path users. The City Council feels that all pathways are important and wants to develop pathways as development takes place.

### I. Caldwell/Nampa River Paths

Future residents will be able to travel from Nampa's community path system to Boise River Trails through connections provided by Caldwell's trail and pathway system. These two cities continue forming a powerful coalition in the western Treasure Valley.

Caldwell is well along in constructing waterfront trails, particularly along the newly daylighted sections of Indian Creek through downtown and connections to city parks along the Boise River. City staff provided exemplary contributions to the Boise River trails planning. Several trails are contemplated throughout the City of Caldwell.

The cities' highest priorities for new river trails and paths are:

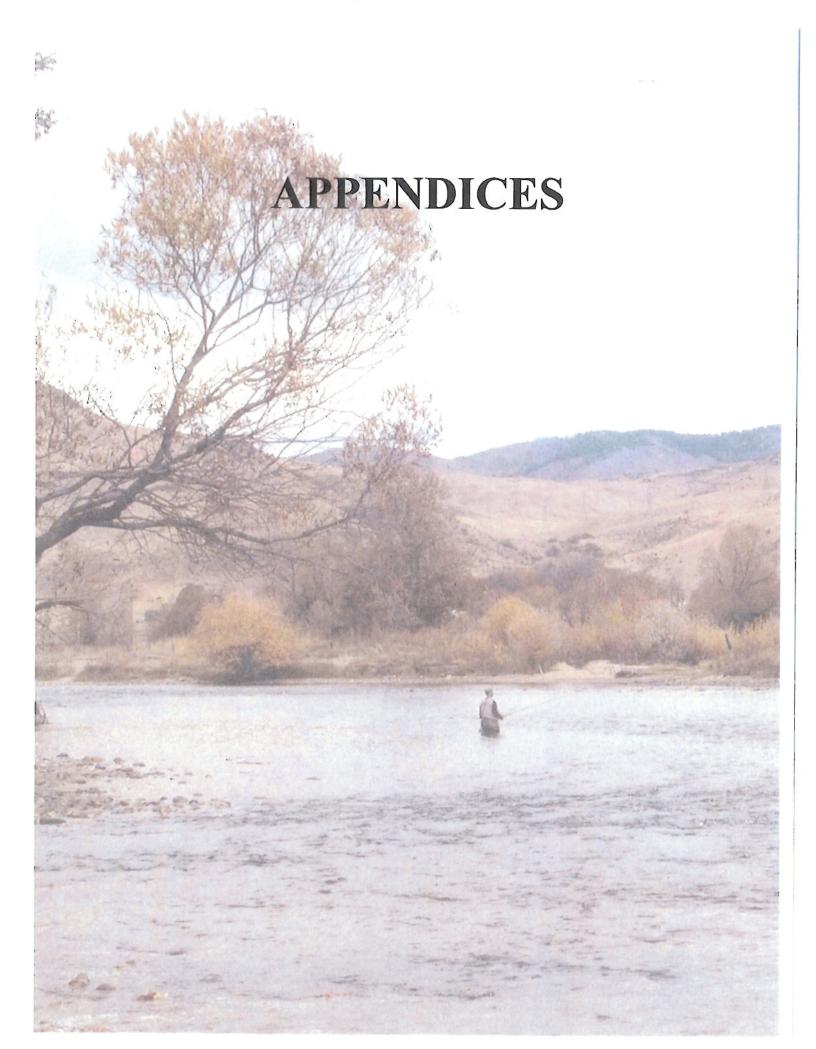
- YMCA Trail Connecting downtown Caldwell to the YMCA.
- Indian Creek Trail Connecting Downtown Caldwell to Boise River Greenbelt.
- Lake Lowell Trail Connecting the YMCA to Lake Lowell.
- Tri-Cities Trail A rails-to-trails plan using railroad right-of-way currently in use between Nampa, Caldwell, and Middleton.

### J. Notus River Paths

The city of Notus is planning a community path system to connect downtown to its outskirts, the Boise River and other recreational sites. Boating and other recreational access are addressed in the Notus Comprehensive Plan. Notus is also considering establishing a trail along the Conway Drain that will tie into the Boise River trails system.

### K. Parma River Paths

Parma is planning community path systems to connect downtown Parma to its neighborhoods, the Boise River, and recreation sites, particularly the Idaho Dept. of Fish and Game's Fort Boise Wildlife Management Area. The City will complete this plan's envisioned Boise River land and water trail connections through Parma and its impact area, consistent with local adaptations and needs. The planned trails will be a primary component of the City's planned high end residential and commercial development along the river, modeled after the success of other cities' riverfront developments.

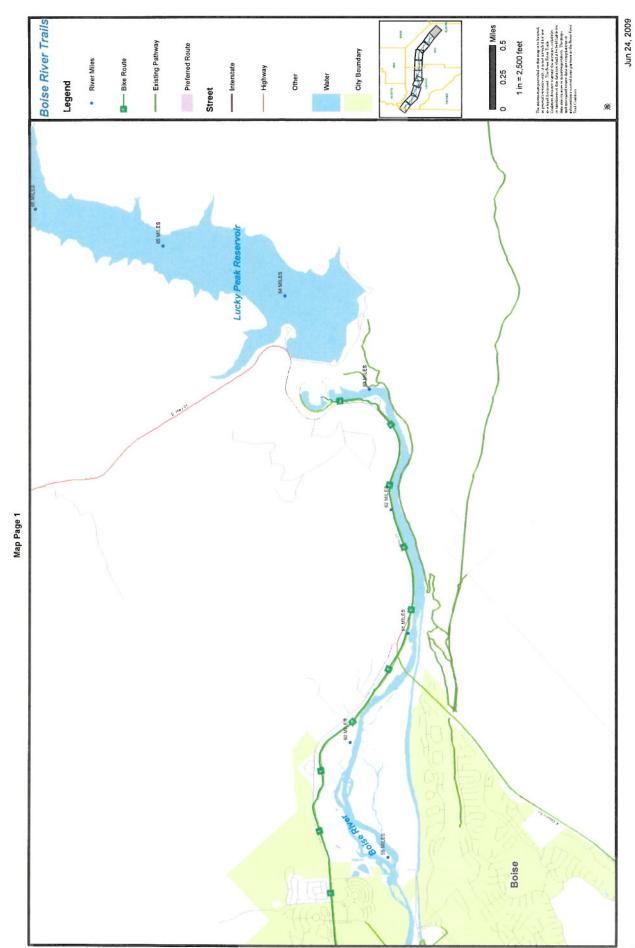


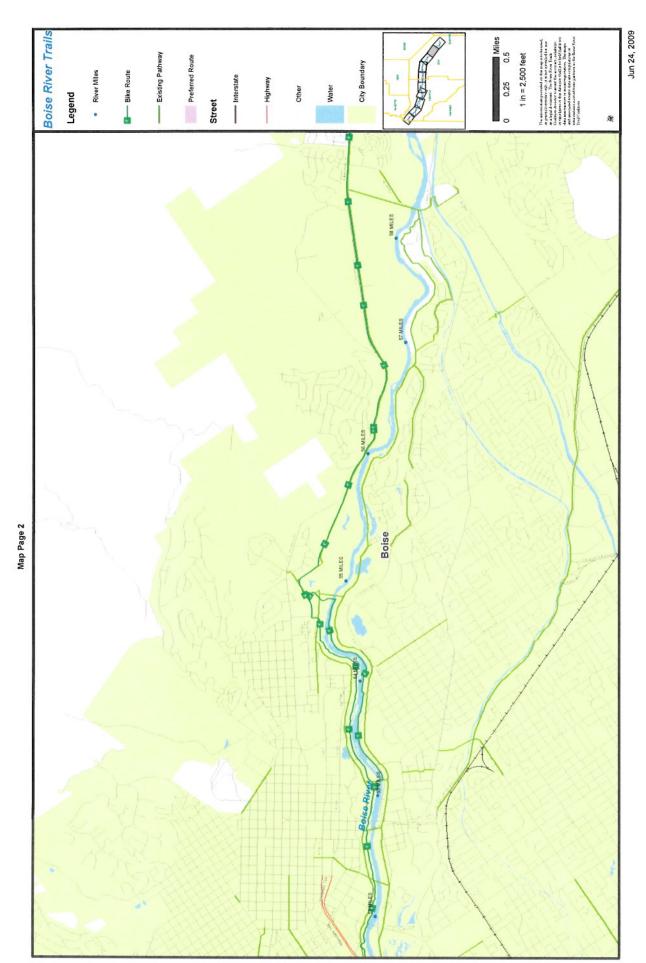
# Appendix A.

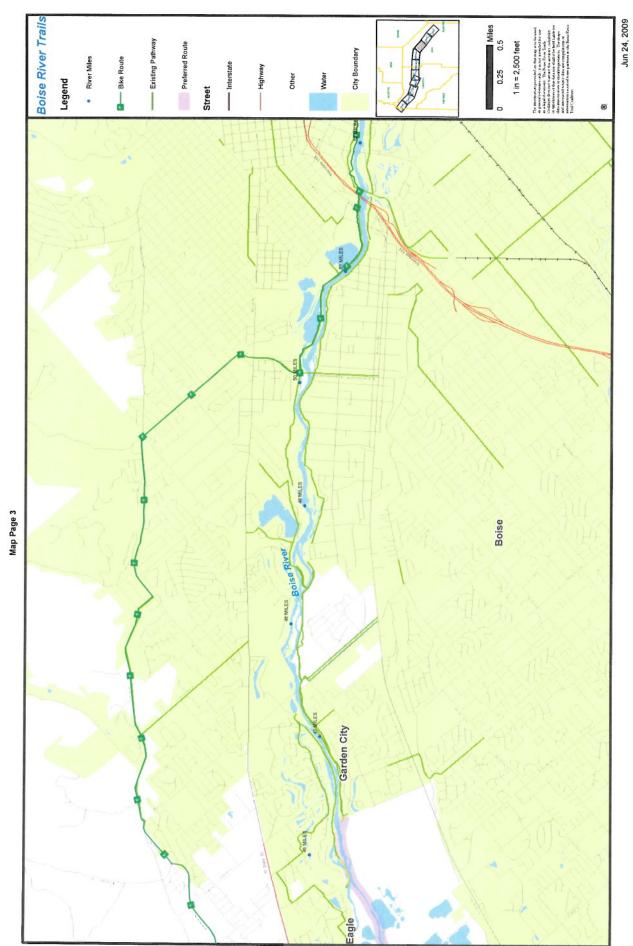
### Maps of Existing and Proposed Paths & Routes

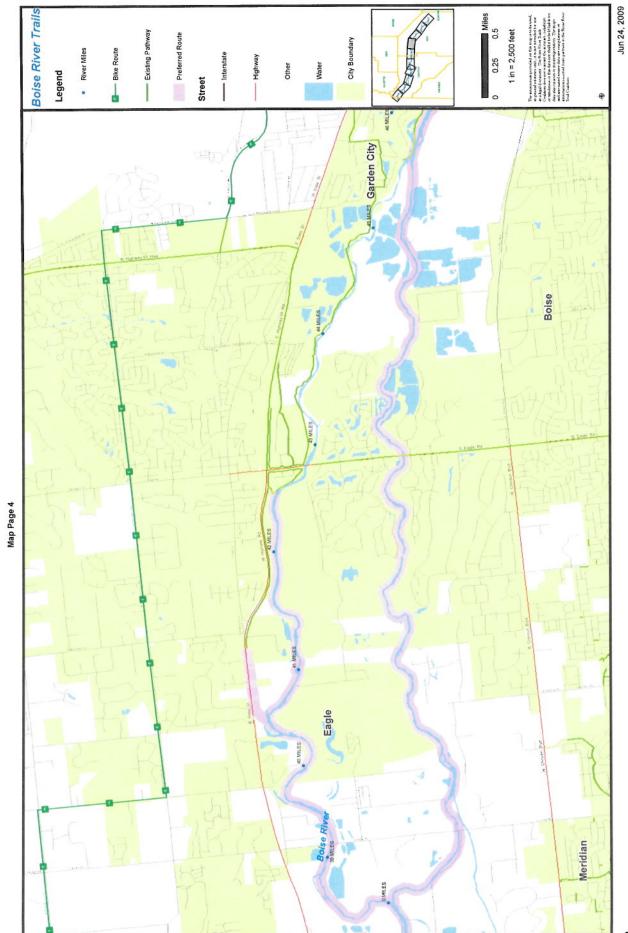
### The Boise River Trails website

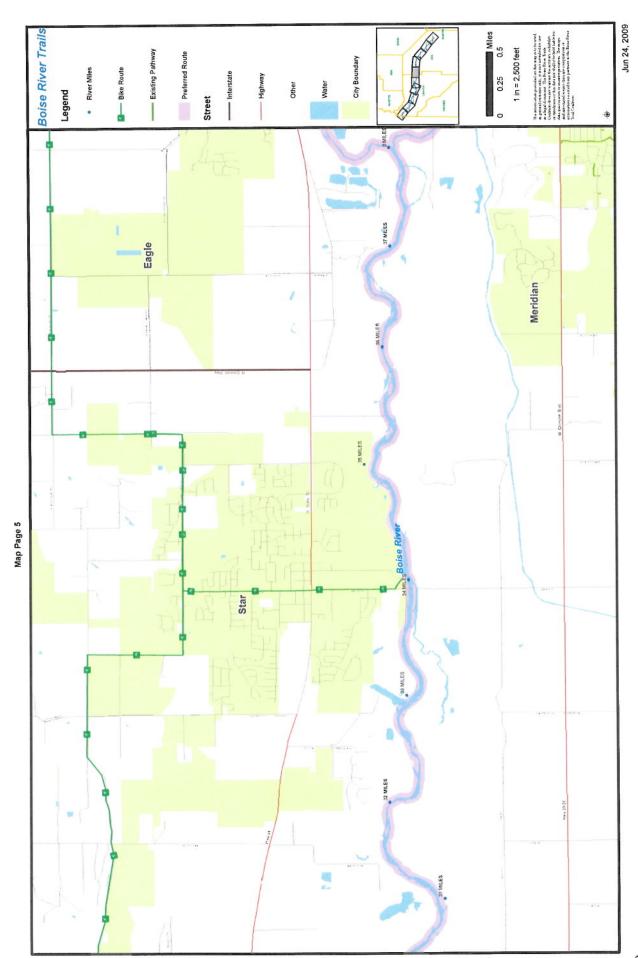
http://www.adaweb.net/RecreationandEventServices/OpenSpaceandTrails/BoiseRiverTrails
Coalition.aspx has links to online, interactive maps for Canoeing the Boise River, and the
Boise River Bike Trail in both Canyon and Ada Counties.

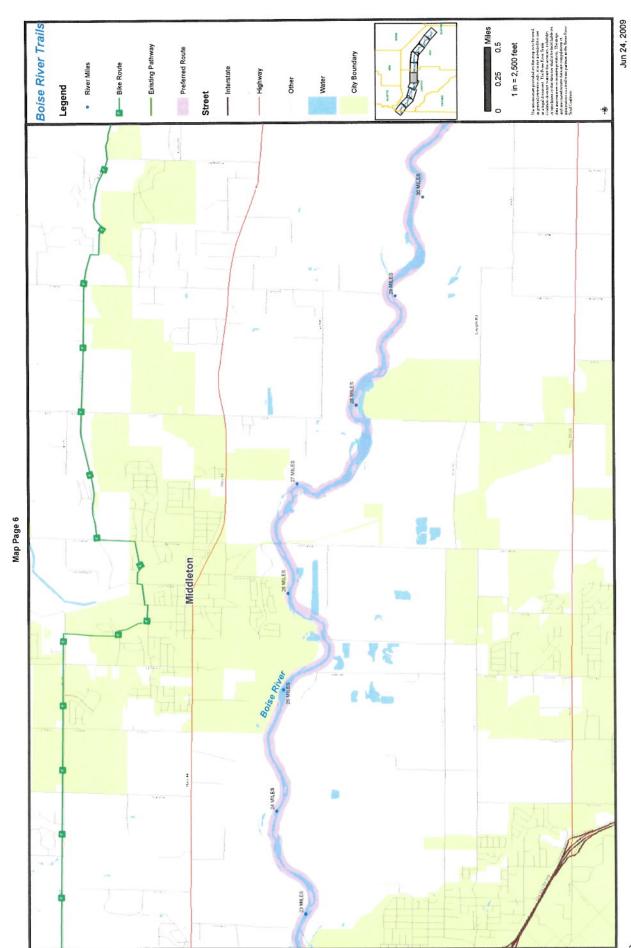


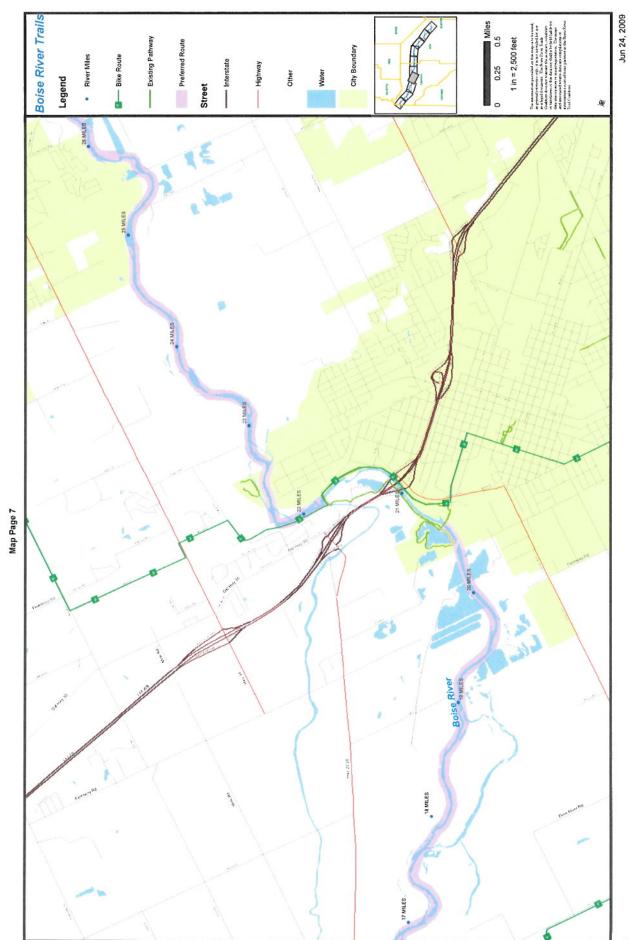


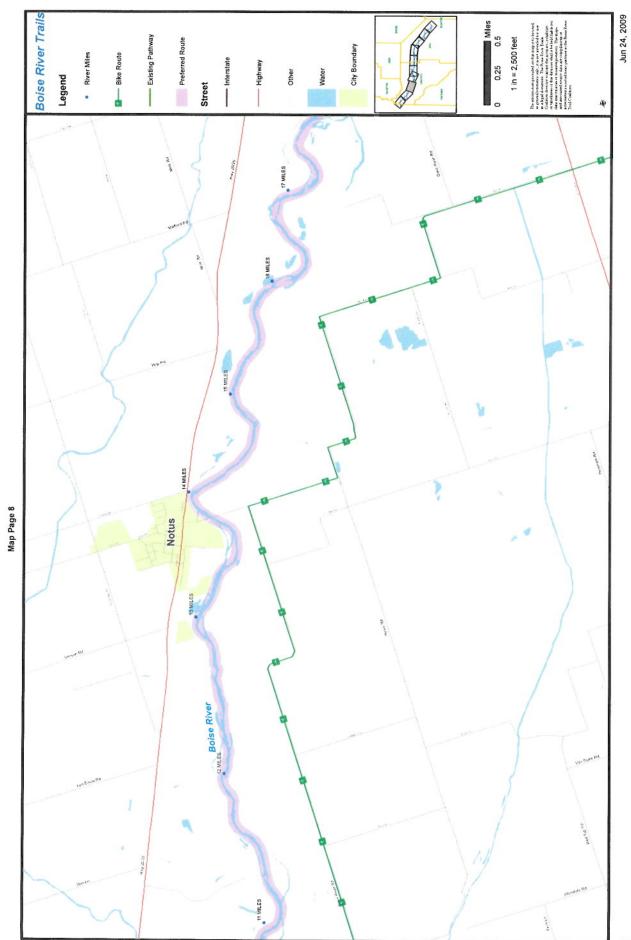


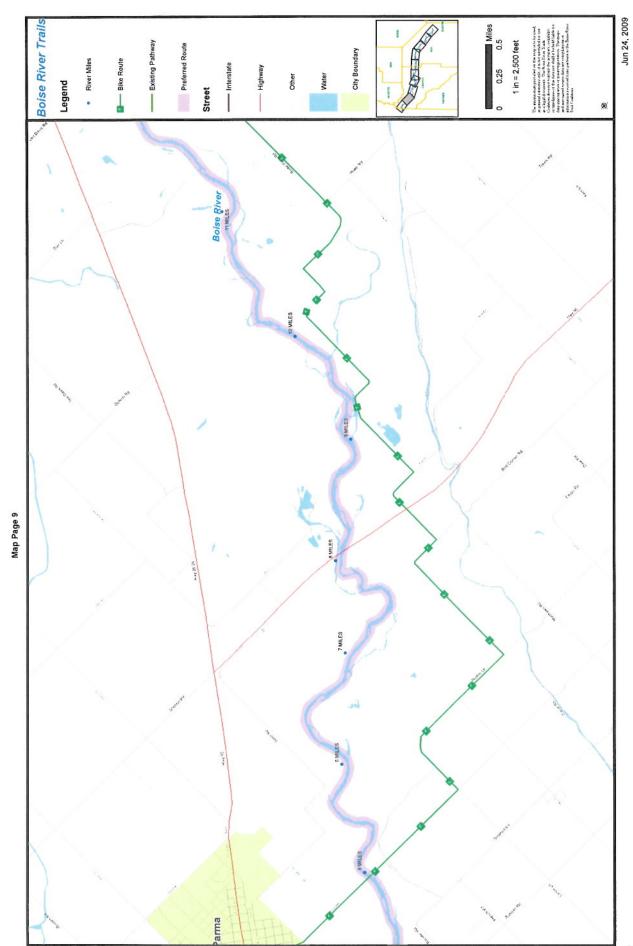


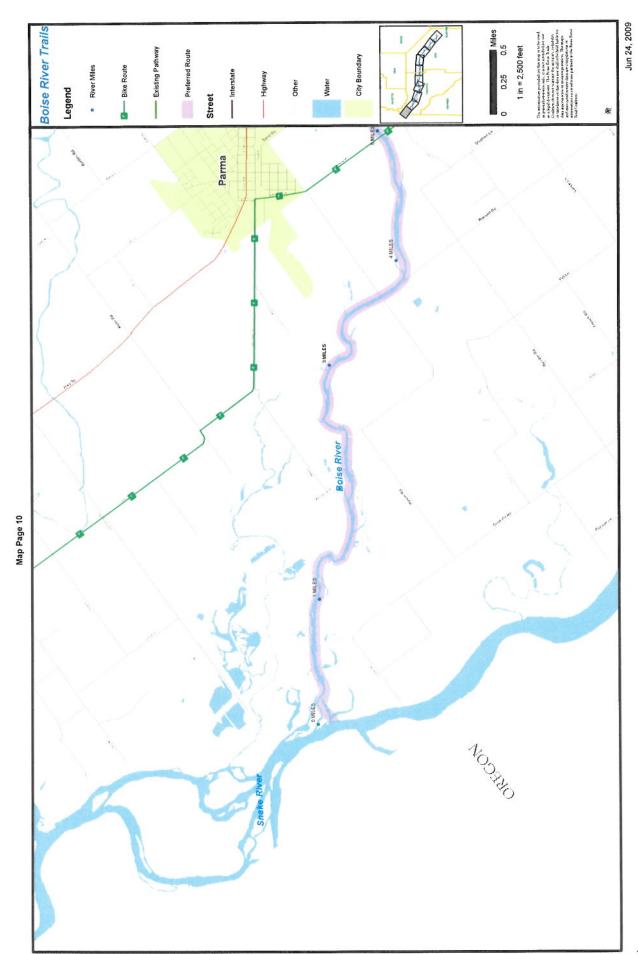












### Appendix B.

### River Resources

#### 1. The Boise River

The Boise River watershed encompasses approximately 7,250 sq.km. Its waters drop more than 8,000 vertical feet in their 115 mile travel from headwaters high in the Sawtooth Mountains of Central Idaho to its confluence with the Snake River. Most river flow derives from winter snow pack. There are 220 alpine lakes in the upper Boise River drainage. Anderson Ranch, Arrowrock and Lucky Peak Reservoirs in the river's mid-section hold back spring flows for summer irrigation use. Off-river water stored at Lake Lowell irrigates 200,000 acres of Canyon County cropland.

Below Lucky Peak Dam, the Boise River passes through Idaho's capitol city, Boise, then through Eagle and Star. This river stretch is a significant coldwater fishery, has an extensive recreational greenbelt, and is intensely used for rafting, tubing and kayaking. This reach of the Boise River is arguably Treasure Valley's most popular outdoor recreational resource.

From Star westward to its mouth, the Boise River passes through farm land. Here, low flows combine with high summer daytime temperatures to create a warm water fishery. As the Boise River approaches the Snake River on the Idaho-Oregon border, the river becomes a system of shallow, braided streams.

#### 2. Water Resources

Prior to white settlement, natural spring (May-June) flood flows on the Boise River extended from "bluff to bluff". While today's flooding starts at 4,500 cfs, the highest recorded Boise River flow was 35,500 cfs on June 14, 1896. Historic accounts indicate that 1862 flood flow may have exceeded 100,000 cfs. The Boise River is now a controlled river due to 3 upstream dams constructed for irrigation and flood protection. Extremely reduced flood flows have allowed development on what was the natural floodplain.

Upstream reservoirs and the levee system through Boise and Garden City provide flood protection well below the 100-year flood event level. Recent low flow conditions have allowed trees and brush to grow in the river channel, significantly reducing channel capacity. Minor flooding begins when flows at Glenwood Bridge exceed 4,500 cubic feet per second (cfs). Major flooding begins at 7,200 cfs. The river is operated to a target flood control flow of 6,500 cfs. This target was exceeded 13 times since construction of the Lucky Peak Dam in 1954 and 7 times since 1971.

#### 3. Water Quality

The mainstem Boise River and some of its tributaries are water quality limited, or impaired by pollutants, in certain reaches. The entire mainstem Boise River has too much sediment.

From Star to the Snake River, bacteria levels are too high, temperatures are elevated, phosphorous concentrations are high, and pathogens are found. Fishing and swimming --beneficial uses in the Boise River – are limited by sediment and bacteria. Multiple tributaries to the lower Boise River are also water quality limited.

Water quality standards protect designated beneficial uses, which are the benefits the river is expected to be able to provide for humans and aquatic life. TMDL targets are based on these water quality standards. Designated uses for the Lower Boise mainstem are summarized below (designated uses for the tributaries are under potential revision). These designated uses are specified by Idaho State law.

Designated Uses by Reach	Cold Water Biota		Primary Contact Recreation	Water	Special Resource Water	Agricultural Water Supply
Lucky Peak Dam to Barber Diversion Dam	х		X	X	X	X
Barber Diversion Dam to Star	X	X	X	X	X	X
Star to Indian Creek	X	X	X			X
Indian Creek to Parma	_ x		X	_	2	X

#### 4. Fish and Wildlife

In the early 1800's, the lower Boise River was described as the "most renowned fishing place in the country" because of the bounty of salmon caught by the Shoshone-Bannock and other Tribes. Chinook salmon spawned in the lower Boise River until the early 1860s, when mining and irrigation projects began. There were documented steelhead runs in the lower Boise River and Pacific lamprey near Caldwell.

High water temperatures and silt loads have eliminated 21<sup>st</sup> century salmonid



spawning in the lower Boise River. Lower reaches of the Boise River now support a warm-water fish community populated by Common carp, bass, bluegill, and catfish, and even introduced oriental weatherfish (Chinese loach).

The Idaho Dept. of Fish and Game (IDFG) manages the Boise River as a "put and take" trout fishery through the City of Boise. This very popular urban fishery is annually stocked with thousands of hatchery-reared rainbow trout of catchable size. More than 56,000 rainbow trout were stocked in the lower Boise River in 2004. IDFG also releases excess hatchery Chinook salmon and steelhead in the Boise River.

The Boise River plays a critical role as Treasure Valley's city's longest continuous riparian habitat and drainage corridor. Today, much of the river is inaccessible as it winds its way through the valley. The pathways' transportation, recreation, and environmental assets will build community identity by fostering understanding of local history and natural environments as well as by tying communities together.

### 5. Cultural Resources

The Boise River connects valley citizens to their past. Folsom, Plano and Clovis peoples, Western Shoshone, Northern Paiute, and Tribes of the Columbia Basin all lived along the river thousands of years before white settlement. With white settlement came additional historical and culturally significant sites and occurrences. Old Fort Boise, Oregon Trail, Ward Massacre, New Fort Boise, Oregon Short Line Railroad,



Boise Interurban Trolley Loop, Ward Massacre and the Steunenberg assassination site all have potential to provide for educational and interpretive opportunities along the planned trail system. Incorporating educational amenities into the Boise River trails system will help preserve the valley's rich cultural resources and provide broad public opportunities to learn from and have personal, meaningful contact with area history.

### 6. Population and Growth

The Treasure Valley is Idaho's most industrialized and urbanized area. The 2000 census population of Ada and Canyon Counties was 432,300 (U.S. Census Bureau, 2002) -- 33± percent of Idaho's population. Population growth in these 2 counties from 1990 to 2000 was 46 percent. Continued population growth is expected to increase use and demand for community paths.

### 7. Irrigation

Boise River water has been used for irrigation and electric power generation for over 150 years. The discovery of gold in the Boise Valley in the early 1860s accelerated development of commercial agriculture to feed the region's growing mining community. The first Boise River water right for irrigation at the Boise townsite and to supply Fort Boise was issued in 1864. By 1870, farming along the river in the Boise Valley was well established. Agricultural development of higher, desert land followed development of larger, more reliable irrigation facilities. In the early 1880s, A. D. Foote proposed irrigating thousands of acres on the south side of the Boise River by construction of what evolved to be the New York Canal. Foote's "South Side Canal" was plagued by numerous problems and, after 16 years of work, delivered only a small trickle of water.

By 1900, about 148,000 acres of Treasure Valley land was irrigated, but several hundred thousand additional acres were irrigable if facilities could be constructed by the U.S. Bureau of Reclamation. At completion, Reclamation's Arrowrock Dam was the then-highest dam in the world. Today, the Treasure Valley has over 400,000 acres of once desert land under irrigation, and is one of the most productive agricultural regions in the United States. Over 20 water diversion structures on the Boise River needed to irrigate over 400,000 acres of cities and farmland complicate water trail access and portages.

Treasure Valley hydrology is complex, with shallow, intermediate, and deep layers. Shallow aquifers often supply water to rural domestic and some irrigation wells. Intermediate aquifers supply water for domestic, irrigation, and municipal uses. Municipal, industrial, and some irrigation wells typically draw water from deeper aquifers.

Local shallow aquifers are often contained in the Pliestocene-age Snake River Group sediments with depths generally less than 75 meters below ground surface. Ground water in shallow aquifers generally originates at ground surface, in the form of precipitation, infiltration from irrigated areas, or infiltration from river and stream channels or canals. Shallow aquifers can be very localized, such as from an irrigated field to the nearest drainage ditch, or they can extend tens of miles.

Approximately 50% of the Treasure Valley land area is flood or sprinkler irrigated, which accounts for approximately 95% of recharge to shallow aquifers. Only a small portion of this water enters deeper aquifers; most shallow aquifers discharge into river, canal, or ditch channels.

Ground water is the source of most municipal water in the Treasure Valley. Municipal water is supplied by public companies, cities, and water districts, United Water being the largest supplier.

Ground water irrigates approximately 42,300 acres of farmland, primarily in the southern portion of the valley. Many irrigators supplement their surface water supplies with

irrigation wells. Approximately 72,000 acre feet of ground water are used annually for agricultural irrigation.

#### 8. Recreation

Demand for land and water trails is growing exponentially as more and more Treasure Valley residents live in small, urban homes, but live a lifestyle of ready access to outdoor recreation. Water-based recreation, including fishing, floating, hunting, and nature watching, is extremely popular on the Boise River all



year. There is great potential to replicate the business success of the Barber Park Raft and Tube rental, which grosses in the medium 6 figures, at other valley locations. Increasing population, higher travel costs, and high interest in local "stay-cations" set the stage for paths and trails to spawn many direct and indirect service industries.

River floaters are challenged to portage more than 20 permanent irrigation diversions and intake structures. Temporary gravel dams commonly placed across the river downstream of the irrigation intake structures also challenge river users.

# 9. Riparian Habitat

The historic river bottom was a wildlife mecca with a river bottom, gallery forest more than a mile wide in places.

Today's riparian width is measured in feet, and development closely regulated in Boise City. Natural fluvial processes are now so modified that black cottonwood trees, vital as wintering perches for bald eagles and other wildlife, regenerate vegetatively rather



than by seed cast. Low winter flows, and the disruption of natural floodflows and runoff cycles, adversely affect the fishery and portions of riparian zones.

There is increased public support for preserving riparian areas and opportunities for public enjoyment of them.

#### 10. Sand and Gravel

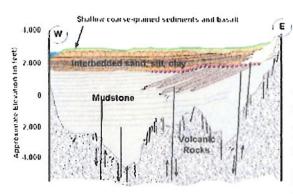


Figure 13. Generalized cross-section of the sediments underlying the western Snake River Plain, near the Boise area. From Idaho Department of Water Resources, Treasure Valley Hydrology

http://www.idwr.state.id.us/tvalley/geology/geology.htm

Sand and gravel deposits of the Lower Boise River are located in the active river flood plain and terraces that begin at Lucky Peak Dam, east of Boise, and extend downstream to the Snake River. Most of the alluvium in these deposits is derived from rocks in the Upper Boise River Basin. The Boise River valley ground water system is primarily within unconsolidated deposits of silt, sand, clay and fine gravel (Graham and Campbell 1981). Several businesses extract these gravels to supply key Treasure Valley building materials.

#### 11. Agriculture

Commercial agriculture on the Boise River began about the time Thomas and Frank Davis moved to Idaho in 1862. Intending to mine, they instead started successful riverside farms below the Boise Bench, growing food and forage for miners. Tom Davis' successful orchards profited over \$10,000 on one year's apple crop. In 1907, he donated much of his river bottom land to Boise City, which is now the site of Julia Davis Park, which was named for Tom's wife.

Treasure Valley agricultural now produces about \$3 billion in annual revenue. Canyon County is ranked second among Idaho counties in cash receipts from agriculture (\$311 million in 1997) (U. S. Department of Agriculture). Highly productive soils, dependable irrigation water, and a long growing season enable Treasure Valley agriculture to produce diversified, high value crops, which include alfalfa hay, soft fruit, cereals, wines, and flower and crop seeds. While urban development is turning some of the best farmland into subdivisions, agriculture remains a strong, vibrant component of the valley's economy.



# Appendix C.

# Survey Results & Public Input

- 1. Over 300 people responded to a May, 2009 online survey about valley paths and trails. Survey results indicated:
  - Respondents were about equally divided between women (49%) and men (51%).
  - Sixty-one percent (61%) of respondents were over 40 years old. Twenty eight percent (28%) were between 26 and 40. Only 3% were less than 25 years old.
  - Respondents indicated 22% would use river paths daily and 54% weekly.
  - Most desired river path/trail activities were, in order of preference: Walking (93%), nature observation (83%), biking (82%), bird watching (63%), jogging/running (60%), walking pets (59%), rafting (47%), tubing (45%), group outings (41%), kayaking (40%), roller blading (20%), skateboarding (9%), and horseback riding (22%).
- 2. Public comment on the proposed community trails system was obtained on January 27, 2008 at the Garden City library during an Idaho Rivers United Boise River program. Thirty-eight survey forms were completed.

Thirty-seven (37) respondents (97 %) desired more trails along the Boise River.

#### Respondents' present trail uses were:

- 1. Walking (92 %)
- 2. Bicycling (84 %)
- 3. Nature observation/birding (82 %)
- 4. Rafting/Kayaking/Tubing (61 %)
- 5. River access for swimming, fishing, etc. (47 %)
- 6. Dog Walking (42 %)
- 7. Commuting to work/school (18 %)
- 8. Group outings (18 %)
- 9. Running/jogging (13%)
- 10. Other (11%)
- 11. Roller blading (8 %)
- 12. Horseback riding (0 %)

#### New desired trail uses were:

- 1. Canoeing (11 %)
- 2. Long distance cycling (8 %)
- 3. Nature education (3 %)

#### Future trail user destinations on an expanded trail system would be:

- 1. Nearest town (68%) -- town name: Boise (45%), Eagle (21%), Caldwell (3 %)
- 2. No destination, just path use (58 %)
- 3. Recreation area/Park (55 %)
- 4. Work (18%)
- 5. Other (11 %)
- 6. School (3 %)

#### Respondents indicated they would use new trails/paths along the Boise River:

- 1. Weekly (50 %)
- 2. Daily (21 %)
- 3. A few times a year (16%)
- 4. Weekends only (16 %)
- 5. Monthly (5 %)

# Respondents' most desired landscaping/design elements on new trails were:

- 1. Parking at trailheads (50 %)
- 2. Toilets (42 %)
- 3. Compacted gravel surface (39 %)
- 4. Paved trail surface (39%)
- 5. Native plant landscaping (39 %)
- 6. Historical/Interpretive signs (26 %)
- 7. Pet waste disposal (24 %)
- 8. Viewing areas (21 %)

- 9. Trail signing (21 %)
- 10. Mile markers (18 %)
- 11. Dirt trail surface (18 %)
- 12. Water fountains (16 %)
- 13. Garbage cans (16 %)
- 14. Dual surface (dirt & paved) (13 %)
- 15. Benches (13 %)
- 16. Information Kiosks (8 %)
- 17. Artwork (3 %)
- 18. Portages (3 %)
- 19. Covered shelters (3 %)
- 20. Picnic Tables (3%)
- 21. Emergency phones (3%)
- 22. Shade (3 %)
- 23. Exercise course with stations (0 %)
- 24. Fencing (0 %)
- 25. Posted regulations (0 %)

Respondents at the Garden City Library event lived in Boise (76%), Garden City (16%), Meridian (5%), north of Eagle (3%), west of Boise (3%), and west of Meridian (3%).

Respondent attendees at the Garden City library evening meeting were largely middle aged:

- 1. 41-65 (71 %)
- 2.65 + (8%)
- 3. 23-30 (5 %)
- 4. 16-18 (3 %)
- 5. 31-40 (3 %)
- 6. 10-15 (0%)
- 7. 19-22 (0%)

Respondents were almost equally divided between men (49%) and women (51%).

Respondents' highest level of education was:

- 1. High school (43 %)
- 2. Bachelor's degree (37 %)
- 3. More than Master's degree (20 %)
- 4. 0 Junior High
- 5. 0 Master's degree

Respondents completed the survey as both Individuals (89%) and Households (11%). Numbers in household were 2 (n = 5); 3 (n = 1); and 4 (n = 1)

Ideas, comments, and concerns of respondents were:

- 1. Use Greenbelt as a commuting route (11%)
- 2. Need Recycling facilities (3%)
- 3. Need to repair cracks & roots (3%)
- 4. Don't plow snow to allow skiing (3%)
- 5. Need wildlife habitat (3%)

6. Concerned about dogs, erosion, geese, litter, & skateboards (3%)

Nine of 38 (24%) of respondents wished to be involved in future trail planning and construction.

# Appendix D.

# **Terms Used in River Sports**

Above: Upstream from an object in or across the river.

Below: Downstream from an object in or across the river.

CFS (cfs): Cubic feet per second. Used to measure the river's flow.

Diversion: A dam or partial dam created by gravel, concrete, old cars, etc. that diverts some of the river water for irrigation. Some are very dangerous and must be portaged. Others are barely noticeable and/or have drops that are fun to paddle over.

Eddy An upstream current found below obstructions in the river. You must learn to identify eddies and get your canoe into and out of them before paddling on the Boise or any other river.

Ferry To Paddle across a river without being swept downstream by the current. The forward and back ferries must be learned before paddling on the Boise or any other river.

Headgate: A structure at the entrance to a canal or ditch that controls flow. Can be concrete and big enough to walk over or small. Can be a dangerous strainer when open.

Lining: To maneuver a canoe downstream with ropes (called "painters") attached to bow and stern. A useful shallow water technique that can save a portage. When done upstream, it's called "tracking".

Portage: To carry a canoe and gear around an obstruction in the river, or from one body of water to the next.

River Left: The left bank of the river as you are headed downstream.

River Right: The right bank of the river as you are headed downstream.

Scout: To look at a rapid or obstruction from shore to help decide whether to paddle it or portage it.

Sneak (or Sneak route). A narrow opening, usually right next to a river bank that offers clear passage around rapids or an obstruction in the river.

Strainer: An object in the river, usually a fallen tree that allows water to flow through, but will "strain" boats and paddlers. The current will trap you in the strainer. Strainers are extremely dangerous. You must learn to recognize and avoid them.

Swamp: To fill or partially fill a canoe with water. The canoe becomes very unstable and hard to control.

Sweeper: A tree with branches or trunk above the river, but not high enough to paddle under. If you do not avoid a sweeper, you may be swept out of your boat.

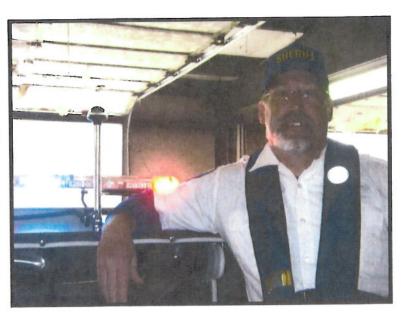


# Appendix E.

# **Water Trail Basics**

## 1. Safety

Paddling on rivers is never safe. Users need to develop their skills on lakes, canoe within their ability, and always wear a properly fitted PFD. An old beat-up life jacket lying in the bottom of the canoe won't save anyone's life! No one other than you is responsible for your paddling safety and there is no guarantee of the suitability of the Boise River for anyone's level of skill.



The Boise River would probably be rated at class I (easy) and class II (moderate) on the international river rating scale. Serious whitewater folk scoff at the notion that any part of the Boise is class III (difficult), yet the definition of class III includes "maneuvering necessary...main current may have dangerous strainers...course not easily recognizable..." and the Boise has all of those characteristics.

Learn to paddle from an expert. Boise State University and Cascade Kayak School offer canoeing classes. Good learning tools include the many books on canoeing and Bill Mason's "Path of the Paddle" video. Before paddling the Boise, boaters must know how to make their canoe go in every direction – forward, backward and sideways. Eddy turns, forward ferries and back ferries are essential skills and necessary to avoid hazards.

Rivers and their hazards are always changing. Trees fall, diversions are modified. Idaho State law allows irrigators to construct and modify diversions without regard to other interests on the river. River runners need to stay in the main channel. River guide booklets only touch on major diversions from the main channel. Side channels often have many down trees and additional diversions, as well as electric and barbed wire fences. Flows go up and down. In 1993, the Boise City almost passed a law prohibiting floating on the Boise at flows over 1,500 cfs. The City attorney advised against this safety step, as it might imply the river was safe at lower flows, leaving the City open to lawsuits.

The river's flow is determined by water releases from three upstream reservoirs and how much is diverted for irrigation. Flow information is published every Thursday in the Idaho Statesman. Users can also call the US Bureau of Reclamation at (208) 334-9134 or check

the website at www.idwr.state.id.us\idwr\idwrhome. Flow references in this guide are as measured at the Glenwood Bridge. There is also a river gauge in Parma.

During higher flows, the Boise is an extremely dangerous river and even expert paddlers stay off. The main hazard at flows above 1,500 cfs is from the river widening, putting trees and other vegetation lining the river bank in the river. This creates dangerous strainers and sweepers that can cause serious injury or death to paddlers. At lower flows, the river becomes shallow and rocky.

Many users enjoy paddling the river near Boise at flows between 700 and 2,000 cfs. In summer, there may not be enough water for good paddling in downstream portions of the river. In the fall after the irrigation season, there may be a minimum stream flow and tough paddling near Boise and plenty of water for good paddling below Notus.

#### 2. River Conduct

River-side communities may need rules separating motorized water craft (jet skis, jet boats, etc.) from non-motorized water craft (inner tubes, rafts, kayaks, etc). Boise River channels are often only a few feet wide and high speed motorized water users may conflict with others. Motorized water craft also have potential to cause significant bank erosion.<sup>5</sup>

Future river access improvements depend on positive relationships between paddlers and property owners. Users should smile and say "Hi!" to people on the river banks as you float by. Users should pack out what they take in, and carry a litterbag to remove trash left by others. Users should tread lightly when portaging around obstructions as they are walking on someone else's property. River users can build good relations by stopping in downstream towns to buy car gas or have a meal, then say they were canoeing on the river when they spend money.

<sup>&</sup>lt;sup>5</sup> http://www.thegreenblue.org.uk/publications/documents/BoatWash.pdf and http://www.marinfo.gc.ca/Doc/Erosion/Erosion des\_berges\_En.pdf

# Appendix F.

# Guide to the Boise River Water Trail<sup>6</sup>

USGS 151/2' Topographic Map River Mile Description Discovery Park Picnic Area Good access, parking, restrooms, and picnic tables. State Park permit or daily vehicle fee required. On Idaho 21 about one mile west of Lucky Peak Dam. This is an ideal place to learn and practice skills you will need on the river- eddy turns, forward and back ferries. At moderate flows, the current is gentle enough for easy upstream paddling. This is a fun place to practice skills at high flows-I've enjoyed paddling here at 7000 CFS. There is no other section I would paddle at that high flow. Lucky Peak Diversion Dam Fair access, parking on north side of Idaho 21. Portage on river right. Take out above the buoys, walk up the steep rocky bank, and then portage down the Greenbelt. Put in just past an old cable car on a faint path down the steep bank. Watch for poison ivy at the put in. Signs here warn of construction in the river at the Idaho 21 bridge, construction was completed in 1999. Lucky Peak Fair access, parking northwest corner. Take the asphalt easement path to the Greenbelt, and then portage down the steep, loose rock bank. Near the river, go east (downstream) to a nice sand beach and big eddy. Stay in the river right channel as you approach Barber Dam. The Barber Pools Conservation Area is above Barber Dam. Signs warning "keep right, portage ahead" are posted starting .5 miles upstream of Barber Dam. 58.9 Barber Dam This is the only well marked and maintained portage on the river. Take out on river right. The portage starts on an obvious, large wooden staircase next to the dam. Boise South 58.3 Nampa-Meridian Irrigation District Main Diversion Portage on river right, around the diversion. Put in above Eckert Road Bridge. This portage is on the Harris Ranch Development. Future access depends on favorable relations between paddlers and the developer. Good access, parking, restrooms, picnic tables. Daily vehicle fee required. This is the most heavily used put-in in Idaho and the favorite for thousands of tubers each summer. Boise South 57.5 Diversion South Boise Mutual Irrigation Diversion Most tubers float right over this drop. Like many diversions, it can swamp or capsize an open canoe. Portage on river right. Stay in the main channel to the left of this island. If you take the narrow channel on river right, large boulders and concrete slabs block the return to the main channel at the downstream end **Boise South** 56.3 "Damn Dam" South Boise Water Co. Diversion (Abandoned) Named by the irrigator in the 80's prior to being abandoned. Portage on either side or run the tongue near center. **Boise South** "The Weir" Boise City Canal Co. This diversion, just above Warm Springs golf course, is a playground for whitewater kayakers practicing surfing and other tricks. Canoers can run it down the tongue towards river right or portage along the Greenbelt on river left. Pedestrian Bridge An orange pedestrian bridge constructed in 2000 spans the river here.

**Boise South** 

http://www.adaweb.net/RecreationandEventServices/OpenSpaceandTrails/BoiseRiverTrails
Coalition.aspx has a link to online, interactive map for Canoeing the Boise River.

Please scout carefully! The current is strong and pushy toward river left. Unsuspecting paddlers could be swept into the bridge piers or

shoreline riprap. Keep to river right with a backferry or portage over the gravel bar on river right.

West Parkcenter Bridge

<sup>&</sup>lt;sup>6</sup> The Boise River Trails website

Boise South

52.5 Ann Morrison Park

Good access, parking, and restrooms. This is the takeout for thousands of tubers. The best access is the eddy on river left just above the pedestrian bridge over the river.

Boise South

52

51

Dam - Settlers Irrigation District Diversion

Mandatory portage on river left.

Boise North

"36th Street Wave" - Thurman Mill Ditch Co.

1.TD Diversion

This is a great example of how the river changes. I first scouted this in 1993, and until early July of 1996, the tongue was on far river right. Due to erosion on the right bank, the irrigator moved the passageway and tongue to the center. The standing waves at higher flows are sure to swamp an open canoe. Portage on the Greenbelt path on river left. At high flows over 6000 cfs, expert kayakers love the "36<sup>th</sup> street playwave" that forms here.

Boise North

50.8

Rapids

Farmer's Union Ditch Co. Diversion (Abandoned)

The remains of an abandoned diversion form this rapid. Portage over the wooden footbridge on river right, or scout and run it down the middle. At higher flows, sometimes you can sneak this on the far left. At lower flows, you may be able to line it or do a short "liftover" portage on river left. This is a very rocky rapid and a swim would hurt.

Boise Nort

49.6

45th Street Access

From Chinden Blvd. in Garden City, turn northeast on 45th Street. \$5th Street dead ends at the river. Decent access, and parking on State of

ldaho land. Eagle

48.5

Glenwood Bridge

Good access, parking on river right upstream from bridge. Look for sportsman access signs off Riverside Drive. Several paddlers have flipped and at least one canoe was pinned on the Glenwood Bridge in recent years. The current is strong and flows from river left to river right. You need to set up properly and use a strong backferry to run this safely. This may be the most technically demanding move on this section of the river. Portaging is a good option. At moderate flows you can portage under the bridge on river left.

Eagle

46.3

Dam - Little Dry Creek Diversion

No one claims ownership of this structure, yet it is maintained and the stream course acts as a flood relief channel. The headgate is used to regulate flows in times of high water. The headgate is a large concrete structure on river right. Some years this diversion is an easy 1 foot drop and fun, other years there is a boulder in the middle of the tongue and portaging in necessary.

Eagle

Eagle Island

South Channel mile 6.8

Splits the river into two channels for about seven miles. The South Channel is measured on USGS maps as a separate river. The upstream end of Eagle Island is South Channel river mile 6.8.

North vs. South Channel

Both the North Channel and South Channel are canoeable. They are similar in technical difficulty. The South Channel is more frequently paddled and has fewer portages. The North Channel has a more intimate feel. The North Channel is only about 0.5 miles longer but takes more time due to the additional portages. Down trees are common in both the North and South Channels. Be prepared to avoid them. A strong back ferry is a reliable way to maneuver your canoe around down trees and other obstructions.

North Channel Route

Eagle

45.8

Head of Eagle Island

Stay to the right of Eagle Island to enter the North Channel. A lot of gravel is deposited here by high flows. Occasionally, it gets removed. The Pioneer Irrigation District-Eagle Island Checks may or may not be visible. Sometime there is an open channel through the checks and sometimes you need to portage over the gravel at the head of the island. About 1.5 miles down from the head of Eagle Island there is a single lane concrete bridge. This is a private road, the access that Monroe Concrete uses to get to their gravel pits on Eagle Island.

Eagle

43.8

Dam

Ballantyne Ditch Diversion

There are a couple of liftovers on gravel bars in the half-mile below the Monroc bridge. Gravel bars and vegetation in this area make the actual diversion difficult to see.

Eagle

42.8

Mace Mace Ditch

Stay out of this side channel on river right. Down trees block access to this side channel.

Eagle

42.7

Eagle Road Bridge

Fair access under bridge on river right. Limited parking under bridge. If you access the river here, be sure you know which channel you arc in. Eagle Road crosses the North Channel about 1.5 miles north of Chinden Road.

Eagle

Dam

Hart Davis Diversion

Scout carefully- before you run this drop. Some years the tongue is in the middle, other years it hae been on river right. You may bang the stern of your canne on the concrete sill. Otherwise portage on either side-there is no clear path. An old sign on river left warns "buried Chevron pipeline-no anchoring or dredging allowed."

Star

Middleton Irrigation District Diversion

This riverwide diversion offers no clear portage trail and no safe passage. Stay clear of the unprotected radial gate on river right. You can bushwhack a portage over the headgate on river right or through the bushes on river left. I have had better luck on river left just a few feet upstream from the dam. At higher flows, it would be much safer to take out well before the dam. There are a couple more gravel liftovers in the next mile. Flow levels really change this stretch. At higher flows, strainers force a portage. At lower flows, strainers may be on the bank out of the way.

Star

39.2

Linder Road Bridge

Fair access, limited parking river right. Linder Road crosses the North Channel about 1.7 miles North of Chinden Blvd.

Star

38.6

Dam

Little Pioneer Diversion

The river splits below Linder Bridge. The river right channel of the split leads to the Little Pioneer. This diversion is concrete rubble with exposed rebar. Portage over the island that splits the channel.

Star

Confluence of North and South Channels

No access, next takeout is Star, mile 34. Lots of fun twists and turns and an occasional down tree across the river in the next few miles.

Dam

Canyon County Water Co. Star Bridge Diversion

Fair access and parking on river right just above the dam. The takeout is steep and rocky.

South Channel Route

Eagle

45.8

Head of Eagle Island

South Channel mile 6.8

Stay to the left of Eagle Island to enter the South Channel.

South Channel mile 4.5

Diversion - Mace Catlin Ditch Co. Diversion

Portage on either side (there is no clear path) or scout and run the tongue on river right. I usually take on water here. I like to run this from right to left and eddy out below the diversion to bail out the canoe.

South Channel mile 4.1

Eagle Road - Idaho 55 Bridge

Fair access and limited parking on the northeast side of the bridge. If you access the river from Eagle Road, be sure you know which channel you are in. The South Channel is about 0.75 miles north of Chinden Blvd. (US 20/26). The North Channel is about 1.5 miles north of Chinden.

Star

South Channel mile 1.8

Diversion - Seven Suckers Ditch Diversion

This is a smaller drop. Run it down the tongue. Watch for down trees in the next couple of miles.

Star

South Channel mile 1.5

Hatchery Access

The Idaho Department of Fish and Game (IDFG) maintains this access. Take Linder Road 1.5 miles north of Chinden. Then go east on N. Hatchery Road for 0.5 miles, then straight south on Trout Road 0.5 miles through the hatchery to the end of the road and the parking area.

Star

South Channel mile 1.2 Dam - Pioneer Irrigation District-Phyllis Canal Diversion

Portage on river right. There is no clear path or landing, just push through the grasses.

Star

South Channel mile .9

Linder Bridge

Fair access on the northeast side of the bridge, parking along Artesian Rd. on the north side of the river. Be sure you are in the South Channel (about 0.75 miles north of Chinden) if you access the river here. Avoid the Phyllis Canal 0.1 mile south of the Boise's South Channel. The North Channel is about 1.75 miles north of Chinden.

Star

38

West end of Eagle Island

The North and South Channels rejoin here. Lots of fun twists and turns and an occasional down tree across the river in the next few miles.

Ctor

34

Dam - Canyon County Water Co. Star Bridge Diversion

Portage on river right. The take out above the dam is steep and rocky.

Star

33.9

Star Road Bridge

Fair access, parking at the northeast corner below the dam. Stay in the main channel below the bridge. Gravel accumulates in this area; expect to do some lining and liftovers. Do not put in at the southwest corner of the bridge. You will end up in a side channel that leads to an impassable head gate with no clear portage trail and an electric fence.

Middleton

29

Lansing Lane Access

IDFG access, parking. Two miles east of Middleton Road and one mile south of US 44.

Middleton

28

Midland Blvd

IDFG access, parking. One mile north of Chinden and one mile east of Middleton Rd. Water quality deteriorates noticeably here.

Middleton

26.5

Middleton Road Bridge

Fair access and limited parking on the southeast corner under the railroad bridge.

Caldwell

25

Airport Access

IDFG access, parking on river left at Hubler Field. From US 20/26, 1.2 miles east of Interstate 84: go north on KCID Road 0.8 miles, east on Marble Front Road 0.2 miles, north on Wells Road 0.2 miles, west on Lincoln Road 0.2 miles, and north on KCID Road one mile to the river.

Caldwell

22.4

Abutments

You'll see the concrete abutments that once supported the Boise Valley Railroad Bridge. Stay out of the channel on river left, which leads to the Riverside Irrigation District Canal. The river slows and turns due south for the next 0.5 miles as you approach the dam.

Caldwell

21.8

River Gates Dam/Access - Farmer's Co-Op Ditch Co. Diversion

Stay to the right of the island in the river. Take out on the island above the dam and portage over the steel footbridge that crosses the dam. Access the river here at Emigrant Crossing Municipal Park. Parking is available off River Road on river left just below the Highway Bridge. Watch for the Caldwell Campground on river right 0.25 miles downstream.

Notus

13.8

Notus Road Bridge

Access the river on the northeast corner and park next to the bridge or park in Notus one block north.

Wilder

10

Dixie Access

IDFG access and parking. Follow US 95, 0.5 miles south of the river. Then go east on Boise River Road. Stay on this paved road for 1.8 miles through several sharp turns. Then go north on a gravel road for 0.1 miles to the river.

Wilder

8

US 95 Bridge

Fair access at the northwest corner. At low water, river right is shallow and rocky, requiring some lining to put in or take out.

Wilder

7.8

Portage (?)

A gravel bar on river left presents a challenge. The outside bend on river right is choked with down trees. If you decide to run this instead of portaging over the gravel bar, stay tight to the left bank with a strong back ferry.

Parma

59

Diversion - Island Highline Ditch Co. Diversion

Portage on river right (there is no clear path), or scout and pick a line to run. Avoid the headgates on river left. Watch out for a willow sweeper just below the diversion on river right.

Parma

5

Roswell Rd./Wamstad Road Bridge

Access, limited parking northeast comer.

Parma

3.8

Diversion

McConnell Island Ditch Diversion

Portage river right or scout and pick a line to run. At low flows, portage river right.

Parm

3.6

Hexon Road Bridge

You could access the river here. There is no good put-in or parking. The McConnell Island Ditch Diversion is visible just upstream.

Parma

2

Takatori Access

To reach this IDFG access from US 95 at the west end of Parma: take Roswell Road south 0.1 miles. Turn right (northwest) before the railroad tracks on Apple Valley Road for 1.4 miles. Turn west and cross the tracks on Sharp Lane. Follow Sharp Lane for one mile. Just past Bar Diamond, Inc., turn south for 0.1 miles to the river and turn right to the access.

Owyhee, Oregon

1

Almost Done!

The Boise River slows and widens as it approaches the Snake River. Lots of down trees and logjams keep things interesting.

Owyhee, Oregon

0

Confluence at Snake River mile 395.4

Snake River confluence. Stay to river right around every island so you don't miss the takeout.

Owyhee, Oregon

Snake River mile 394.5

Fort Boise Wildlife Management Area

Good access, parking, and camping. Take US 95 north out of Parma. Watch for the sportsman access sign two miles out of town. Turn left and head straight west for three miles on Old Fort Boise Road. The road goes from paved to gravel (ignore the dead end sign) to paved as you enter the W.M.A. From the entrance it's 0.5 miles on a gravel road to campsites and the Snake River Landing.

# Appendix G.

# Tool Kit for Access, Path Funding, Design, Construction & Management

#### 1. Access to the River

No permission is needed to create water trail segments as the Boise River was a "navigable stream" at Idaho's 1890 statehood. This means that, once on the river, people can travel on the river's waters with rights similar to what the have when using a public road. Building new paths on land owned by counties or cities should be quite do-able provided city/county permission is obtained.

Paths should be discussed and coordinated with landowners prior to building paths on private land subject to non-motorized, public easements held by the Idaho Dept. of Lands.

On many private land parcels, permission must obtained from landowners to build a public path.

# 2. Funding

Non-motorized transportation is gaining support across the nation. Accordingly, policy support and additional funding have recently been made available for bicycle transportation improvements on the federal level through:

- The 1990 Clean Air Act,
- The 1991 Inter-Modal Surface Transportation Efficiency Act (ISTEA), and
- The 1998 Transportation Equity Act for the 21st Century (TEA-21).

These laws provide increased spending on bicycle travel and give communities flexibility to spend highway funding on bicycling, walking, and transit. Already, these laws have led to over a billion dollars in bicycle, trail and pedestrian projects nationwide, and thousands of miles in new bicycle lanes, sidewalks, multi-use trails and other non-motorized enhancements. Some competitive source grant funding programs that may be used to implement Boise River Trails are described below.

#### a. Federal Funding Sources

#### i. TEA-21 and SAFETEA-LU

Federal funding through the TEA-21 (Transportation Equity Act for the 21<sup>st</sup> Century) program has provided much of the funding for bicycle and pedestrian projects. TEA-21 currently contains three major programs, STP (Surface Transportation Program), TEA

(Transportation Enhancement Activities), and CMAQ (Congestion Mitigation and Air Quality Improvement) along with other programs such as the National Recreational Trails Program, Section 402 (Safety) funds, Scenic Byways funds, and Federal Lands Highway funds. TEA-21 funding is administered through state and regional governments. Most, but not all, of the funding programs are transportation- versus recreational-oriented, with an emphasis on (a) reducing auto trips and (b) providing an intermodal connection. Funding criteria often includes completion and adoption of a bicycle and/or pedestrian master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), and proof of public involvement and support. In most cases, TEA-21 provides matching grants of 80 to 90 percent, but prefers to leverage other moneys at a lower rate. All TEA-21 funds have been programmed. The successor legislation, which is currently known as SAFETEA-LU (Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users), will be a future source of funds. This legislation includes categories of funding and guidelines dedicated to non-motorized transportation.

#### ii. Congestion Mitigation and Air Quality Improvement Program

Congestion Mitigation and Air Quality Improvement funds are programmed by TEA-21 for projects that are likely to contribute to the attainment of a national ambient air quality standard, and congestion mitigation. These funds can be used for a broad variety of bicycle and pedestrian projects, particularly those developed primarily for transportation purposes. Funds can be used either for construction of bicycle transportation facilities and pedestrian walkways or for non-construction projects related to safe bicycle and pedestrian use (maps, brochures, etc.). Projects must be tied to a plan adopted by the State and Metropolitan Planning Organization (MPO).

#### iii. National Highway System (NHS)

National Highway System funds are for improvements to the National Highway System, which consists of an interconnected system of principal arterial routes that serve major population centers, international border crossings, airports, public transportation facilities, and other intermodal transportation facilities as well as other major travel destinations. NHS funds can provide pedestrian and bicycle facilities constructed on NHS routes.

## iv. Federal Lands Highway Funds

Federal Lands Highway funds may be used to build bicycle and pedestrian facilities in conjunction with roads and parkways at the discretion of the department charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and MPO.

#### b. State Funding Sources

#### i. Safe Routes to School

The Safe Routes to School program is a state program using federal transportation funds. This program is meant to improve school commute routes through construction of bicycle and pedestrian safety and traffic calming projects. A local match of 11.5% is required for this competitive program, which will allocate \$18 million annually. Since it is a construction program, planning grants are not available through this program. Programs or activities related to education, enforcement, or encouragement may be eligible for reimbursement if related to the construction improvement.

#### ii. National Recreational Trails Fund

The Idaho Department of Parks and Recreation administers the Recreational Trails Program (RTP) grants, which provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized as well as motorized uses. Recreational Trails Program funds may be used for:

- · Maintenance and restoration of existing trails
- Development and rehabilitation of trailside and trailhead facilities and trail linkages
   Purchase and lease of trail construction and maintenance equipment
- Construction of new trails (with restrictions for new trails on federal lands)
- Acquisition of easements or property for trails
- State administrative costs related to this program (limited to seven percent of a State's funds)
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds)

#### iii. Environmental Enhancement and Mitigation Program

Environmental Enhancement and Mitigation Program Funds are allocated to projects that offset environmental impacts of modified or new public transportation facilities including streets, mass transit guideways, park-and-ride facilities, transit stations, tree planting to equalize the effects of vehicular emissions, and the acquisition or development of roadside recreational facilities, such as trails. State gasoline tax money funds the EEMP.

## c. Local Funding Sources

#### i. Direct Local Jurisdiction Funding

Local jurisdictions can fund bicycle and pedestrian projects using a variety of sources. A city's general funds are often earmarked for non-motorized transportation projects, especially sidewalk and ADA improvements. Future road widening and construction projects are one means of providing bike lanes and sidewalks. To ensure that roadway construction projects provide these facilities where needed, appropriate, and feasible, it is important that an effective review process is in place so that new roads meet the standards and guidelines presented in this Plan.

# ii. Impact fees

Another potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site pedestrian and bikeway improvements, which will encourage residents to walk and bicycle rather than drive. In-lieu parking fees may be used to help construct new or improved bicycle parking. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical in avoiding a potential lawsuit.

# iii. Special Taxing Districts

Special taxing districts, such as redevelopment districts, can be good instruments to finance new infrastructure –including shared use trails and sidewalks - within specified areas. New facilities are funded by assessments placed on those that are directly benefited by the improvements rather than the general public. In a "tax increment financing"(TIF) district, taxes are collected on property value increases above the base year assessed property value.

This money can then be utilized for capital improvements within the district. TIFs are especially beneficial in downtown redevelopment districts. These districts are established by a petition from landowners to a local government. The districts can operate independently from the local government and some are established for single purposes, such as roadway construction.

# d. Other Funding Sources

Local fees and permits may be implemented, requiring a local election. Parking meter revenues may be used according to local ordinance. Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. Use of groups such as Inmate Labor will reduce project costs. Local schools or community groups may use the bikeway or pedestrian project as a project for the year, possibly working with a local designer or engineer. Work parties can clear rights of way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations "adopt" a bikeway and help construct and maintain the facility.

Some prominent Treasure Valley cycling groups are the Southwest Idaho Mountain Biking Association (SWIMBA), Boise Young Riders Development Squad (BYRDS, http://www.byrdscycling.com), Boise Off-Road Mountain Bike Babes (B.O.M.B.B. Squad, http://northend.org/bombb/), Lactic Acid Cycling Club (http://www.lacticacidcycling.org/default.aspx), and Snake River Cyclists. These groups promote safe recreational and competitive cycling in the community. Their eagerness to provide labor, funding, and organizational support make them wonderful partners for local governments planning, building, and maintaining pathways.

#### 3. Path Design

Among many good reference sources available, some of the best are:

- Caltrans Highway Design Manual, "Chapter 1000: Bikeway Planning and Design," 2001.
- Manual on Uniform Traffic Control Devices, "Part 9 Traffic Controls for Bicycle Facilities," 2001.
- Guide For The Development Of Bicycle Facilities, American Association of State Highway And Transportation Officials (AASHTO), 1999.

## a. Design Speed

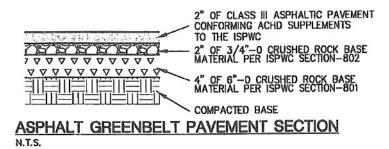
The minimum design speed for bike paths is 20 miles per hour, except where there are downgrades steeper than 4% and longer than 500 feet. Speed bumps or other surface irregularities should never be used on pathways to slow bicycles.

## b. Horizontal Alignment

A 2% cross slope is adequate for drainage, and should not be exceeded. Paths should not have sharp curves, except at path entrance/ exit points and transitions to intersections.

#### c. Structural Section and Surface

Paved paths should be constructed like roadways, with sub-base thickness determined by soils condition. Expansive soil types require special structural sections. Minimum asphalt thickness should be three inches of Type A or Type B, with a ¾-inch minus aggregate base designed to the site's soil conditions. Maximum path loads will include maintenance and emergency service vehicles, as well as occasional construction equipment. Paths constructed using standard Class F asphalt mix to achieve permeability are discouraged due to uncertain maintenance costs and ability to maintain permeability.



#### d. Drainage

A 2% cross slope will resolve most path drainage issues. In cut sections run off must be collected and directed to a catch basin, or directed under the path in a drainage pipe.

Topography along most of the Boise River is flat. Maintaining existing drainage patterns along the river is critical and should be enhanced where feasible. Culverts may be necessary for sound path construction.

#### e. Bikeways

There are three "classes" of bikeway facilities.

i. Class I Bikeways: Typically called a "bike path," a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from nearby streets or highways. These provide opportunities not available streets and roads, including recreation or high-speed bicycle commuting. The recommended width of a shared use path is dependent upon anticipated usage:



- 8'(2.4 m) is the minimum width, most applicable to unpaved and/or rural facilities
- 8' (2.4 m) may be used for short neighborhood connector paths (generally less than one mile in length) due to low anticipated volumes of use
- 10'(3.0 m) is the recommended width for a two-way bicycle path
- 12'(3.6 m) is the preferred width if more than 300 users per peak hour are anticipated, and/or if there is heavy mixed bicycle and pedestrian use
- A minimum 2'(0.6 m) wide graded area must be provided adjacent to paths to
  provide clearance from trees, poles, walls, guardrails, etc. A yellow centerline stripe
  is recommended to separate travel in opposite directions.

ii. Class II Bikeways: Often referred to as a "bike lane", a Class II bikeway provides a striped and stenciled lane for one-way bicycle travel on a street or highway. Bike lanes delineate separate rights-of-way for bicycles and vehicles to provide more predictable movement for both. Bike lane widths vary according to parking and street conditions:

- 5'(1.5 m) minimum when parking stalls are Marked
- 11' (3.3 m) minimum for a shared bike/parking lane where parking is permitted but not marked on streets without curbs; or 12'(3.6 m) for a shared lane adjacent to a curb face
- 4'(1.2 m) minimum if no gutter exists, measured from edge of pavement
- 5'(1.5 m) minimum with normal gutter, measured from curb face; or 3' (0.9 m) measured from the gutter pan seam.

Other important bike lane requirements involve signing, striping, and stenciling:

- A bike lane should be delineated from motor vehicle travel lanes with a solid 6" white line, per MUTCD. An 8" line width may be used for added distinction.
- Word and symbol pavement stencils should be used to identify bicycle lanes, as per MUTCD specifications.
- The R81 "Bike Lane" sign is required at the beginning of all bike lanes, at all major changes in direction, and at a maximum of 1 km intervals.

iii. Class III Bikeways: Usually referred to as "bike routes," Class III bikeways are shared with motor vehicles but which provide – through signage, design, and connection to other facilities - advantages to bicyclists not available on other streets or roadways. Class III facilities can also be shared with pedestrians on a sidewalk although it is strongly discouraged. There are no recommended minimum widths for Class III facilities, but when encouraging bicyclists to travel along selected routes, traffic speed and volume, parking, traffic control devices, and surface quality should be compatible with bicycle travel. Bicycle boulevards are a type of Class III facility with design features giving preference to bicyclists. Commonly used devices found on bicycle boulevards are traffic diverters that allow through access for bicyclists, two-way bicycle travel on one-way streets, and special signage.

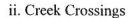
## f. Pathway Crossings

# i. Road Crossings

When pathways cross a road, the crossing must be at a protected intersection (i.e., crosswalk with a stop sign or traffic signal) if the intersection is within 350 feet of the pathway. Barriers and directional signing are required to prevent pathway users from crossing at unmarked locations. Signs warning motorists of the presence of bicycles may be needed, as well as right turn on red prohibitions when pedestrians and bicyclists are present. High-speed curve geometry and free right turns should be replaced with tighter radii to help slow vehicles. Widening and striping the sidewalk (if possible) between the pathway and intersection may alleviate conflicts between pedestrians and bicyclists.

Traffic stacked at an intersection may obstruct a mid-block bike crossing. In addition to the potential safety hazard to the pathway user, mid-block crossings may slow street traffic and reduce its traffic capacity. Mid-block, or unprotected, crossings are only appropriate when the pathway is located more than 350 feet from a protected crossing and when signals and signs are used to alert motorists and the pathway users. A variety of elements are used to

create a safe mid-block crossing.



Path bridges should span the entire creek flood-way, with footings located outside of the channel at top of bank. Bridge design and construction should minimize removing native vegetation. Bridges may need to support use by city and agency maintenance and emergency vehicles and occasional construction equipment. Bridges should also be wide enough to allow pedestrians to stop to observe creeks, etc. without impeding other pathway users.

## 3. Site Improvements and Amenities

#### i. Materials

Each pathway element or site improvement should use materials that provide visual harmony with adjacent neighborhoods and agricultural activities in that setting.

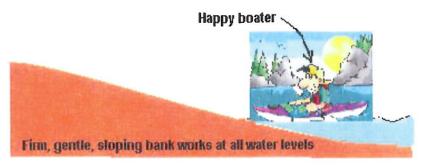
#### ii. Trailheads/River Access Points

Trailheads, formal entrances to the water trail and/or pathways, should have sufficient vehicle parking for users arriving by car.

#### iii. Portage Improvements

Key portage sites should be improved to promote public safety, facilitate portages, and maintain good relations with landowners along the river. River floaters face challenging portages river floaters at some of the than 20 permanent irrigation diversions and intake structures. Users face similar, unforeseeable portages to skirt sweepers and strainers. It is tricky to dangerous to exit or re-enter boats at some of these. Idaho law allows portages over private land by the most direct route, but landowners and recreationists may not agree where that route is. High use portages and those that present pressing safety concerns should be prioritized for improvement.

Only minimal improvements are usually necessary to improve boater/floater safety and access at portages. High standard "boat ramps" are neither needed nor preferred as they can initiate long-term conflicts between users of non-motorized and motorized water craft. Structures should reflect unique site characteristics and generally need not involve heavy construction. The basic goal of put-in/take-outs is to have relatively calm, shallow water over a firm, sloping river bottom adjacent to a gently sloping river bank. A good reference link is http://www.nps.gov/ncrc/programs/rtca/helpfultools/ht\_launch\_guide.html



# Good put-in/take-out

#### iv. Drinking Fountains

Drinking fountains should meet ADA requirements and be at urban trailheads/launch points served by potable water.

## v. Milepost Marker

Mileposts greatly increase use of the pathway by joggers and cyclists looking for set work out distances. Mileposts mounted on low wooden posts should be located well to the side of the trail so as not to obstruct access or be a tripping hazard. The recommended spacing is one per one-tenth mile. Similarly, River Mile signs should be posted along the water trail on bridges.

#### vi. Bollards

Install bollards at pathway intersections with streets to minimize unwanted vehicle access. They must be removable to allow maintenance and emergency vehicle access to the pathway. Posts should be made visible to bicyclists and others at nighttime with reflective materials and appropriate striping.

#### vii. Restrooms

Restrooms were one of the top three amenities asked for by city path users. However, they represent a significant development cost, maintenance responsibility and security risk that may make it infeasible to develop restrooms along the pathway. If



affordable, they should be located at key activity areas such as parks or trailheads. Design should reflect the setting. Directional signage to existing restrooms near the pathway should be provided.

Public restrooms along busy sections of the water trail will help maintain good relations between river users and neighbors. Without them, sanitation and relations with landowners could become deteriorate.

#### viii. Refuse Control

Users cite garbage cans as a top pathway amenity. They should be located at pathway/river access points and next to benches along the pathway. Pathway etiquette signs should establish a "pack it in, pack it out" policy to promote a litter-free facility. Refuse bags for dogs should be made available at access points and where garbage cans are located.

#### ix. Public Art

Public art along the pathway adds interest to path experiences. Depending on its scale and form, public art can become an "event"unto itself and serve as a public draw as something to see and experience. The opportunity to install public art along pathways should be a path development priority. Installation of art at highly visible areas, such as trailheads or near public facilities, should be encouraged.



## x. Landscaping

Landscaping adjacent to pathway introduces seasonal color and shade. Informal groups of native plant materials near site improvements (e.g., benches, trailheads) that can establish themselves in one or two growing seasons are encouraged. Native species should be used in landscaping near the Boise River. Invasive species shall be avoided to minimize the need for vegetation control or eradication within the right-of-way. Himalayan blackberry and other weeds growing within the corridor should be eliminated. Irrigation along the path is not anticipated, so truck watering will most likely only be needed during the tree establishment period. Trees should be a mix of deciduous and evergreen species, and located away from path edges.

## xi. Lighting in Downtowns and Developed Areas

Lighting along paths will increase users' sense of security and improve public safety. Lighting will also increase evening path use. Despite the expense of installing and operating lighting along paths, it creates more secure and usable public facilities. Lighting should be directed away from the Boise River to avoid disturbing nocturnal wildlife and from the night sky.

#### xii. Private Property Fencing

Fencing along private property boundaries prevents trespass, encloses hazardous sites and provides privacy screening. Fencing both sides of a path should be avoided because it will create a "tunnel"effect where the pathway user may feel trapped. Private property fencing along the pathway should be constructed with open wire material which wildlife can easily cross. New paths should not block free movement of wild animals who have lived along the river for thousands of years. Fencing not allowing visual access to the path should be avoided. Fencing should balance needs for privacy while allowing informal surveillance of

the path. When fencing is requested purely for privacy reasons, vegetative buffers should be considered instead.

#### xiii. Equestrian Facilities

Equestrian trail users must first get to the trails. This requires either trail connections from stabling areas or relatively large parking areas for horse trailers. Trail layout is very important to equestrians. Narrow winding trails are inappropriate for equestrians because horses are inclined to spook if/ when suddenly faced with another trail user, particularly a speeding bicycler. Multi-use (walking, biking, equestrian) trails should be wider than a typical Class III trail to allow separate tracks for horses and other users. These and other considerations are left to each community to work out to best serve their users.

Paving dirt trails within cities is necessary to create multi-use trails for bikers, skaters, joggers, dog walkers and baby carriages, but paving makes trails unsafe and inappropriate for equestrians. A separate horse trail alongside the bike/pedestrian trail is most desirable. Mixed use trails should be at least 10 feet wide, with parallel track for equestrians. While 12 foot wide bridges are suitable on non-equestrian areas, 20 foot wide equestrian bridges should be provided. Equestrians using urban trails are often criticized by other users about horse manure and trail damage so waste facilities and user education are integral to managing mixed use trails.

#### 4. Path User Management

#### a. Signs

Comprehensive signage includes three types of signs: 1) regulatory, 2) directional, and 3) interpretive. Path signs should provide a unified theme to convey a sense of continuity of the entire river pathway, general orientation and safety. Do not "over sign" the path. Incorporating signage into pathway structures such as bollards should be encouraged to avoid "visual pollution" by too many signs and sign poles along the path.

Boise River Path Signage should conform to the standards in the Federal Highway Administration's *Manual of Uniform Traffic Control Devices* (MUTCD). The final striping, marking, and signing plan for the Pathway should be reviewed and approved by a licensed traffic engineer or civil engineer. Finally, the Pathway should be identified by a consistent, unique logo or design that will help guide people to and on the trail.

In general, signs should be located three to four feet from the edge of the paved surface, have a minimum vertical clearance of 8.5 feet when located above the trail surface and be a minimum of four feet above the trail surface when located on the side of the trail. All signs should be oriented so as not to confuse motorists. The designs (though not the size) of signs and markings should be the same as used for motor vehicles.

An optional four-inch yellow centerline stripe may be used to separate users on the path. The stripes may be desirable on sections of the rail trail that have heavy usage, curves with restricted sign lines, at approaches to intersections and/or where nighttime riding is expected.

# i. Regulatory Signs

Regulatory signs are required to provide warnings and traffic control information for pathway users and motorists approaching a pathway road crossing. Sign type, location, and other criteria are identified in the MUTCD. Adequate warning distances should be provided based on vehicle speeds and line of sight, with visibility of signage absolutely critical. Catching the attention of motorists desensitized to roadway signs may require additional alerting devices such as a flashing light, roadway striping or changes in pavement texture. Signing for pathway users must include a standard "STOP" sign and pavement marking, sometimes combined with other features such as bollards or a curve in the path to slow approaching a street crossing. Placing too many signs at crossings will result in sign clutter and negate their impact.

# ii. Directional Signs

Directional signs are useful for pathway users and motorists alike. Directional signs and street names at crossings help direct people to their destinations. For motorists, a sign reading "Boise River Pathway Xing" along with a path emblem or logo will help both warn and promote use of the trail itself. Since pathway entrances on public roads serve as the gateway or access point to the pathway, directional signs should be provided at these locations and should include a location map and an etiquette sign. These signs should be on information kiosks built with materials reflecting local setting and theme. Path etiquette signs should spell out proper rules and customs for path users.

#### iii. Interpretative Signs

Interpretive signage provides enrichment to the path user experience, strengthening the uniqueness of the local community and providing educational opportunities. Key interpretive opportunities include:

- · Local canals, creeks, and drains.
- Fish species in the Boise River
- Native plants and river wildlife
- Water quality
- River use past, present and future
- Historic neighborhood development
- Land settlement patterns/place name history



#### User Characteristics and Needs

#### i. River Rafters and Floaters

Facilities should be designed to meet customers' needs to:

- Be close to nature.
- Experience solitude in a seemingly remote setting.
- Provide a family experience, or an opportunity to pass on important water recreation values to others.
- Have a strong attachment to place, or opportunities to spend time on the Boise River.
- Have challenging, yet safe, experiences tempered with a certain amount of risk, as in any whitewater activity.
- Appreciate the cultural history of the river corridor.
- Provide uniform water trail recreation management from a regional perspective, rather than town-by-town.
- Practice environmentally responsible behavior, by all users, in order to protect the resource.
- 11. Practice and teach river etiquette to all users.
- Educate and practice "responsible shared use" fair and equitable access to the resource with opportunities for education and growth.

#### ii. Pedestrians

Pedestrians are an active user group on multi-use pathways. Pedestrian use will typically include work commuters, casual strollers, people walking their dogs or doing lunchtime exercise, interpretive walks, and every-thing in between. While people walking to work may use a trail for its directness of route, casual strollers typically prefer a facility with amenities such as benches, fountains, public art and interpretive opportunities. To meet the needs of older adults and people with disabilities, accessible facilities need smooth hard surfaces, ADA-compliant gradients and pullouts or rest areas.

Conflicts can occur between pedestrians, bicyclists, equestrians, and in-line skaters due to their varying range of motion. Depending on the volume of traffic, pedestrians may need to be separated from faster moving bicyclists and skaters for their own safety. Safe multiple use requires everyone's cooperation. Each user will need to exercise common courtesy.

# iii. Cyclists

Recreational cyclists generally fall into one of three categories: exercise, non-work destinations and sightseeing. The term "recreational" cyclist covers a broad range of skill and fitness levels. They can range from a racer who does 100-mile rides each weekend to a family with young children who occasionally want to ride a couple



miles down a quiet bike path. A cyclist's level of skill, fitness and comfort riding with traffic will determine what type of trail or roadway they will seek.

A bicycle racer more typically prefers direct, long distance routes, with minimal stops and challenging terrain. Riding next to traffic, with or without a wide shoulder, is not a critical concern for this type of rider. Utilitarian cycling trips refer to the use of the bicycle for shopping, errands and other local trips. Treasure Valley residents with shopping and public facilities (libraries, post offices, etc.) close to their neighborhoods will use paths for utilitarian trips.

Commuter bicyclists, generally adult employees, students and shoppers, have the following characteristics:

- Commuter trips usually range from several blocks to ten miles.
- Commuters typically seek the most direct and fastest route available.
- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with vehicles.
- Places to safely store bicycles is important to all bicycle commuters, particularly during winter months.
- Major commuter concerns include changes in weather (rain and extreme heat), riding in darkness, personal safety and security.
- A primary concern to all bicycle commuters are intersections with no stop signs or signal controls where motorists are less likely to see them.
- Commuters generally prefer routes where they are required to stop as few times as possible, thereby minimizing delay.

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Directness of route is typically less important to users than being in scenic surroundings, having amenities like restrooms and water fountains, and the availability of shorter routes and loops between destinations. Casual cyclists consider visual interest, shade, wind protection, moderate gradients and artistic or informational features to have high value. A cyclist's level of skill, fitness and comfort riding with traffic will determine what type of facility they will select. Paved Boise River pathways will serve the entire range of recreational cyclists by providing direct route through communities, reducing traffic conflicts found on parallel streets, and offering many shorter connections between local parks, schools, shops, employment centers and neighborhoods.

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This CD contains a .pdf Acrobat copy of the Boise River Trails Plan signed 8-12-09 by elected officials of cities along the Boise River and Ada and Canyon County. Please copy and print additional copies of this document from this disk, then replace it here.

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