

HEALTHY TUMALO COMMUNITY PLAN

A Health Impact Assessment on the Tumalo Community Plan
A Chapter Of The 20-Year Deschutes County Comprehensive Plan Update



CONTRIBUTORS

This project was funded by the Centers for Disease Control and Prevention and The Association of State and Territorial Health Officials through a grant administered by the Oregon Health Authority, Office of Environmental Public Health.

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I. EXECUTIVE SUMMARY

Purpose

Health Impact Assessment (HIA) is an emerging practice in the United States and it is widely promoted by the Centers for Disease Control and Prevention (CDC) as a tool to influence policy, projects and programs that have short and long-term health consequences. With funding from the Centers for Disease Control and Prevention, the Association of State and Territorial Health Offices, and training and technical assistance from Oregon Public Health Authority Office of Environmental Public Health, Deschutes County Health Services and a team of community partners chose to implement a Health Impact Assessment (HIA) on the draft Tumalo Community Plan, a chapter of the 20-year, County Comprehensive Plan Update. The purpose of this HIA is two-fold: (1) Evaluate the draft Tumalo Community Plan (TCP) in the context of community health by addressing the health impacts of policies contained within; and (2) Support County Planners in their process of finalizing the TCP by including recommendations that may be incorporated into the final plan that is adopted by the County Board of Commissioners in 2010.

Methodology

The research conducted in this project used standard HIA steps as recommended by the CDC. These include: Screening, Scoping, Assessment, Reporting and Monitoring. In addition to this framework, the project used community engagement to form an advisory council, including representatives from the public health, county planning, transportation and healthcare sectors as well as Tumalo area residents and community advocates. The Advisory Council informed key activities including the organization of community listening sessions as well as identification of the scope of the HIA around three policy focus areas: safety and accessibility of Highway 20, access to parks and recreational amenities, and the development of a multi-modal trail system.

Health Impacts of the Tumalo Community Plan

Categories related to existing local conditions and background data were developed and used to assess health consequences that may be influenced by the HIA's three policy focus areas. These metrics, also known as proximal health impacts, include frequency and quality of physical activity, traffic safety and rural livability. Of the three metrics, *rural livability* emerged as a key concept in the context of Tumalo's community health. Though opinions differ widely on tactics, most residents we spoke with are interested in enhancing Tumalo's sense of "place." Health promotion literature often anecdotally suggests "sense of place" plays a role in influencing health determinants such as social capital/cohesion, access to goods and services and frequency of recreation and physical activity. This appears to contribute to each proximal health impact, and can be influenced greatly by the policies adopted in this 20-year plan.

Findings and Recommendations

Following are the principal findings and recommendations that promote positive health outcomes relative to the three HIA focus areas.

Improving the safety and accessibility of U.S. Hwy. 20: Highway 20 accessibility (for all transportation modes) is a key issue in Tumalo. Though the speed limit through Tumalo on the highway is reduced at 45 MPH, there are few measures in place to enforce this speed. Related to this, safety continues to be a barrier to rural livability and optimal community health. The County and ODOT have developed a short-term strategy to reduce the traffic hazards by constructing a raised median near Seventh and Bailey Street, which will improve conditions. Ultimately, however, broader measures such as grade separated crossings across U.S. Hwy. 20 could provide Tumalo a myriad of benefits, such as improved public safety, greater access to destinations within and just outside their community, increased physical activity and local economic sustainability. Key HIA recommendations involve changing policy language in the current draft TCP. Key recommendations to policies in the current TCP draft around Hwy. 20 accessibility and safety include:

- Recommended change to transportation goal on page 25 (of current TCP draft) : Provide a safe and efficient system for cyclists, equestrians, pedestrians and motor vehicles to support local economic development, recreational uses, and community health.
- Recommended change to Road and Sidewalk, Policy # 2: Support a ‘complete streets’ policy consistent with Table A of Deschutes County Code 17.48 to establish future roadway design guidelines that plan for and operate the entire right of way to enable safe access for all users.
- Recommended change to Policy #9: Support changes in roadside environment to promote a reduction in traffic speed through tree planting, signage, shoulder treatments or other means.
- Recommended change to Policy # 11: Improve crossing conditions across Hwy. 20 by providing a grade separated crossing to support safe access to recreation and community services for all users.

Multi-modal Trail System and Nearby Recreation: Many Tumalo residents echo the concern that growing informal use of area natural resources, in this case the Deschutes River, may result in adverse consequences. The community at large supports harnessing this recreational draw by creating infrastructure to formalize recreation, capture commercial business and avoid environmental or health risk that informal use creates. These risks include parking crowding and congestion along rural roads, vandalism, littering, and public trespassing on private land and sensitive wetland areas.

The HIA workgroup recommends an integrated planning approach to recreation and trails, which would also encompass planning for Highway 20 accessibility. This method, which includes linking recreational destinations with transportation infrastructure such as a multi-modal trail system, can have many positive benefits for rural communities as well as obvious health benefits such as increased physical activity, social cohesion as well as increased economic activity. In the Tumalo Community Listening session, one resident said “Build a trail under the bridge along the river from Tumalo State Park to town.” This sentiment was echoed by several other Tumalo citizens. Key recommendations to policies around trails and recreation include:

- Recommended change to Community Goal (page 21 of current TCP draft): Protect and enhance the rural small-town character of the Tumalo Community, while encouraging

accessibility on the provision of services, supporting healthy active lifestyles and increasing social connections among community members and the surrounding rural community.

- Recommended change to Open Space and Rec. Policies, Policy # 8: Public access to the river will be preserved and infrastructure improvements will be supported including formal river access points, public signage, lighting, sanitary facilities and improved parking conditions.
- Community Policies (page 21) - add policy: Support school district in improving community use of Tumalo Community School facilities through joint-use policies that encourage community education, recreation and enrichment programs for students, parents and non-parent community members.
- Open Space and Recreation Policies (page 21) - add policy: Support the development of a trails and recreation master plan.
- Open Space and Recreation Policies (page 21) - add policy: Support and advocate for the expansion of the Bend Metro Park and Recreation District to include the Tumalo area.

II. INTRODUCTION

Community health is profoundly impacted by multiple economic sectors and policies. Transportation policies, for example, can play a major role in traffic injuries as well as in noise and air pollution to nearby public or residential areas. Conversely, transportation policies that are developed with the intent to improve health outcomes will both help reduce these risks as well as promote healthy behavior choices such as walking and cycling.

Health Impact Assessment (HIA) is an emerging practice in the United States and it is widely promoted by the Centers for Disease Control and Prevention (CDC) as a tool to influence decisions that have short and long-term health consequences. HIA is commonly defined as “a combination of procedures, methods, and tools by which a policy, program, or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population” (Gothenburg, 1999).

a. Tumalo Community Plan HIA Rationale

With funding support, training and technical assistance from the Oregon Department of Environmental Health, Deschutes County Health Services and a team of community partners chose to implement an HIA on the draft Tumalo Community Plan, a component of the 20-year, County Comprehensive Plan Update. The purpose of this HIA is two-fold: (1) Evaluate the draft Tumalo Community Plan (TCP) in the context of community health by addressing the health impacts of policies contained within; and (2) Support County Planners in their process of finalizing the TCP by including recommendations that may be incorporated into the final plan that is adopted by the County Board of Commissioners in 2010.

Figure 1. Tumalo Community and Surrounding Area

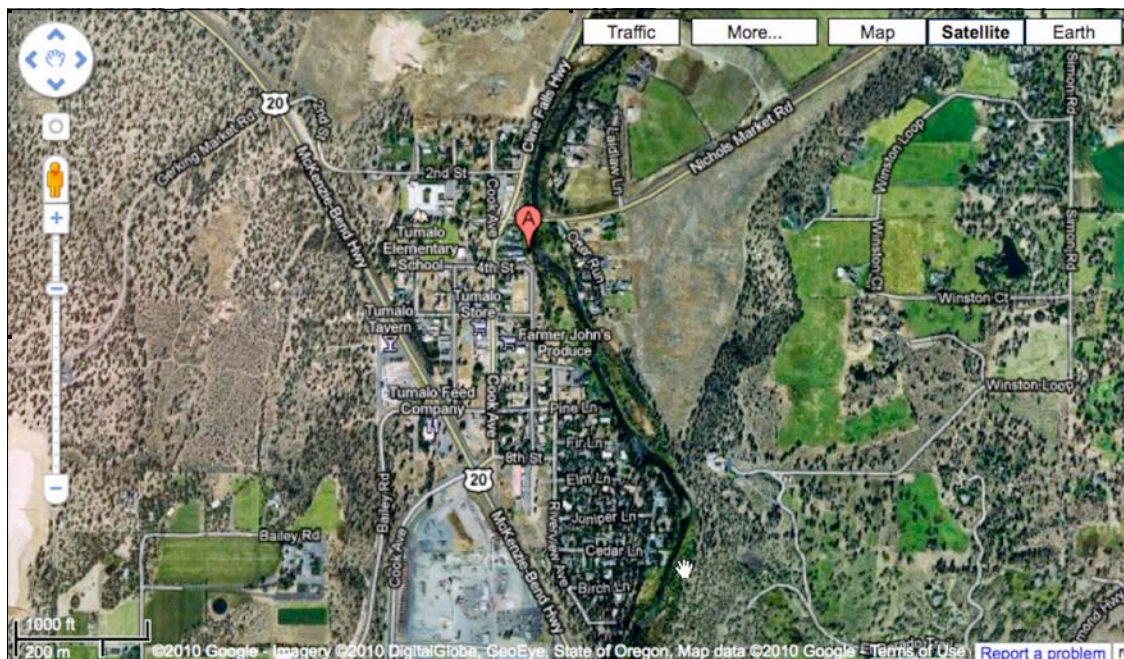


Figure 2. Tumalo Rural Boundary

III. TUMALO COMMUNITY PROFILE

Tumalo is a small rural community three miles northwest of the city of Bend. Tumalo is one of four types of State defined Unincorporated Communities. As such, the boundary is tightly regulated as are the allowed land uses. Figure 2 represents the legal comprehensive plan and zoning boundary.

The City of Bend, which has significantly increased in population over the last decade is Central Oregon’s largest city and despite its modest size, has recently reached metropolitan planning organization (MPO) status, a federal designation required when a city surpasses 50,000 in population. Some consider Tumalo a “bedroom community” to Bend, however, Tumalo residents passionately value retaining the longstanding rural character that attracted them to the area. During the Tumalo Community Listening Session one gentleman reminded the group that “Tumalo was formed to be the ‘capitol’ of Central Oregon—we want to keep that connectivity.”

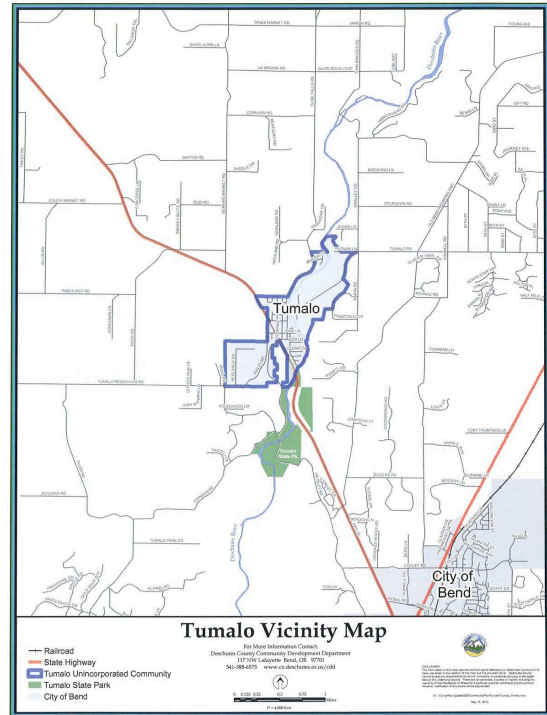
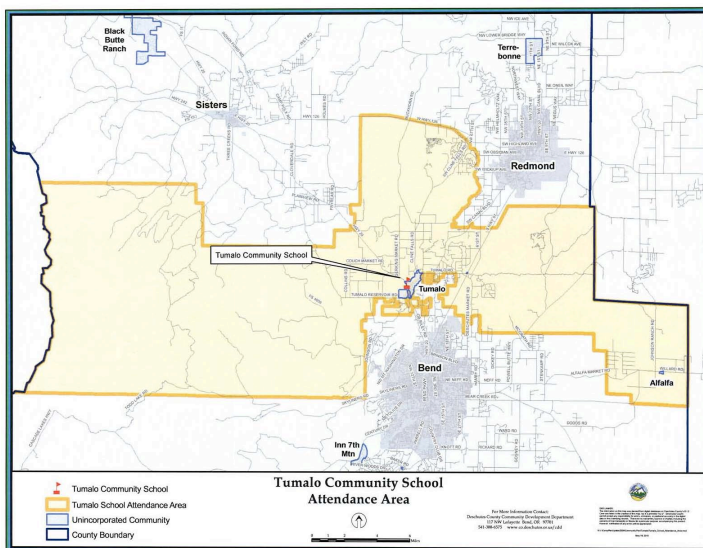


Figure 3. Tumalo Community School Boundary



a. Greater Tumalo Area

The state-defined Tumalo community boundary does not include a larger outlying area wherein a significant number of residents reside (see Figure 3). These residents consider themselves Tumalo community members, frequently access local goods and services and are impacted by local transportation and land-use policies. The County currently estimates Tumalo at 372 people based on the rural community boundary (Figure 2), with build out potential to 604. This estimate

is based on a residential boundary of less than one square mile, whereas the Tumalo Community School, with over 400 enrolled students, has a significantly larger attendance area. Within that area, it is estimated an additional 6,500 residents reside. In this HIA we take account of the Tumalo Community School boundary when assessing vulnerable populations as well as overall community health impact related to key Tumalo Community Plan (TCP) policies.

b. Vulnerable Populations

Rural residents: While overweight and obesity numbers have been trending upward at an alarming rate in the United States, the problem may be growing disproportionately in rural settings. Texas A&M University has conducted research that finds people who live in rural communities have a higher risk for obesity which can lead to serious health conditions such as diabetes, cancer and cardiovascular disease. This is supported by national survey data and smaller regional studies. A shift has occurred in childhood overweight and obesity over the past 20 years as well involving a reversal of prevalence from urban to rural populations (Liu, et. al, 2007).

For purposes of this HIA, we recognize that although a greater portion of Deschutes County residents live in urban areas of the county with approximately one third residing in smaller, unincorporated towns, most consider their communities to be small and rural. This includes residents on the fringe of Bend and Redmond and a small Latino population including those within Tumalo's state-defined rural boundary as well as the Tumalo Community School service area. Regardless of address, a common denominator among all Central Oregonians is the value placed on preserving small-town feel and lifestyle. Section V. part C, of this document, speaks to why rural livability is a consideration in this HIA study, and references studies in a growing body of research which is dispelling the myth that people who live in rural communities are more physically fit than their urban counterparts.

School-age children: Headed by First Lady Michelle Obama, The White House Task Force on Childhood Obesity has set a goal of reducing childhood and adolescent obesity from the national average of approximately 30% to 5% by the year 2030. One of the recommended means of addressing this goal is increasing the amount of youths who walk and bike to school to 50% by 2015. This is a particularly tall goal for rural communities like Tumalo, many of which lack infrastructure to keep children safe from traffic incidents – a top concern for parents who drive their children to school even when they live within walking distance (less than one mile).

HIA Workgroup partner organization, Commute Options for Central Oregon conducted Safe Routes to School (SRTS) parent and student surveys in the Tumalo Community School in May of 2010. 115 surveys were returned by parents and 13 hand tallies (verbal survey with students) were returned by teachers. As shown in Figure 4, less than one percent of respondents currently access Tumalo Community School by an active mode. The school bus system has 71 bus stops. Figure 6 demonstrates a willingness of parents and students to choose modes other than driving should infrastructure be improved to create safer conditions.

Following are other findings related to walking and biking to school for parents and students at Tumalo Community School.

- Barrier: 66.1% cite distance from home to school
- Barrier: 60.9% cite traffic speed on route to school
- Barrier: 52.2% cite traffic volume along route
- Barrier: 49.6% cite safety of intersections and crossings

- 74% of respondents live more than 2 miles of TCS
- 10% of respondents live within one mile of TCS

Figure 4: Transportation Choices By Mode

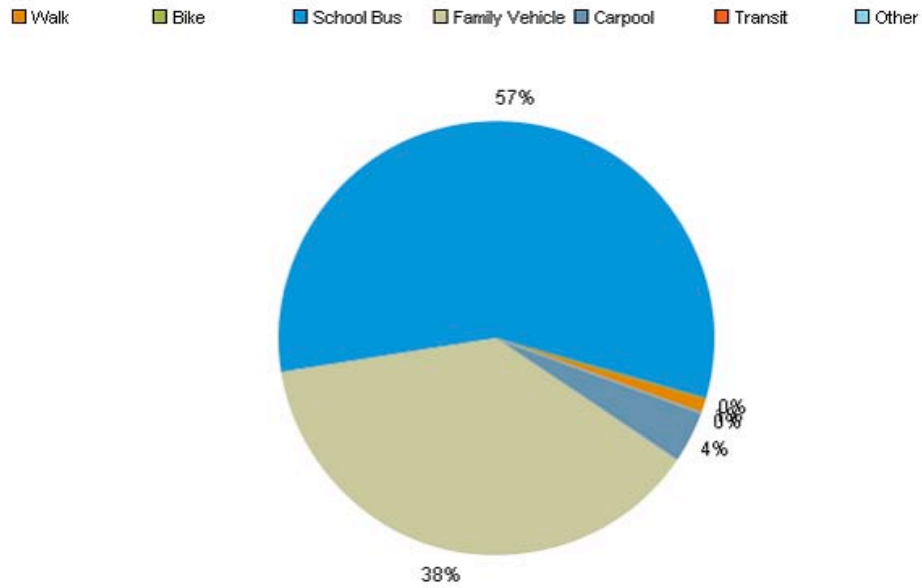


Figure 5: Mode Split By AM and PM Trips

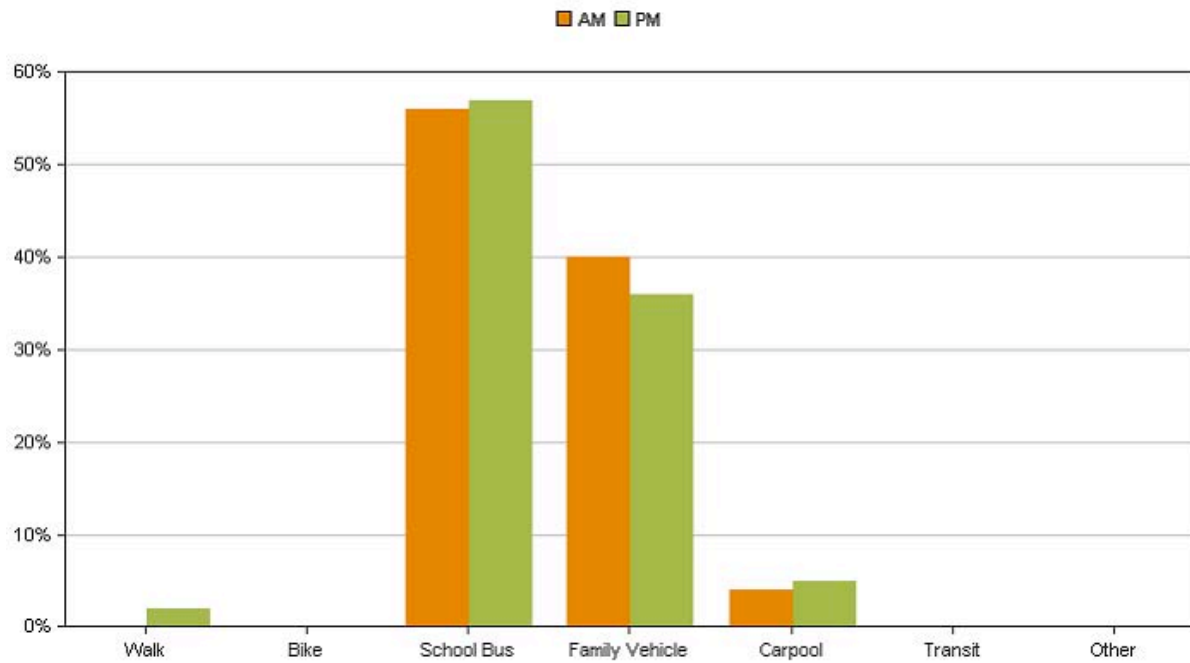


Figure 6: If Conditions Were To Change

Issue	Change Would affect decision	Change Would Not affect decision	Not Sure if change would affect decision
Distance	48 (41.7%)	34 (29.6%)	3 (2.6%)
Traffic speed along route to school	44 (38.3%)	38 (33.0%)	8 (7.0%)
Traffic volume along route	38 (33.0%)	38 (33.0%)	7 (6.1%)
Sidewalks or pathways	32 (27.8%)	27 (23.5%)	2 (1.7%)
Safety of intersections & crossings	33 (28.7%)	31 (27.0%)	6 (5.2%)
Crossing guards	9 (7.8%)	25 (21.7%)	3 (2.6%)

Figure 7. Visioning Exercise



c. How the West Was Won Back: A Vision for a Healthy, Active Tumalo

At the outset of the HIA, we explored how answers to issues that impact health such as population growth in the region, economic development, transportation, social isolation and land-use are not one-size-fits-all, particularly for a community like Tumalo. Figure 7 encapsulates how residents and members of the HIA Advisory Council (AC) envision the area at the end of the Tumalo Community Plan timeline (2030). The Workgroup presented this to a mix of residents – with varying perspectives of rural livability – at the listening sessions on April 27, 2010. Despite a difference in opinion on tactics, most residents appear to support local economic development, enhancing Tumalo’s sense of “place.” It would be interesting, however, to delve a bit deeper into why certain residents are more in support of taking action to plan for future growth and sustainable development than others.

IV. HIA METHODS

a. Guiding Principles

The Deschutes County HIA workgroup implemented this project according to framework that has been established by the North American HIA Practice Standards Workgroup. Among standard HIA procedures (see next section), an overarching set of principles are adhered to throughout each step of the process (Principles adapted by HIA Practice Standards Workgroup from Quigley et al, 2006).

Democracy – emphasizing the right of people to participate in the formulation and decisions of proposals that affect their life, both directly and through elected decision makers. In adhering to this value, the HIA method should involve and engage the public, and inform and influence decision makers. A distinction should be made between those who take risks voluntarily and those who are exposed to risks involuntarily (World Health Organization, 2001).

Equity – emphasizing the desire to reduce inequity that results from avoidable differences in the health determinants and/or health status within and between different population groups. In adhering to this value, HIA should consider the distribution of health impacts across populations, paying specific attention to vulnerable groups and recommend ways to improve the proposed development for affected groups.

Sustainable development – emphasizing that development meets the needs of the present generation without compromising the ability of future generations to meet their own needs. In adhering to this value, the HIA method should judge short- and long-term impacts of a proposal and provide those judgments within a time frame to inform decision makers. Good health is the basis of resilience in the human communities that support development.

Ethical use of evidence – emphasizing that transparent and rigorous processes are used to synthesize and interpret the evidence, that the best available evidence from different disciplines and methodologies is utilized, that all evidence is valued, and that recommendations are developed impartially. In adhering to this value, the HIA method should use evidence to judge impacts and inform recommendations; it should not set out to support or refute any proposal, and it should be rigorous and transparent.

Comprehensive approach to health – emphasizing that physical, mental and social well-being is determined by a broad range of factors from all sectors of society (known as the wider determinants of health). In adhering to this value, the HIA method should be guided by the wider determinants of health.

b. HIA Components

HIA uses quantitative, qualitative and community participatory techniques to help decision-makers make choices about alternatives and improvements that can be made to prevent

disease/injury and to actively promote health. (World Health Organization, 2010). HIAs are implemented including the following five steps:

- 1) Screening – Determining the need and value of a HIA.
- 2) Scoping – Determining which health impacts to evaluate, the methods for analysis, and the plan to complete the assessment.
- 3) Assessment – Using data, research, expertise, and experience to judge the magnitude and direction of potential health impacts.
- 4) Reporting – Communicating the results to stakeholders and decision makers.
- 5) Monitoring – Tracking the effects of the HIA recommendation and the decision on health.

This report concludes the Deschutes County Workgroup’s implementation of the first four steps of Tumalo Community Plan HIA (screening, scoping, assessment, and reporting). We are able to partially address stage four (reporting) because the HIA process in and of itself has had an impact on the development of recent internal drafts of the Tumalo Community Plan (see section C). Stage five (monitoring), will be an ongoing process, undertaken by the Workgroup after this report has been completed.

c. Screening

Deschutes County is geographically separated by the Cascade Mountains from the more heavily populated urban communities along the Interstate 5 Corridor. Though Deschutes County on the whole is far from “urban” in the traditional sense of the word, the region has experienced tremendous population growth over the past decade. Still, every major community in the County (Bend, Redmond, Sisters, Tumalo, Terrebonne and LaPine) shares common rural design characteristics, most notably the presence of a major highway dividing residential, commercial and public services.

Strategies addressing convergence of population growth, transportation policy and rural design have typically involved conventional methods such as construction of highway by-passes to divert truck traffic from city centers. Smaller communities typically do not warrant projects of such magnitude, nor do they necessarily benefit from them. Therefore, other methods must be developed and employed. An inherent challenge in addressing growth and related issues such as traffic congestion is the need for County Planners to balance implementing land-use and transportation strategies with the public interest – which in Tumalo’s case is maintaining rural character. Health, however, is not always at the forefront of this decision making process. It is the intent of the Deschutes County HIA Workgroup to bring health considerations to light as a new influencing factor on both planners and community member’s viewpoints on land-use and economic sector development policies.

The Workgroup’s initial screening discussions identified the 30-year County Comprehensive Plan Update to examine how planning for rural communities can have either positive or negative consequences on public health. Due to timing constraints, the Workgroup chose to focus on the Tumalo Community Plan specifically because it was in a stage of development complementary to HIA. With its location between Central Oregon’s largest and fastest growing

cities, Bend and Redmond, this HIA also provides an opportunity to explore how growth in adjacent areas might impact the rural livability of Tumalo. The intent of this HIA is to both impact policies within the plan, as well as share lessons learned with other rural communities and planners throughout Central Oregon.

d. Community Participation

Advisory Committee (AC): The HIA Workgroup formed an advisory council (AC) of Tumalo community advocates and county planners to inform the scope, research and community engagement components of the project. The council included 11 people all of which were invited to attend an on-site training by the Oregon Department of Environmental Health as well as a total of four meetings to introduce the project, conduct and revise scoping, review data, and review, discuss and revise the HIA final report. Email was used often to share resources and gather committee feedback.

Listening Sessions: The HIA Workgroup, which includes Deschutes County Healthy Community Coordinator and community partners in transportation and healthcare, has been fortunate to have access to public input gathered from County Planners during initial TCP development. In addition to this background data, the HIA Workgroup held a World Café style listening session at the Tumalo Community School on April 27, 2010. 30 Tumalo residents attended. Residents participated in discussions around each policy focus area (safe accessibility of Highway 20, multi-modal trail systems, recreational amenities).



Pulled quotes from the listening sessions from both community members and business owners can be found throughout this report to illustrate community member perceptions of existing conditions related to each HIA policy area.

e. Scoping

The advisory council identified the following three general policy areas to evaluate in this HIA:

- A) Safety/accessibility of Highway 20 for all users
- B) Need for a multi-modal trail system
- C) Access to recreational amenities

Existing conditions and background data to assess health consequences that may be influenced by the above policies are presented in the following section. In HIA practice, these are known as proximal health impacts. For purposes of this HIA proximal health impacts we are focusing on include:

- Physical activity
- Traffic safety
- Rural livability

Other proximal impacts that may be related but which this project did not focus on for time constraints and/or data uncertainty include:

- Air and noise pollution
- Mental health
- Climate change
- Nutrition

V. LITERATURE REVIEW AND LOCAL CONDITIONS

Part of HIA methodology is to examine existing conditions as well as establish any connections that may exist between proposed policies and positive or negative health outcomes. This particular phase involves an extensive literature review. Following is a summary of the review conducted for this HIA and an assessment of local conditions by proximal health impact area. More information around the link between TCP policy focus areas (Highway 20 accessibility, multi-modal trail system development and recreational development) and health outcomes can be found in Appendix A.

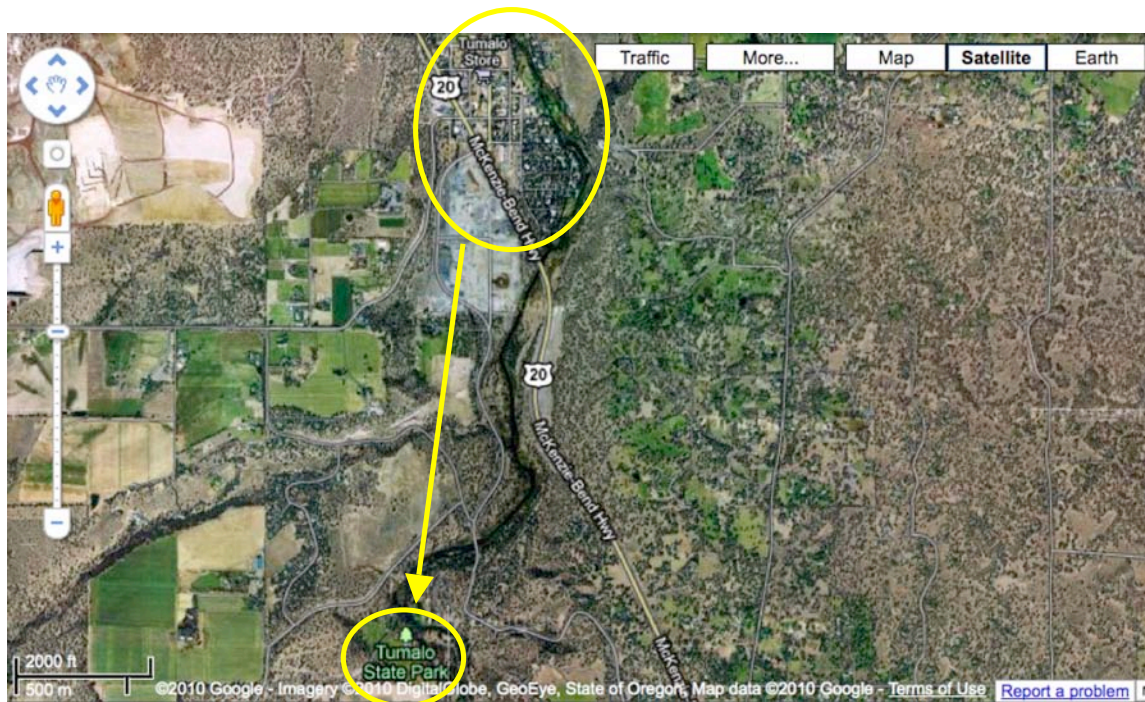
a. Physical Activity

The Tumalo area has unique natural resources including Tumalo State Park, just outside the rural boundary, as well as Deschutes River and Tumalo Creek, which are growing in popularity as recreational opportunities for residents as well as visitors to the area (rafting, fishing, etc). According to a report entitled, "Recreation, Tourism and Rural Well-being," there can be downsides when recreation is unplanned or grows in popularity too quickly. This can lead to congested roads, additional roadside hazards and can strain the capacity of public services (Reeder, 2005). Many Tumalo residents echo this concern and indicate that the community would support harnessing this recreational draw by creating infrastructure to capture commercial business as well as avoid environmental or health risk that informal use creates such as parking crowding along rural roads, vandalism, littering as well as public trespassing on private land and sensitive wetland areas. Formalized recreation development, which includes

linking recreational destinations with a multi-modal trail system, can have many positive benefits for rural communities.

Recent years have seen a nationwide trend toward increased development and use of trail systems to support the transportation and land-use connection. Improving public health is linked directly to encouraging active transportation, which is of particular concern to populations with few transportation options, such as the elderly, disabled and the young (Shoup et al, 2010). Well designed, integrated transportation infrastructure, including the adoption of complete street policies and multi-modal trail systems, can positively impact the economic and environmental health of a community by reducing costs associated with vehicle use and health care, promoting tourism, conserving natural landscapes and supporting the characteristics and values of rural living.

Figure 8. Tumalo State Park in Relation to Tumalo Central Core.



There are obvious health benefits to having access to recreation and trails. This includes increasing amounts of daily physical activity which has been proven to improve health outcomes by reducing risk for chronic disease. The annual Roper Starch Report found that 90% of Americans consider outdoor recreation as the best way to be physically active. Even more felt that if people increased their outdoor recreation activities, the effects on their health would be beneficial (ARC, 2000). Conversely, opportunities for children to play freely in natural spaces are dwindling, due to a multitude of factors that are interrelated. Access to natural and unstructured outdoor play is considered critical for childhood emotional and physical health (Burdette, 2005). The American Association of Pediatrics supports unstructured play as a critical strategy in combating childhood and adolescent overweight/obesity (AAP Policy Statement, *Journal Pediatrics*, 2006). Though the popular perception of childhood activities in rural settings may be romantic, the truth is that limited access to recreation amenities or programs,

coupled with an increase in screen time and technology inside the home, and fear of danger from strangers, traffic and natural hazards outdoors may be driving more rural children and youth toward physical inactivity.

A widely publicized St. Louis School of Public Health study that surveyed 2,500 residents of 13 rural communities cited environmental factors as being linked to obesity. Barriers perceived by residents, and most often by obese residents, included distance from recreational facilities and other destinations as well as traffic safety concerns related to a lack of sidewalks or walking/biking trails on most streets (Brownson et. al., 2006).

The Tumalo listening sessions facilitated by the HIA Workgroup support this assessment. When surveyed about recreational use, a majority of individuals indicated they would access recreational opportunities such as walking, hiking or bicycling more if the infrastructure for such activities was improved. Lack of formal recreational destinations (parks with restrooms, lighting, etc.) and concern for safety were cited most frequently when asked about barriers to accessing green space or other recreational opportunities the area has to offer. In the Tumalo Community Listening session, one resident suggested to “build a trail under the bridge along the river from Tumalo State Park to town.” This sentiment was echoed by several other Tumalo citizens in attendance.

More research is certainly needed in the areas of nearby recreation, trail system development and health outcomes in both urban and rural settings. However due to the growing epidemic of obesity, several institutions are conducting extensive literature reviews bringing to light decades of research that supports a strong link does exist.

Local Conditions Related To Physical Activity: Specific rates on overweight and obesity in Tumalo have not been established, however, extrapolation of Deschutes County data indicate that the same issues that impact the frequency of physical activity among area residents and visitors here are common themes in rural communities across the nation. The town is bisected by a major east/west transportation corridor and arterial connectors. There are few sidewalks, bike lanes connecting destinations and no current formal city park or parks and recreation district. Moreover, nearby recreational programs offered to children, youth and families are limited. Other local conditions include:

- The nearest park, Tumalo State Park, is a ½ mile outside of the Tumalo rural boundary (across Hwy 20 from central Tumalo core). This makes it difficult for residents to access this resource by means other than driving.
- There are no designated trails within the community of Tumalo; however the Bend Metro Parks and Recreation District does have recreational interests that extend outside the current district boundary, including areas around Tumalo State Park and the Deschutes River basin that extends through Tumalo (See Appendix B).
- Tumalo’s scenery and rural roads make it a popular destination for cyclists, however many of these roads lack shoulders, which increases risk of incident.
- The Deschutes River which flows through the town is a popular tourist destination for fishing, floating and other leisure activities, however, no formal access points exist to tie in with Tumalo town services.
- The vast majority of school aged children are driven to school or take the bus.

- 39% of Deschutes County Adults meet CDC recommendations for physical activity (DHS, BRFSS, 2007).
- Since 1990, obesity rates have doubled for adults in Oregon and tripled for children. 39.8% of Deschutes County adults and 21.2% of eighth graders are overweight (DHS, OHTS, 2007).
- The leading causes of adult death in Deschutes County are cancer, heart disease and stroke; chronic conditions resulting largely from individual behavior choices and are primarily related to three behaviors: tobacco use, physical inactivity and poor nutrition (Oregon Health Promotion/Chronic Disease Prevention Program; Almanac of Chronic Disease, 2009).

b. Traffic Safety

The automobile has radically transformed the urban and rural landscape as well as the way in which Americans live. As urban cores grow and sprawl occurs, traffic is increased in surrounding communities. A growing reliance on the automobile has had obvious health consequences, including a decrease in physical activity. Additionally community design over the past several decades has actually been shaped to accommodate vehicle travel.

Rural residents are particularly vulnerable to traffic related health impacts. This stems in part several decades ago, when small towns and service areas were designed to bring travelers through city centers for economic reasons – long before heavy truck traffic and automobile volumes existed or were of concern. This is not a straightforward fix in many cases because many rural communities may be limited by state transportation policies that mandate what can and cannot be done along major transportation corridors. This according to the TCP language is “to protect the function of the highway.”

Local Conditions Related to Traffic Safety: Traffic safety is of grave concern to Tumalo residents. Between 2004 and 2007, 24 crashes occurred in or around three intersections of U.S. 20 in Tumalo. From Jan. 1, 2003, to Dec. 31, 2007 the types of crashes were as follows. At 5th St/US 20, two crashes with one a left turn and the other a vehicle hitting a fixed object. For Bailey-7th/US 20, 11 total crashes occurred. Of these, five were vehicles trying to cross the highway; four were left turns; one was a U-turn; and one was a vehicle striking a fixed object. At Cook-O.B. Riley/US 20 there were 11 total crashes of which six were left turns; four were crossing the highway; and one was a fixed object. According to the Oregon Department of Transportation (ODOT), the intersection at Seventh and Bailey Street ranks among the top 10 percent of the state’s most dangerous. Community Members have identified Cook Avenue as an additional traffic safety hazard. Other conditions related to traffic safety include:

- All major connectors converge with Hwy. 20 at or near the Tumalo commercial district, where the Tumalo Community School is located, in addition to other public and commercial services.
- Traffic speed (posted at 45 mph), and volume, 9700 vehicles daily, along Highway 20, creates unsafe travel and crossings for both motorized and non-motorized users.

- Population growth and destination tourism associated with nearby Bend and Redmond has additional impact on traffic conditions.
- Input from Safe Routes to School parent surveys and the community listening sessions indicate that even when Tumalo residents live close to their destinations, they often feel that they and their children cannot walk or bicycle because of the lack of sidewalks, bike lanes, the risk of being injured by a motor vehicle, and because the crossing of Highway 20 is unsafe.
- Tumalo commercial core is located approximately four blocks north and three blocks east of Highway 20.

Deschutes County and ODOT are currently working to address the need to maintain safe and convenient uses at the intersections of U.S. 20. The short-term solution is a raised median at the intersection of Highway 20 and Seventh-Bailey Street. A needs assessment is also currently underway as a result of this HIA project to develop a Safe Routes to School program, aimed at improving infrastructure to decrease traffic incidents related to the Tumalo Community School, as well as, increase the number of children who walk and bike to and from school.

Additional input, data and recommendations in this HIA is provided in Appendix A to support strategies that will address traffic safety, contribute to the Tumalo area livability, and create additional positive health related outcomes. An accelerated health impact assessment could be utilized to evaluate how proposed short and long-term strategies at key conflict points along U.S. 20 may have either positive or negative health impacts for Tumalo area residents. One sentiment from an attendee of the listening session was “I do not want to see a solid concrete divider that divides the town. There should be connectivity between both sides of Tumalo.”

c. Rural Livability

Through advisory council meetings, County public input meetings and our HIA community listening session, the concept of *rural livability* has emerged as a key factor at play in the context of community health. However, the community appears to be split around how to address the issue likely due to occupation, length of residence and stage of life (i.e. age, family status, etc.). Many senior residents we spoke with lean on the side of status-quo, that is, leaving infrastructure untouched so as to deter population growth all together. Other residents, especially those with children, support increased social cohesion, sustainable growth strategies and infrastructure improvements such as grade-separated crossings of Highway 20 (e.g. pedestrian over or underpass), a trail system to accommodate multiple modes (bicycle, equestrian and pedestrian) and additions of community parks and gardens. From the Tumalo listening session, one father suggests, “river access, summer camps, river park cleanups, community gardens, farmers market and horse and equine improvements.” Other supported strategies to improve Tumalo’s livability include:

- Leveraging recreation tourism to shore up the local economy
- Improve connectivity between commercial district and Tumalo State Park
- Include equestrian travel when planning multi-modal paths, trails and sidewalks
- Expanding the state-defined rural boundary for Tumalo to capture more resources to improve amenities
- Creating a Parks and Recreation District

In a May 17, 2010 article, Gary Toth (Project for Public Spaces and T4America Coalition) explores how transportation and land use can be integrated to best serve rural communities. He writes, “Placemaking is the key to creating great communities. Design and planning must support the social connections that are essential to the identity and quality of communities of all shapes and sizes.” The article suggests that “transportation is a means to an end, not an end in and of itself. The end result which we must strive for is a livable, sustainable community that is *supported* by its transportation system, not defined by it” (Toth, 2010). Additionally many residents who attended the Tumalo listening session echoed this woman’s thoughts, “Additional access at least for bikes and peds at 5th and north end of Tumalo Junction to accommodate children and people seeking services in town.”

Local Conditions Related to Rural Livability: In reviewing public input and hearing community members speak during the April 27th listening session, it is clear that Tumalo residents are concerned about how solutions to key issues, particularly Highway 20 policies and proposed ODOT solutions, will affect the community’s long-term rural livability. Local conditions that impact this issue include:

- Local businesses currently struggle to attract and retain business – many attributing this to Highway 20 accessibility
- Many consider Tumalo a “pass-through” and not a destination; business owners support “creating an identity with points of interest and utility for visitors”
- There are few gathering places in Tumalo for community events and organized or casual recreation
- There is no community center and the school is under-utilized for afterschool events and programs for students and community members
- Driving is currently the main mode of transportation within town for residents due to traffic safety concerns and a lack of bicycle and pedestrian infrastructure or public transportation system
- Local business owners have shown commitment to support a local river park and access point with resources for construction and maintenance

VI. CONCLUSION: HEALTH IMPACTS OF TUMALO COMMUNITY PLAN POLICIES

It is important to note that since the inception of this HIA, the TCP has evolved to include new language within the HIA's three key policy areas: Highway 20 accessibility, multi-modal trail system development and need for nearby recreational amenities within Tumalo. Appendix C contains the draft we began working with and the revised TCP, post-HIA. Many of the community needs and ideas that have come up throughout the County Planning and HIA process have been incorporated into the TCP language. The County has worked hard to listen to community members' concerns and to use this information to help shape the final TCP. The pertinent policy language in the most recent TCP draft by HIA policy focus area is reviewed in the following section.

a. Safe Accessibility of Highway 20

The HIA Workgroup appreciates the challenges the County and ODOT have faced in balancing the need to protect "the function of the highway" while contributing to the livability of Tumalo. The short-term solution, scheduled to be completed Summer 2010 (Figure 9), is a step that will help to reduce the amount of traffic and pedestrian/bicycle collisions along U.S. Highway 20. In the long-term, however, taking an integrated approach to planning for transportation, land-use and other community policies will result in a more healthy and livable Tumalo. This short-term solution on its own may help reduce vehicle conflict, but further evaluation is needed to assess additional impact either positive or negative.

The community has indicated a critical need for traffic calming measures along Highway 20 in order to reduce travel speeds. From a transportation perspective, this is difficult to execute on a highway designated as a freight zone and expressway. Possible, practical ideas toward positive change include collaborating with ODOT to implement shoulder treatments such as striping and adding roadside environmental changes, plantings or 'welcome' monuments, to encourage drivers to slow down. To that end, new language included in the most recent draft of the TCP acknowledges that "additional measures such as traffic calming, improved pedestrian crossings or reducing the travel speed can benefit an entire community." Figure 10 illustrates how these changes to our built environment can also impact the health and vitality of the entire community.

Changes proposed for next year

ODOT is proposing to build a median to prevent traffic from crossing this intersection of U.S. Highway 20 in Tumalo and blocking one center turn lane. ODOT says it's a short-term solution — in the future, an interchange or overpass will likely be needed.

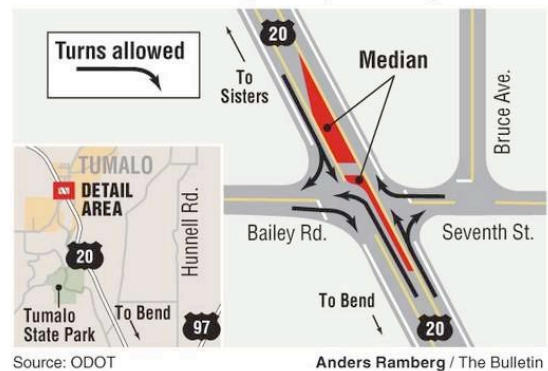
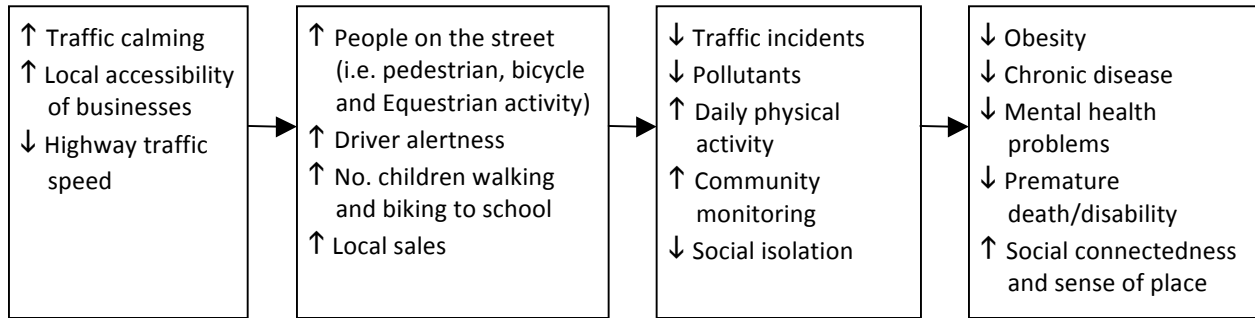


Figure 9. ODOT Short-term Solution

Figure 10. Pathway Between Improving Safety and Accessibility of U.S. 20 and Community Health



i. Workgroup Recommendations for the TCP:

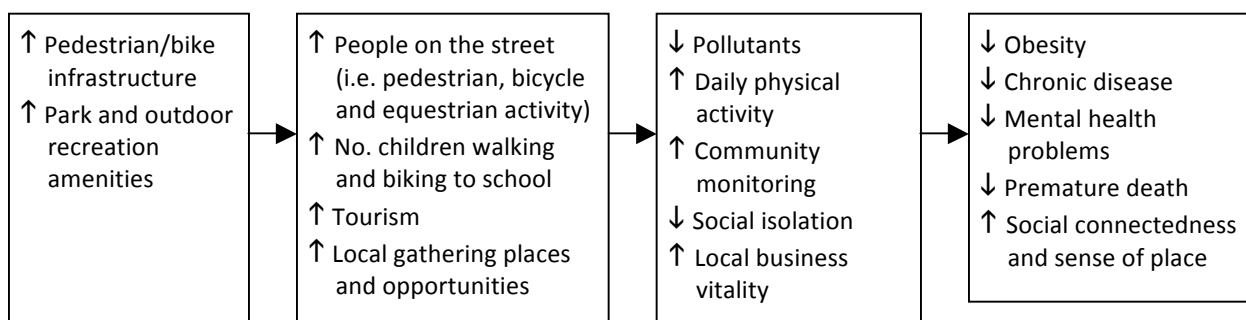
TCP Page & Policy Number	Policy Statement	Workgroup Recommendations
Page 25, Transportation Goal	Provide a safe and efficient system for all modes of transportation	Provide a safe and efficient system for all modes of transportation, including active modes, to support local economic development, recreational uses, and community health.
Page 25, Road and Sidewalk, Policy # 2	Explore the ability to use roadway design to keep through trucks on arterials and collectors in Tumalo.	Support a ‘complete streets’ policy consistent with Table A of Deschutes County Code 17.48 to establish future roadway design guidelines that plan for and operate the entire right of way to enable safe access for all users.
Page 25, Policy #9	Enhance the roadside environment through tree planting, signage or other means.	Support changes in roadside environment to promote a reduction in traffic speed through tree planting, signage, shoulder treatments or other means.
Page 25, Policy # 11	Retain and enhance access across Highway 20 using above grade, below grade or at grade crossings	Improve crossing conditions across Hwy. 20 by providing a grade separated crossing to support safe access to recreation and community services for all users.

b. Multi-modal Trail System and Nearby Recreation

The HIA Workgroup views these last two policy focus areas as being highly interconnected in the context of community health promotion. Safe community connectivity will result in compounding health benefits over time as opposed to simply developing strategies for each policy area independently.

The recent draft of the TCP’s community policies section includes much stronger language around supporting the establishment of a multi-modal trail system and even more policies are being proposed that support recreational development. To maximize rural livability and community health, the key will be ensuring an integrated approach to planning for each of the three policy areas. Given current conditions, the opportunity is now to plan for this connectivity. Linking amenities such as Tumalo State Park, new local parks, river access points, and the “downtown” core (including the Tumalo Community School and local businesses on the east and west side of Highway 20), will result in a greater number of people using active modes of transportation, as well as, those that are able to access amenities safely by car. The health effects of this manner of integrated planning include:

Figure 11. Pathway Between Multi-modal Trail Systems, Recreation and Community Health



i. Workgroup Recommendations for the TCP:

TCP Page & Policy Area/ No.	Policy Statement	Workgroup Recommendations
Page 21, Community Goal	Protect and enhance the rural small-town character of the Tumalo Community, while encouraging cooperation on the provision of services and increasing connections with the surrounding rural community.	Protect and enhance the rural small-town character of the Tumalo Community, while encouraging accessibility on the provision of services, supporting healthy active lifestyles and increasing social connections among community members as well as the surrounding rural community.

Page 21, Open Space and Recreation Policies, Policy # 8	Public access to the river shall be preserved.	Public access to the river will be preserved and infrastructure improvements will be supported including formal river access points, public signage, lighting, sanitary facilities and improved parking conditions.
Page 21, Community Policies	Add Policy	Support school district in improving community use of Tumalo Community School facilities for community education, recreation and enrichment programs for students, parents and non-parent community members.
Page 21, Open Space and Recreation Policies	Add Policy	Support the development of a trails and recreation master plan.
Page 21, Open Space and Recreation Policies	Add Policy	Support and advocate for the expansion of the Bend Metro Park and Recreation District to include the Tumalo area.

APPENDIX A

HEALTH IMPACTS OF KEY POLICY AREAS IN THE TUMALO COMMUNITY PLAN

I. Health impacts of safe, accessible crossing of Highway 20

General Background on transportation safety and public health: The automobile has radically transformed the way in which Americans live. As our urban cores grew, traffic increased, thereby making more highways necessary. Rural communities are bisected by large highways, and Tumalo is a prime example. We are no longer tied to working, going to school, or spending our leisure time close to where we live. Unfortunately, in many cases, this has led to a built environment in which we no longer have the option of working, learning, or recreating in our own communities. Stores, schools, recreational opportunities and offices have moved from town centers to malls and office parks that are cut off from the rest of the community and surrounded by highways lacking sidewalks and bicycle lanes. Even when Tumalo Residents live close to their destinations, they often feel that they and their children cannot walk or bicycle because of the risk of being hit by a motor vehicle, and the crossing of the state highway is unfriendly territory. A built environment that restricts the ease and safety of incorporating physical activity into peoples' daily routines, combined with contemporary eating habits, has produced an obesity epidemic, affecting even our children and teens, which contributes to heart disease, diabetes, and other life-threatening conditions.

Public health practitioners have begun to understand that creating an environment that allows people to safely integrate physical activity into their everyday lives has benefits for weight control, physical fitness, and disease prevention. An environment in which people can walk and bicycle also helps renew a sense of community. Providing opportunities for safe and convenient walking and bicycling requires that public health practitioners learn how to influence land use and transportation policies. This requires practitioners to be able to speak the language and understand the world of transportation planners, community development agencies, and land-use committees. It also requires that public health practitioners from a variety of disciplines be able to articulate their common interests in modifying the built environment

Links between transportation, health and highways:

- A majority of the commutes people make are short, less than 5 miles round trip, providing an opportunity for physical activity that can be built into their daily routine. A reduction in vehicle use to make these short trips also reduces carbon monoxide and other air pollutants, as these chemicals are released at the beginning of a trip when a vehicle's engine is cold.
- Grade separated crossings or traffic calming, pedestrian activated signals and shorter crossing distances make bicycle or pedestrian trips more possible.
- Providing people safe access to parks, public recreation facilities, and local businesses by improving the connectivity of the community reduces the prevalence of overweight by promoting physical activity and healthy lifestyles" (Caitlin, 2003).

- Trails and greenways provide alternative transportation options, connecting neighborhoods and business districts so that people can walk or cycle to work and school, run errands, visit friends and utilize recreational areas like parks and playgrounds.
- Traffic engineers strictly follow national standards that are adopted into local codes. If existing street design standards reflect outdated and auto-oriented design, they can be a significant barrier to attempts to make sidewalks and streets more walkable (Shilling, 2005).
- Walking is considered an important means of transportation, and pedestrians should be able to use the system safely and without unreasonable delay (Oregon Department Of Transportation Traffic Manual).
- Neighborhood design has a greater impact on active travel than on other forms of neighborhood-based exercise (Handy, 2004).
- Traffic speed is recognized as the key determinant for pedestrian injury risk for children (Jacobsen, 2000).

Current conditions:

- Sidewalk and bike lane connectivity is limited within the community of Tumalo.
- Since 1990, obesity rates have doubled for adults in Oregon and tripled for children. 39.8% of Deschutes County adults (BRFSS 2002-2007 data) and 21.2% of eighth graders are overweight (OHTS, 2007-2008 data).
- No traffic calming measures exist along Highway 20 to improve accessibility and safe highway crossing for pedestrians and bicyclists.
- Highway 20 diagonally bisects the south end of the community, splitting up users and resources.
- Although there are wide shoulders and sidewalks along much of Cook Ave./Cline Falls Hwy. and a portion of 5th Street, the majority of local roads (those that aren't arterials or collectors) do not have either a shoulder or a sidewalk, creating a prohibitive environment in which to use alternative modes of transportation such as cycling or walking.
- According to ODOT, in 2008, the average daily traffic count near milepost 14.5 in Tumalo was approximately 9700 vehicles (ODOT, Transportation Systems Monitoring Unit).

II. Health Impacts of Access to Recreational Amenities

General Background on Rural Community Recreation and Public Health: A growing body of research is dispelling the myth that people who live in rural communities are more physically fit than their urban counterparts.

While overweight and obesity numbers have been trending upward at an alarming rate in the United States, the problem may be disproportionately severe in rural areas. Texas A&M University has conducted research that finds people who live in rural communities have a higher risk for obesity which can lead to serious health conditions such as diabetes, cancer and cardiovascular disease. This is supported by national survey data and smaller regional studies. A shift has occurred in childhood overweight and obesity over the past 20 years as well involving a reversal of prevalence from urban to rural populations (Liu et. al, 2007).

A widely publicized St. Louis School of Public Health study that surveyed 2,500 residents of 13 rural communities cited environmental factors as being linked to obesity. Barriers perceived by residents, and most often by obese residents, included distance from recreational facilities and other destinations as well as traffic safety concerns related to a lack of sidewalks or walking/biking trails on most streets (Brownson et. al., 2006).

A survey of Tumalo residents supports this assessment. On April 27, 2010, the HIA committee held a world café style listening session where over 30 area residents attended. When surveyed about recreational use, a majority of individuals indicated they would access recreational opportunities such as walking, hiking or bicycling more if the infrastructure for such activities was improved. Lack of formal recreational destinations and concern for safety were cited most frequently when asked about barriers to accessing green space or other recreational opportunities the area has to offer.

Tumalo is considered a rural “bedroom” community to neighboring Bend. The same issues that impact the frequency of recreation among area residents and visitors here are common themes in rural communities across the nation. The town is bisected by a major highway and arterial thoroughfares, which are notorious for hazardous automobile and bicycle or pedestrian incidents. There are few sidewalks, bike lanes connecting destinations and no current formal city park or parks and recreation district. Moreover, programs available to children, youth and families are limited.

The Tumalo area does, however, have unique natural resources including the Deschutes River and Tumalo Creek, which are growing in popularity as recreational sites for residents as well as visitors to the area (rafting, fishing, floating, etc). Formalized recreation development can have many positive benefits for rural communities but according to a report entitled, “Recreation, Tourism and Rural Well-being,” there can be downsides when recreation is unplanned or grows in popularity too quickly. This can lead to congested roads, additional roadside hazards and can strain the capacity of public services (Reeder, 2005). Many Tumalo residents echo this concern and indicate that the community would support harnessing this recreational draw by creating infrastructure to capture commercial business, as well as, avoid inherent environmental damage that informal use creates, such as parking crowding along rural roads, vandalism and littering, as well as, public trespassing on private land and sensitive wetland areas.

There are obvious health benefits to recreation, such as an increase in physical activity which has been proven to improve health outcomes by reducing risk for chronic disease. The annual Roper Starch Report found that 90% of Americans consider outdoor recreation the best way to be physically active. Even more felt that if people increased their outdoor recreation activities, the effects on their health would be beneficial (ARC, 2000). Conversely, opportunities for children to play freely in natural spaces are dwindling, due to a multitude of factors that are interrelated. Access to natural and unstructured outdoor play is considered critical for childhood emotional and physical health. Additionally, the American Association of Pediatrics supports unstructured play as a critical strategy in combating childhood and adolescent overweight/obesity. Though the popular perception of childhood activities in rural settings may be romantic, the truth is that limited access to recreation amenities or programs, coupled with an increase in screen time and technology inside the home, and fear of danger from strangers,

traffic and natural hazards outdoors may be driving more rural children and youth toward physical inactivity.

More research is certainly needed in the areas of nearby recreation and health outcomes in both urban and rural settings. However, due to the growing epidemic of obesity, several institutions are conducting extensive literature reviews bringing to light decades of research that support the fact that a strong link does exist.

Links between health and parks, green space and recreational facilities:

- Neighborhood design has a greater impact on active travel than on other forms of neighborhood-based exercise, particularly if parks and/or open space or other destinations are easily accessible by foot or bicycle (Handy, 2004).
- The proximity and accessibility of green spaces in relation to residential areas appears to affect the overall levels of physical activity/exercise. This is true of children and young people, older people as well as generally for all age groups (Bell, 2008).
- Green areas can reduce noise pollution and the visual intrusion from traffic (Bell, 2008).
- Teens that used recreation centers were 75% more likely to engage in the highest category of moderate to vigorous physical activity, according to a long-term study of over 17,000 teenagers. This was a national study providing the first evidence that community recreation facilities are important for adolescent activity (Gordan-Larson, 2000).
- Regular moderate activity, such as brisk walking for 30 to 60 minutes, reduces the incidence of cardiovascular disease according to a literature review of articles and studies published between 1991-2000 (Haennel & Lemire, 2002).
- The risk of Type II diabetes decreased progressively with increasing levels of physical activity, as found in a long term study of 5,159 men (Wannamethee, et al., 2000).
- A national study around environmental determinants (1,818 people) found a positive correlation between environmental infrastructure (such as trails, recreation facilities and enjoyable scenery) and physical activity (Brownson et al., 2001).
- Physical activity through recreation appears to impact cancer risk as well. One study shows that physically active adults had a lower risk of breast cancer than those who were less physically active. Consistency of activity was more important than intensity in a study which followed 121,701 nurses (aged 30-55) from 1976-1992. These nurses were surveyed at different points during the study period to gather data on physical activity, such as the average number of hours per week spent participating in moderate or vigorous “recreational physical activity” (walking, jogging, cycling, swimming, aerobic dance, tennis, etc...) (Rockhill, et al., 1999).

Current conditions:

- No parks or formal community gathering places in town. Nearest park is a ½ mile outside of Tumalo boundary and is only accessible by car for most residents.
- Sidewalk and bike lane connectivity is limited within the community of Tumalo.

- Since 1990, obesity rates have doubled for adults in Oregon and tripled for children. 39.8% of Deschutes County adults (BRFSS 2002-2007 data) and 21.2% of eighth graders are overweight (OHTS, 2007-2008 data).
- No marked crosswalks across Highway 20.
- Majority of roads lack shoulders, discouraging use of alternative modes of transportation or active recreation.

III. Health impacts of a multi-modal trail system

General background on multi-modal trail systems and community health: Recent years have seen a nationwide trend toward increased development and use of trail systems for recreation and travel. A growing body of evidence indicates that certain aspects of the transportation infrastructure, including trail systems, sidewalks and crosswalks near schools, bicycle paths, traffic-calming measures, public transit and connections between neighborhoods and desired destinations, are associated with higher levels of physical activity and lower rates of chronic diseases related to obesity. In addition, well designed transportation infrastructure, including a multi-modal trail system can positively impact the economic and environmental health of a community by reducing costs associated with vehicle use and health care, promoting tourism, conserving natural landscapes and supporting the characteristics and values of rural living. Trails provide access to ‘outdoor’ classrooms for learning; teaching respect and stewardship of the environment. Trails enhance property values of communities by connecting them to open spaces and providing a buffer between the built and natural environment. When trails are integrated into commercial or residential areas and parks, they help promote safe and livable communities. Trails are a unique facility to serve a diverse population that may otherwise have limited accessibility to destinations within their community.

Links between transportation, health and trail systems:

- Parents’ perceptions of the transportation route between home and school are among the key factors determining whether children walk or bike to school and perceived safety (or lack of) from traffic and crime have been associated with higher rates of children walking and bicycling to school (Black C, 2001; Collin D, 2001).
- Multi-modal trails may help efforts to reduce road congestion and lessen its polluting effects.
- Well-designed, multi-modal roads, sidewalks and trails reduce the risk of injuries to pedestrians.
- Providing people access to safe parks, public recreation facilities, and walking and biking trails may help reduce the prevalence of overweight by promoting physical activity and healthy lifestyles (Caitlin, 2003).
- Trails and greenways provide alternative transportation options, connecting neighborhoods and business districts so that people can walk or cycle to work and school, run errands, visit friends and utilize recreational areas like parks and playgrounds.
- As an amenity that plays an important role in increasing a community's "quality of life," trails are becoming more attractive to businesses and their employees (National Parks Service, 2005).

- The ability to avoid congested streets and highways, and travel through natural areas on foot or by non-motorized means is a large factor in a community's livability.
- Trail preservation and development have positive impacts on environmental health and resource conservation. The designation of trail corridors can be used as a tool for preserving important natural landscapes. Additionally, the development of safe trail routes for use in everyday commuting and errands can significantly reduce our consumption of fossil fuels and our emission of pollutants (Corrales Trails Master Plan).
- Neighborhood design has a greater impact on active travel than on other forms of neighborhood-based exercise (Handy, 2004).

Current conditions:

- Tumalo's state defined boundary does not include the outlying areas wherein residents consider themselves part of the community and are often affected by happenings in Tumalo. The sprawling nature of the community, along with surrounding topographical features such as the Deschutes River, rim rock and the diagonal east-west route of Highway 20 has severely limited the ability to connect the community via a network of continuous streets or multi-modal trail system.
- The relatively small size of Tumalo, roughly 1 square mile, means that almost any destination within the community could be reached by a non-motorized commute of five miles or less round trip.
- The leading causes of adult death in Deschutes County are cancer, heart disease and stroke; chronic conditions resulting largely from individual behavior choices and are primarily related to three behaviors: tobacco use, physical inactivity and poor nutrition. (Oregon Health Promotion/Chronic Disease Prevention Program; Almanac of Chronic Disease, 2009).
- Few safe routes for pedestrians, especially school children, to downtown core or recreational opportunities. SRTS data from Tumalo Community School indicates that less than 1% of the 400+/- students use an active mode of transportation to get to or from school. Parent surveys noted that the main reason for not allowing their children to commute by walking or biking was the lack of safety in terms of distance, traffic speed and volume along their routes.
- There are no designated trails within the community of Tumalo.
- Since 1990, obesity rates have doubled for adults in Oregon and tripled for children. 39.8% of Deschutes County adults and 21.2% of eighth graders are overweight (OHTS, BRFSS, 2007).
- Economically fragile downtown business district.
- Majority of roads lack shoulders, discouraging use of alternative modes of transportation.



APPENDIX B

Planning and Development
799 SW Columbia
Bend, OR 97702
541/706-6100

Kristen Maze
Associate Planner
Deschutes County
117 NW Lafayette St.
Bend, Oregon 97701

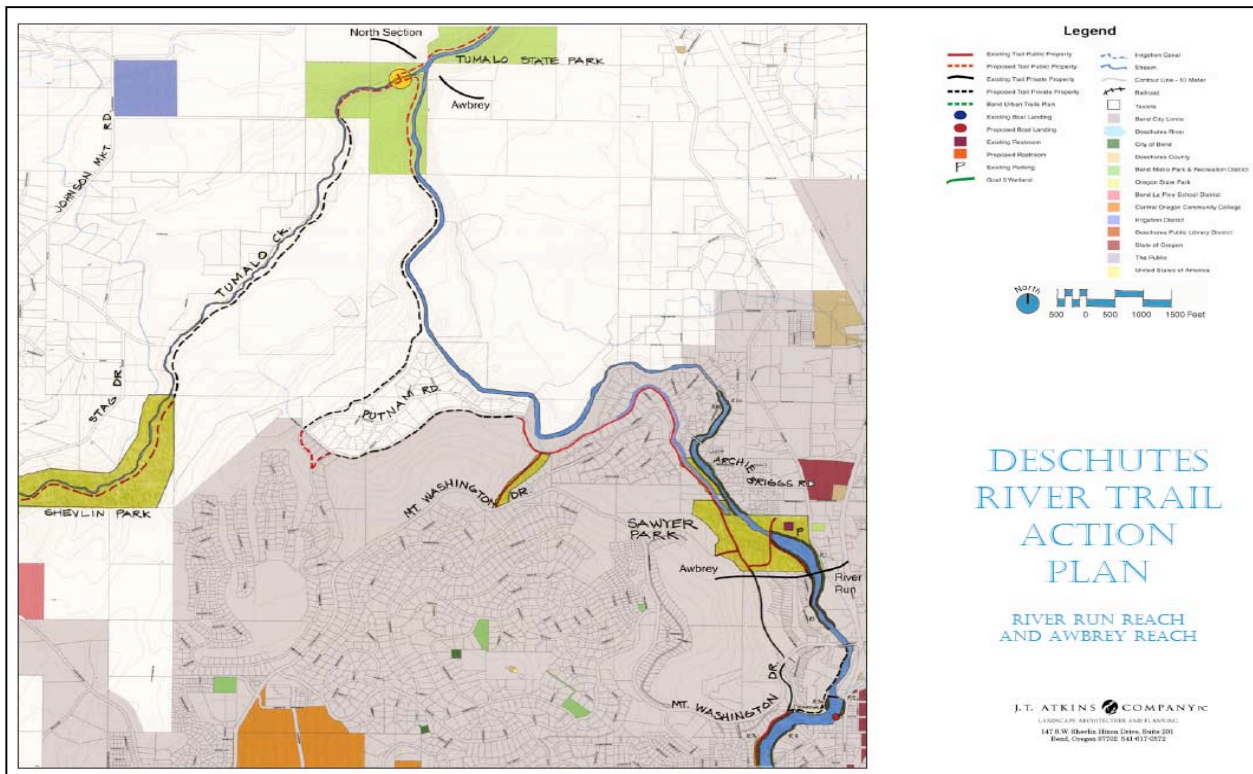
February 11, 2010

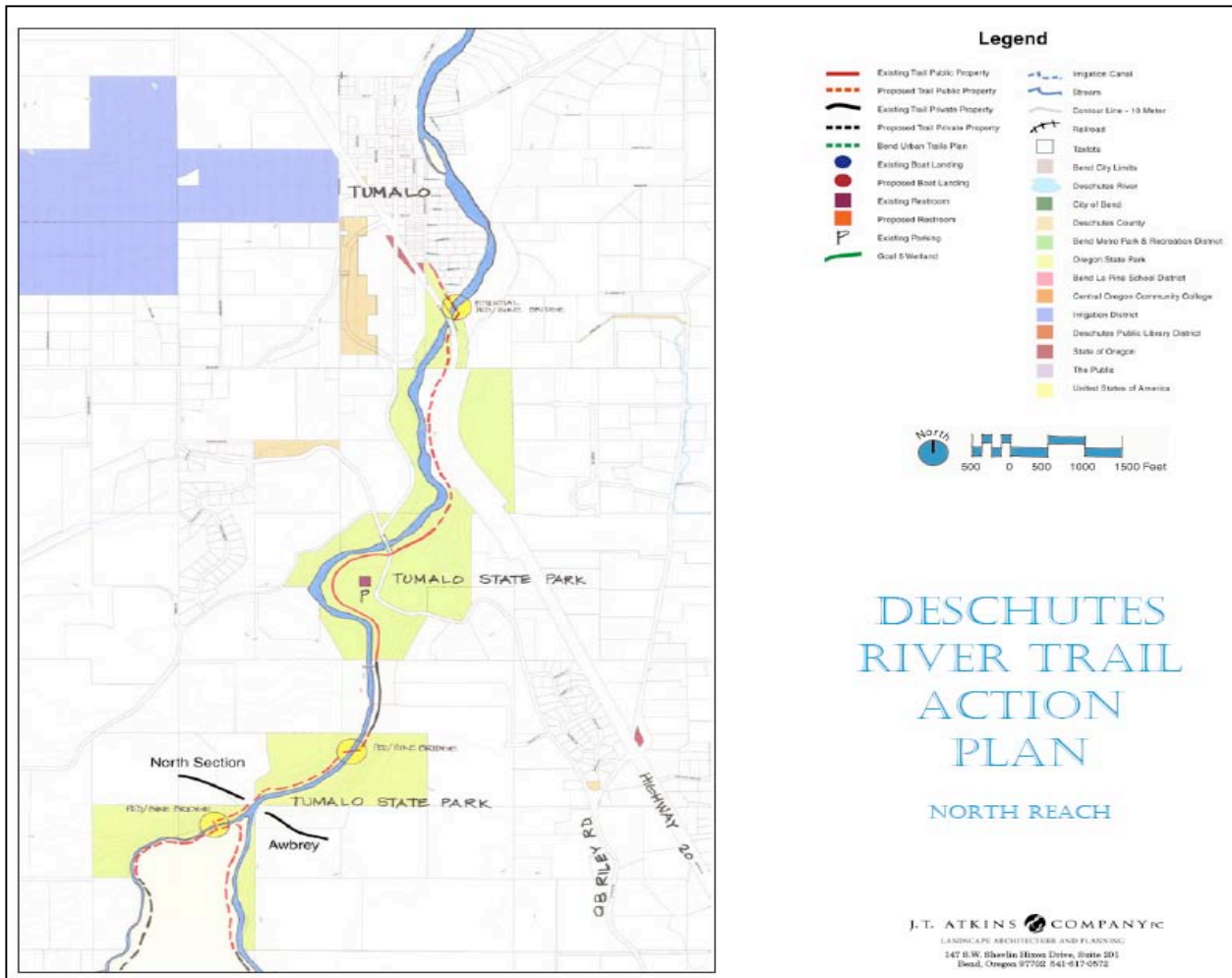
SUBJECT: Tumalo Community Plan

Kristen,

The Bend Park and Recreation District provides parks, trails and recreation programming for residents of the district, which for the most part encompasses the Bend Urban Area. The Tumalo community is located outside of the district boundary by approximately two (2) miles. However, the district does have recreational interests that extend outside the current district boundary.

In 2002, the district and the City of Bend collaborated on the development of the Deschutes River Action Plan. This plan identified the desire to complete the Deschutes River Trail through Bend and connect it on both ends to destinations outside the urban area. The northern extent of the trail follows the Deschutes River from the Bend UGB to Tumalo State Park and on to the Tumalo community.

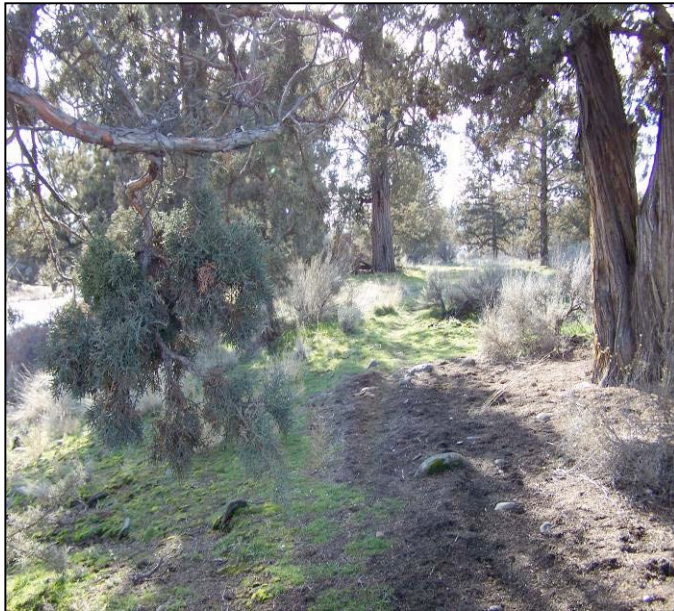




The 2002 design identified in the “North Reach” above shows the trail exiting north from Tumalo State Park on the east side of the river. Based on our most recent field review and analysis, we believe that it may instead be prudent to cross the trail over the river at the OB Riley bridge on the pedestrian walkway and follow the west side of the river up to the undercrossing (under US20) and on to Riverview St. There appears to be ample overhead clearance and enough room under foot to keep the trail above the high water level. This portion of the corridor is in public ownership and eliminates the need for a new pedestrian bridge downstream of the existing US20 Bridge.

The district continues to work with private property owners and Oregon State Parks in an ongoing effort to assemble a continuous publicly-owned corridor for the trail. Fortunately, the portions of the trail corridor closest to the Tumalo Unincorporated Community are already in public ownership.

However, there are multiple “demand” paths rather than a singular trail and they are in an unimproved state and not suitable for users beyond hikers and mountain bikes. The district would support the development of this trail corridor between the Tumalo Community and Tumalo State Park as a hard-surfaced shared-use path that utilizes the current grade-separated crossing underneath the US20 bridge on the west side of the Deschutes River. The Community Plan should reflect this recreation and transportation opportunity that will provide a safe, non-motorized access to Tumalo State Park (with a connection to OB Riley Rd.) as well as potentially enhance the safety for recreational river users that may need a safe take-out location when they run this section of the river.



In addition, there also appears to be a reasonably-sized natural area with old-growth Juniper trees on public land at the SW corner of US20 and the Deschutes River that could possibly be enhanced as a passive park site in conjunction with the trail.

We hesitate to believe that this new trail/path connection would replace the need for additional safety crossing improvements at Cook Ave. /US20. Rather, we see this as an additional enhancement that will provide mostly a recreational purpose yet give less experienced or more cautious/vulnerable cyclists, as well as pedestrians, the option to travel along the river versus crossing US20 at-grade. If implemented properly, there should be minimal out-of-direction travel involved versus crossing US20 from Cook Ave. to OB Riley Rd.

If you have any questions regarding my comments, please don't hesitate to contact me at 388-5435 Ext. 31, 948-4239 or steve@bendparksandrec.org

A handwritten signature in black ink, appearing to read "Steve Jorgensen". The signature is stylized and cursive.

Steve Jorgensen
Planning Manager
Bend Metro Parks and Recreation District

APPENDIX D

Tumalo looks at its health

Residents to discuss how land use planning can promote healthy lifestyles

By Scott Hammers / The Bulletin

Published: April 24, 2010 4:00AM PST

If you go

Your Health and the Tumalo Community Plan

When: 5:30 p.m. to 7 p.m., Tuesday

Where: Tumalo Community School cafeteria, 19835 Second St., Tumalo

Residents of the Tumalo area are invited to a meeting Tuesday to discuss the relationship between land use planning and the health of the community.

The "Health Impact Assessment," a project of the Deschutes County Health Department, is funded by a grant from the Oregon Department of Human Services. Senior Transportation Planner Peter Russell said the county chose to focus on Tumalo because the community is in the process of developing the Tumalo Community Plan, a document that will outline how the area should grow over the next 20 years.

Kim Curley of Commute Options said she's heard complaints for years from Tumalo parents about how the town's layout discourages them from letting their children walk or ride their bikes to Tumalo Community School. With the school and the center of town located near the intersection of Tumalo Road, Cline Falls Highway and U.S. Highway 20, Tumalo is a challenging place to get around in without a car, Curley said.

"When you slap a little town in the middle of a bunch of highways, people might feel that infrastructure doesn't support them walking and biking as much as they might like to," Curley said.

Tuesday's meeting will focus on three primary issues — the location of recreational amenities like parks, trail systems for pedestrians and bicyclists, and safety considerations related to crossing U.S. Highway 20. Curley said attendees will likely be placed in small groups to discuss each of the subject areas separately, and that their ideas will be combined into a final report to be forwarded to the county transportation and planning departments, the Oregon Department of Transportation and other agencies that will play a role in Tumalo's future development.

The county transportation department already has plans to propose a solution to the problems bikers and walkers have crossing U.S. Highway 20. Russell said the next version of the county's Transportation System Plan will include a proposal for a paved path running along the bank of the Deschutes River from Tumalo State Park on the west side of the highway to downtown Tumalo on the east side.

Russell said the proposal does not include funding for the construction of the path, something that would likely require grant funding and the cooperation of multiple agencies.

The county is also considering designating some of the rural highways surrounding Tumalo as bikeways, Russell said, a move that could allow the county to qualify for grants to build wider shoulders the next time the roads are repaved.

Kate Wells from The Heart Center at St. Charles Bend is assisting with the project. Wells said Tumalo is one of 10 communities around the state conducting a Health Impact Assessment study this year. A handful of communities around the country have been doing the studies over the last decade, she said, but the idea has gained momentum as the link between land use planning and obesity and other health problems has become more apparent.

"More and more we're finding that community design has a lot to do with health, and people's level of physical activity," she said. "It can be as simple as do you feel safe walking out your front door and walking to the market?"

Curley said she and others involved in the study expect to wrap up their work and complete their final report by late May. Scott Hammers can be reached at 541-383-0387 or shammers@bendbulletin.com.

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