Eagle Pathways & Trails Plan

Health Impact Assessment

A project of the City of Eagle Parks & Recreation Department,
with funding provided by the St. Luke's Hospital

St Luke's™ Health Foundation

November 2018

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This HIA is a supplement to the Eagle Trails Master Plan The Plan is due for completion in 2018.

Acknowledgements

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City of Eagle

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Ada County Open Space and Trails Board

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1. Introduction

"Healthy" is a word often used to describe ones physical health- what your weight is, what your cholesterol count may be, are you a smoker? But health goes far beyond its most commonly used descriptors and branches out into a myriad of other elements of life. Having a healthy life means more than going to a gym or eating the recommended daily servings of vegetables. Ones financial health is critical to even access parts of society like health care or housing. Social interaction and a strong frame of mind are essential to having a positive outlook and proper mental health. These are just a couple of examples of health beyond tennis shoes.

It is under these concepts that a health impact assessment is believed to be an appropriate tool to determine how the City of Eagle Pathways and Trails Plan may influence the health of area residents. A health impact assessment or HIA, is a six part assessment tool used to evaluate how a plan, project, policy, or program might affect public health. An HIA not only scrutinizes what is being proposed but also includes recommendations to modify the proposal to either improve project elements or to mitigate against any potential negative consequences.

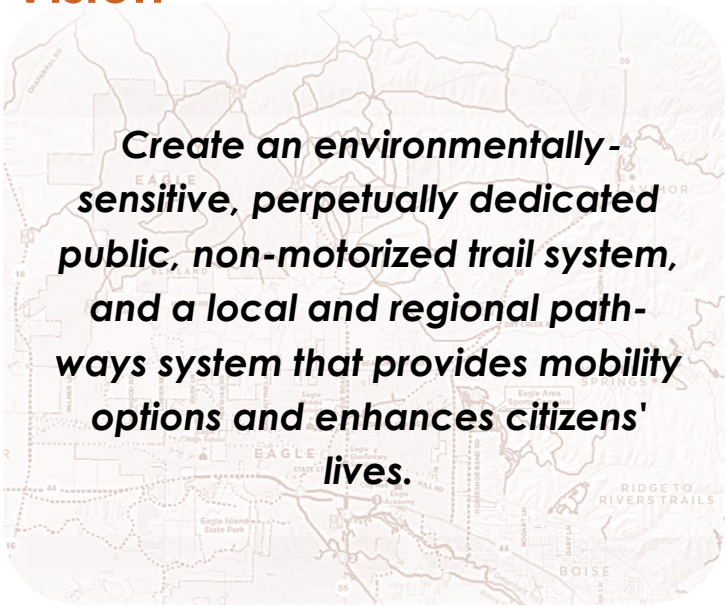
The goal of the Health Impact Assessment (HIA) for the Eagle Master Trail Plan is to evaluate proposed trails, connections, and alignment through a more holistic health lens and identify factors and features beyond the trails that influence individual and community health.

A trail, bridge, roadway sidepath, or other facilities included in the plan do not automatically equate to a healthier population. For those features to positively influence population health, the people of the city have to participate by using them on a regular basis. If a system has extensive reach, multiple options for different abilities, and are maintained to a high degree, the likelihood of residents walking, run-

Changing the Community Conversation

The City of Eagle Pathways and Trails Plan Health Impact Assessment brought diverse organizations and interest groups together to talk about trails in a broader context as it relates to health for the community and city as a whole. It is recognized that trails and greenbelts offer much more than a place to recreate, as they serve as community hubs for a variety of activity and promote health in many dimensions beyond physical activity.

Pathways & Trails Plan Vision



ning, riding a horse or a bicycle will increase resulting in a potentially healthier population.

Why a Health Impact Assessment?

During the proposal process, St. Luke's Foundation staff determined that supporting an HIA would be in-line with their growing support for a healthier built environment. The City of Eagle agreed with such an approach and was willing to embark on the never before attempted process. The HIA is also a vehicle to continue to grow the relationship between the hospital group and the community partners of Eagle, including the City itself.

The intention of the HIA is to inform partners as to how the Eagle Master Trail Plan might impact the health of residents, what modifications or support elements would help improve the plan further, and the roles partners can play in implementing findings or monitoring elements for the next several years. It is hoped that by completing such as assessment, the people of Eagle and users of the trail system will benefit significantly which translates into a healthier population in-line with the objectives of both St. Luke's and the City of Eagle.

As described, an HIA is a method of determining potential impacts on community health measures of a proposed plan, policy or project. The HIA process utilized for the Eagle Master Trail Plan is what's known as a "Rapid HIA". A Rapid HIA generally consists of a stakeholder workshop, assessment, and development of mitigation and evaluation strategies. An outline of this method is shown in Exhibit 1-1. The HIA will be a supplement to the Eagle Master Trail Plan and a tool to help measure health impacts and pursue funding for the projects.

The HIA effort began in October 2017 with conditions assessments and data analysis prior to a half-day stakeholder workshop and an assessment / evaluation period leading up to the results shown in this report.

Health Impact Assessment Method

The HIA process (Exhibit 1-1) includes six steps:

Screening: Used to determine if a plan, project, or policy would benefit from an HIA.

Having conducted HIA's for similar efforts in other cities, a discussion between Vitruvian Planning, St. Luke's Foundations, and the City of Eagle was had. The result was an agreement to include the HIA within the Trails Master Plan. After considering the scope and intent of the Plan, an agreement was made to proceed with the HIA.

Scoping: Determining how to conduct the HIA, the data needed and the desired end products.

The HIA's scope was determined to be the geographic area of the City of Eagle and Area of Impact. Topically, the focus of the assessment was determined via a stakeholder workshop used to gather professional insight as to the type and breadth of impacts of the planned projects. The result was a desire to examine the physical and mental health of users of the system.

Assessment: The principal activity of the HIA, this establishes methods and data sources to determine likely impacts to a community.

Included in the assessment is a demographic and community health review of the population the trail system would impact, a literature review to determine the accuracy and merit of health-related claims offered through the process, and a quantitative analysis to help identify and measure likely impacts based on evidence-based research.

Recommendations: Findings from the Assessment led to recommendations to either mitigate or strengthen the plan's outputs.

The recommendations offered as part of the HIA were determined through numerous methods. Several of the recommendations are derived by directly engaging stakeholders through an interactive workshop. Stakeholders were invited to participate in several information and opinion gathering exercises focused on trailway systems and the many associated elements serving them. Other recommendations were determined through further evaluating comments or academic research as well as using health and demographic observations to project timing and geographic consideration as well as towards trail design.

Exhibit 1-1: The 6 Steps of HIA

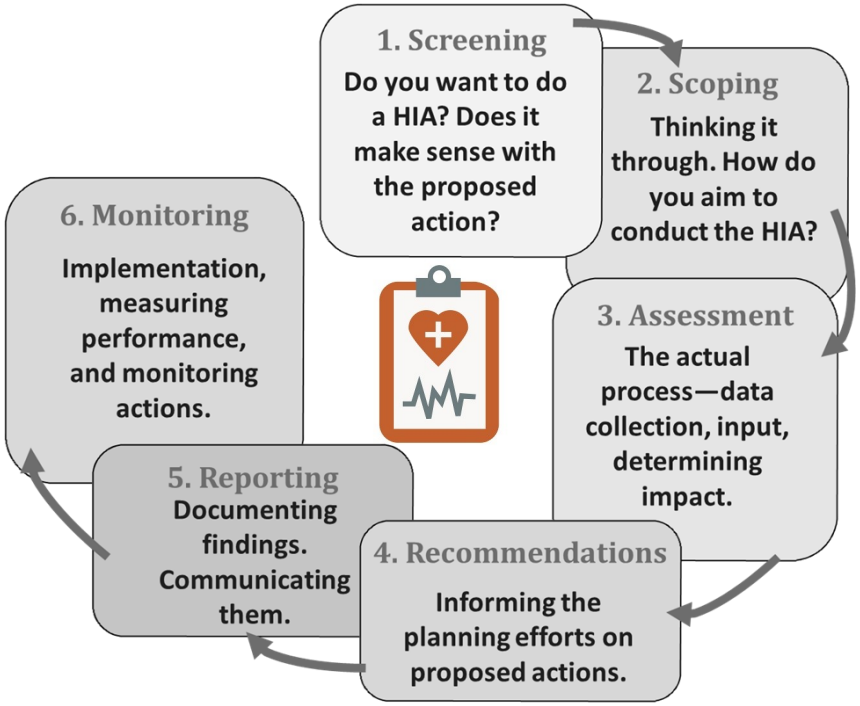
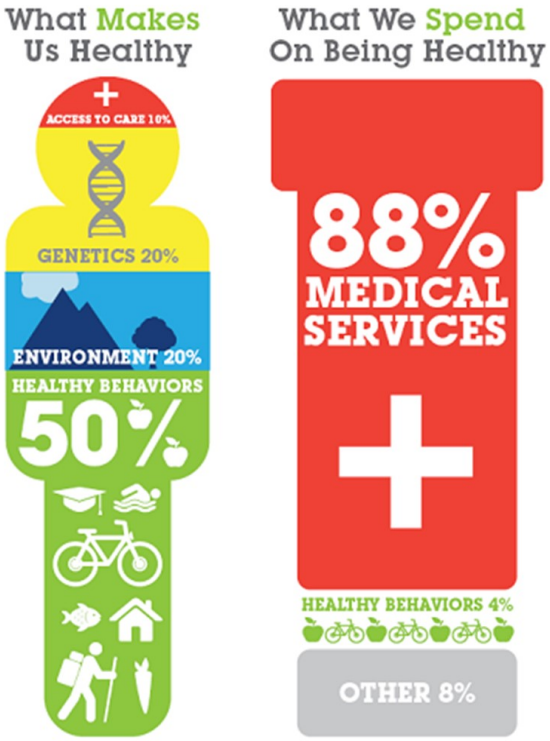


Exhibit 1-2: The Healthy Spending Conundrum



Source: Lots to Lose: How America's Health and Obesity Crisis Threatens our Economic Future (2012)

Reporting: The methods through which findings are conveyed.

The reporting of findings is offered through this written report as well as presentation to the Eagle Master Trail Plan steering committee. The report is meant to be used for years to come and is "alive" due to the length of time for implementation and numerous monitoring section recommendations that include steps such as taking regular counts to update health projection impacts.

Monitoring: Lastly, monitoring is an ongoing process involving many stakeholders that ensures the plan is implemented and health impacts are assessed as trails are built.

Local agencies, non-profits, and other organizations associated with this HIA will be tasked with keeping the HIA process alive into the future by performing certain periodic support tasks. These tasks include measuring the progress of the plan and working with local health agencies to determine actual impacts of the trail system on the health of residents. In some cases, new and unique monitoring tasks were identified through the HIA process. In others, monitoring steps were simply added to existing efforts already on-going within area agencies.

Summary Recommendations

The HIA process is intended to provide stakeholders with a logical assessment of how the proposal will impact Eagle as well as to develop a series of steps useful to either mitigate potential negative impacts or accentuate determined positive impacts. These are:

- Use the health and demographic priority areas when considering where to construct the first recommended projects, focus first on areas with highest socio-economic need for such facilities and access.
- Recognize there is a need to work with both ACHD and ITD to ensure all future developments include appropriate sidewalks, pathway, easements, and connections to the overall trail network.
- Use the health and demographic areas to bolster programmatic features of the master plan such as bike clinics, safety campaigns, equestrian rides or promotional events.

- Continue to explore the potential of the trail system to improve access to health care, food outlets and community gardens, and affordable housing.
- Carefully consider the adjacent user groups and their characteristics when designing new segments of the trail system.
- Ensure roadway and intersection projects in known trail planning areas consider the HIA findings and the off-street interface when proceeding with design.
- Do not overlook the benefits of mental health and strongly consider features that provide peaceful, natural, or cultural elements which add to the quality of life experience.
- Ensure trail network connections are held as legal public rights of way to maintain full access for all Eagle citizens.
- Fully enhance trail segments which may be more isolated from services by including features such as shade trees and sun block stations to reduce harmful sun exposure, ensure cell service for emergency service needs, and water stations to promote hydration of users.
- Install signage to inform users regularly of location, time and distance to key locations, and helpful safety reminders such as exertion, signs or heat exhaustion, or other potentially harmful conditions.

What's next?

This HIA is full of ideas and concepts to improve health for area residents and the overall Eagle community through trailway and related investments. Some recommendations may take years or decades to realize while others are achievable within a year or two of completion of the HIA. Below are some strategies the City of Eagle, St. Luke's, and others can pursue upon completion of the HIA:

- **Use the HIA to pursue funding:** Rather than simply saying the trails will improve health, that concept is now fully vetted through a process based on defining how exactly it will do that. The HIA should be used to pursue funding for the trail system and adjunct improvements. Funding sources will ap-

Engaging Partners

The City of Eagle and its partners should continue to engage the city's residents, bordering cities, and highway agencies to refine health-based initiatives in the area as part of trailway implementation and other community efforts, such as roadway widening and bridge rebuilding projects.

$300 million

Total estimated health benefits of the Eagle greenbelts & trails network over 20 years, if 10% of the city's population uses them regularly.

(Full analysis in Chapter 4)

preciate the deeper look at health impacts, which improves the likelihood of receiving funding in an era when competition for limited funds is as intense as ever.

- **Engage the neighborhood.** The limited scope and schedule of this project did not afford the resources to vet the HIA and its findings comprehensively through face-to-face neighborhood interaction. The HIA can be viewed as a starting point for conducting this outreach and working with the community to determine which recommendations are most important to them.
- **Organize a Joint Steering Committee on Trails and Health:** The HIA workshop conducted of the plan brought new partners to the table and changed the conversation about health and trails for Eagle. Organizing a standing group to meet annually (or more frequently) to discuss progress on the trails and identify other neighborhood-based strategies will be critical if the health impacts identified in this document are to be achieve.
- **Address geographic disparities in access and healthy neighborhoods:** There are pockets of residential neighborhoods that are isolated or flanked by busy roads and their access limited to needed community services or outlets. The types of pathways, trails, and infrastructure identified in this plan can aid such neighborhoods beyond health benefits from recreational use. These areas may see their health improved by being able to reach healthy grocery outlets, health services, and by using parallel routes to the heavily trafficked highways such as Highway 44.
- **Incorporate walkability, bikeability, and even equestrian into the area's economic development and health messaging:** This HIA includes sections on the impacts to health and those tie directly to economic development as Eagle looks to continue to improve quality of life for its residents. Pathways and sidewalks help create jobs and strengthen neighborhoods. They have potential for widespread health impacts and improving socioeconomic conditions.
- **Be bold:** Walking *is* original transportation and bicycling pre-dates automobile travel by at least 100 years. Don't shy away from that premise. Build upon that when formulating policy, approving new development and negotiating project features with the city, ACHD, ITD and others.

2. The 7 Dimensions of Health & Wellness

As noted in the Introduction, addressing health should be a holistic endeavor focused on the whole person and the whole community. Health is made up of many interconnected components that must all be achieved individually in order to obtain overall health.

These components can be easily organized into what is known as *The Seven Dimensions of Health and Wellness*: physical; social; economic/occupational; environmental; spiritual; emotional; and intellectual. These dimensions are interrelated and each has the ability to strongly influence the others.

The implementation of active transportation methods, specifically walking and biking, has been proven to help both individuals and communities thrive in each of these seven dimensions and ultimately achieve total health. The HIA attempted to address the impacts of the trails through the lens of the seven dimensions, recognizing that some dimensions are and will continue to be more applicable than others.

New ideas and themes emerge when examining active transportation facilities, such as greenbelts, through the lens of the 7 Dimensions of Health and Wellness.

Physical Health & Wellness

The ability to maintain a healthy quality of life that allows us to get through our daily activities without undue fatigue or physical stress. The ability to recognize that our behaviors have a significant impact on our wellness and adopting healthful habits while avoiding destructive habits will lead to optimal Physical Wellness.

Physical Health

Perhaps the most obvious benefit of active transportation is its positive effects on our physical health. There is extensive evidence supporting the benefits of regular physical activity on the body. To help prevent millions of annual deaths related to physical inactivity, the Surgeon General recent Call to Action showcases the need for adults to get at least 150 minutes of moderate activity per week, and youth one hour per day. Using active transportation methods is a way to reach these recommendations. Both modes can be easily and affordably practiced and has been proven to have wonderful physical health benefits.

Walking is a particularly accessible form of physical activity: it is low impact, appropriate for all age-groups, and free! Regular walking has been shown to benefit physical health by: increasing energy levels; improving sleep quality; improving blood pressure; decreasing the risk of heart disease and some cancers; strengthening muscles and immune systems; preventing weight gain; and much more. Just 30 minutes of moderate walking per day five days a week can help ensure a longer, healthier and happier life. And some studies show that just one hour of walking may increase your life expectancy by two hours.

Biking is another low-impact and easy way to improve physical health that can be enjoyed by people of all ages. It gives your heart, blood vessels and lungs a good workout. It has even been shown to be lower-impact and more beneficial than walking. The physical health benefits of regular bicycling include: increased cardiovascular fitness; increased strength and flexibility; improved joint mobility; improved posture and coordination; and decreased body fat. It is also one of the best ways to reduce the risk of health problems such as stroke, heart disease, some cancers, diabetes and arthritis.

Beyond walking and bicycling, other activity can be had on the Eagle pathways promoting physical health like equestrian, sight seeing, and geocaching.

Social Health

A growing number of researchers agree that people who are regularly socially engaged with others and actively involved in their communities tend to live

longer and be healthier both physically and mentally. Research also shows that regular physical activity, including walking and biking, can have positive effects on the social health of individuals and their communities as a whole.

Walking, biking, and equestrian use are sociable activities that can help create a feeling of shared sense of community among residents. By getting people out of their cars and private homes and into public spaces, these activities make it very easy to stop and chat or simply say 'hello' to fellow users, resulting in an overall friendlier community. There is even a classic American study that found that people who live in walkable areas with less traffic statistically have more friends than those who live in areas with heavy traffic.

Areas with high walkability, and therefore a stronger communal sense of ownership, also have less crime since there are more "eyes on the street" to deter criminals. Pathways areas are also safer for children to live near and play in.

Walking and biking also close social gaps in communities. Since both activities are affordable, low-impact, easy to do and easily accessible, very few members of any community are excluded from their benefits. Walking and biking provide mobility to members of the community who may otherwise not have access to a private vehicle, including those who are unemployed, low income earners, seniors or too young to have a drivers license.

Economic Health

Walking and biking can have positive effects on a persons' occupational health, their personal economic health and a community's economic health.

Along with the appeal of active transportation methods comes the development of pedestrian and bike-friendly neighborhoods. These neighborhoods are gaining popularity, largely due to retiring baby boomers and the flourishing "back to the city" movement of today's young adults and are becoming more valuable and stimulating economies all over the world through increased property values, job creation, local spending, and tourist spending. Since these neighborhoods are generally safer, communities can save money that they would normally spend on crime prevention and public safety.

Social Health & Wellness

The ability to relate to and connect with other people in our world. Our ability to establish and maintain positive relationships with family, friends and co-workers contributes to our Social Wellness.

Economic Health & Wellness

The ability to get personal fulfillment from our jobs or our chosen career fields while still maintaining balance in our lives. Our desire to contribute in our careers to make a positive impact on the organizations we work in and to society as a whole.

Environmental Health & Wellness

The ability to recognize our own responsibility for the quality of the air, the water and the land that surrounds us. The ability to make a positive impact on the quality of our environment, be it our homes, our communities or our planet.

With more people improving their health by walking and biking more often, communities can save incredible amounts of money on healthcare costs alone. According to the American Public Health Administration, physical inactivity costs an estimated $177 billion a year in healthcare costs.

Individuals can also financially benefit from walking and biking instead of driving. Physically active people save an average of five hundred dollars per year on healthcare costs. Plus, they can save considerably on transportation costs when they don't have to fuel up or maintain their car as often.

In the workplace, a person's desire to contribute in their career, impacts the organizations they work in and society as a whole. Regular physical activity, such as walking and biking, can improve an employee's attitude and increase their motivation and productivity. People who walk or bike regularly are overall mentally and physically healthier, and therefore enjoy their jobs more and work more efficiently, contributing to an overall increase in occupational health.

Environmental Health

By opting for active transportation methods rather than driving in private automobiles we can improve our environmental health. Walking and biking are both pollution-free modes of transportation. The reduced use of cars means a reduction in air pollution (through the reduction of carbon emissions), noise pollution and water pollution, not to mention a reduction in the use of fossil fuels. Walking is also an efficient use of space. Over 20 times as many people can travel in the same space when walking as in a car. Regularly choosing to walk or bike instead of driving can significantly reduce an individuals' ecological footprint, preserving some of our earth's precious resources.

Because walking and biking must be done outdoors, pedestrians and cyclists often acquire a greater appreciation for being in contact with nature than people who may not get outside as often. This also makes them more likely to recognize and accept their personal effects on the quality of the environment. Therefore, they and communities who embrace active transportation will work harder to make sure that the natural environment and its' resources are protected and preserved.

Spiritual Health

The act of walking, hiking, riding, or biking can help improve the spiritual health of individuals – mainly through allowing them to take some time to re-connect with nature and with themselves. The spiritual benefits of being outdoors are well documented.

Relaxing recreational activities, such as taking a quiet walk in nature, have been linked to spiritual wellness. For many people, natural environments have a great spiritual meaning and represent a strong sense of place, typically associated with memories of special times spent outdoors. Recreation, including walking, biking, and equestrian activities can strengthen a person's identity and help them define who they are by allowing them to be themselves and express their personality – an important aspect of spiritual health.

Walking and/or biking provides an opportunity to clear one's mind and gain new perspective. Even in not so natural environments, like a busy bike trail or sidewalk through a city center, bicyclists and pedestrians can improve their spiritual health by strengthening their awareness of their surroundings and their innermost feelings. And because walking and biking are not connected to any one belief system, they embrace everyone's notions of spirituality.

Spiritual Health & Wellness

The ability to establish peace and harmony in our lives. The ability to develop congruency between values and actions and to realize a common purpose that binds creation together.

Emotional Health

Physical activity has also been proven to benefit the emotional and mental well-being of individuals. In the simplest explanation, healthier people are just plain happier. People who exercise regularly experience many benefits that may not ordinarily be associated with physical activity.

Research shows that exercising regularly can reduce the symptoms of stress, anxiety and even depression. These benefits may be directly related to the fact that exercise results in higher self-esteem, increased energy levels and improved sleeping habits – all of which result in improvements in mood and overall happiness.

A national telephone survey of 1,300 households showed that Americans identify "relaxation and peace" (stress reduction) as the 2nd most prevalent benefit they experience from physical exercise (second to physical health).

Emotional Health & Wellness

The ability to understand ourselves and cope with the challenges life can bring. The ability to acknowledge and share feelings of anger, fear, sadness or stress; hope, love, joy and happiness in a productive manner.

Intellectual Health & Wellness

The ability to open our minds to new ideas and experiences that can be applied to personal decisions, group interaction and community betterment. The desire to learn new concepts, improve skills and seek challenges in pursuit of lifelong learning.

Through another study, the National Institute of Mental Health deemed that exercise was emotionally beneficial for people of all ages. Through routine exercise the study participants increased their physical fitness, which improved their overall self-esteem. They felt better about themselves and developed a more optimistic and energetic frame of mind.

Exercise is proven to improve cognitive performance in mental processes such as thinking, understanding and remembering. Walking specifically has been shown to reduce the decline of cognitive performance among the elderly.

Walking and biking have also been shown to help promote a good night's sleep – an essential element of maintaining good emotional health – more effectively than many other popular physical activities including tennis, basketball, skiing, pickle ball and golf.

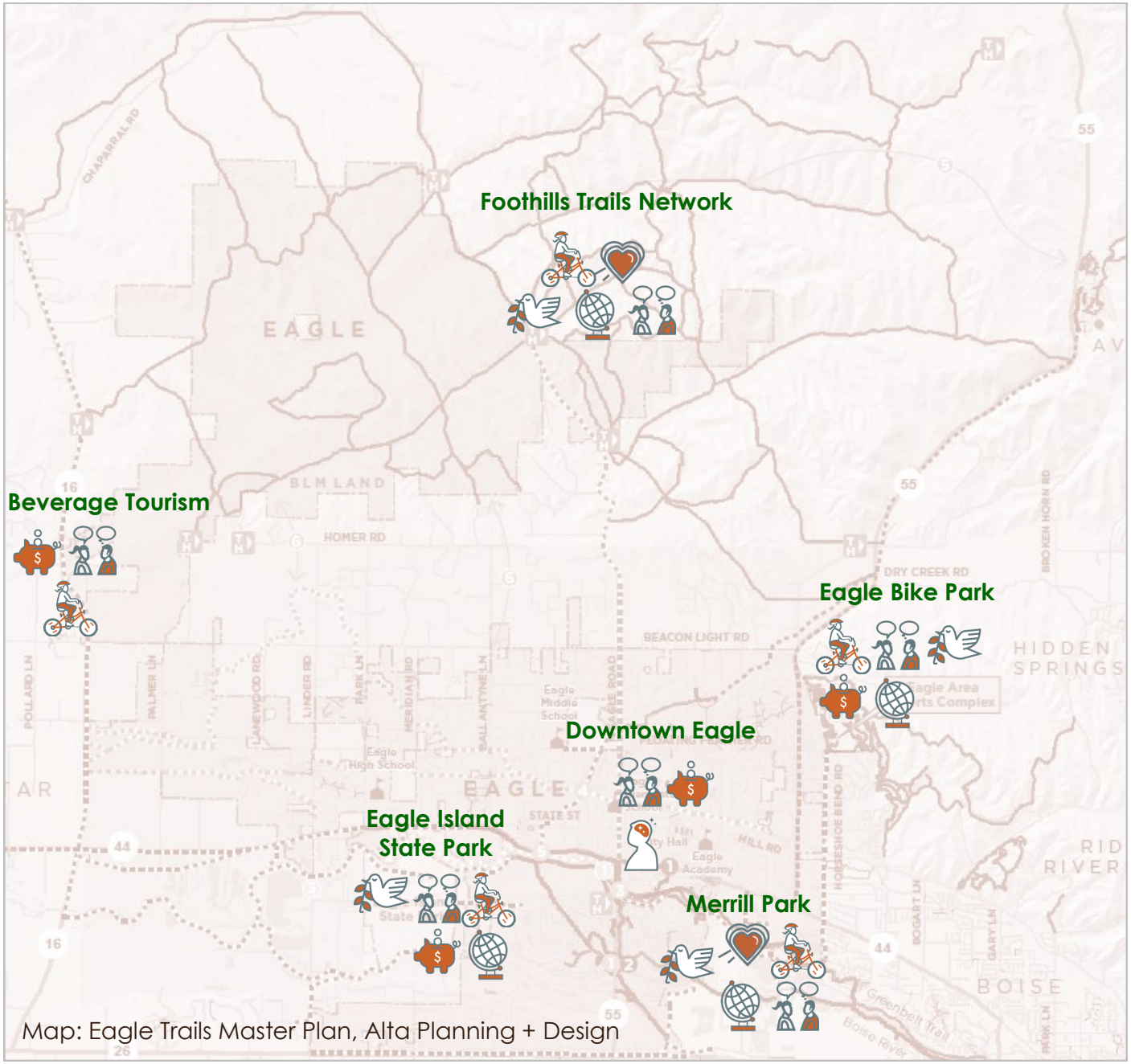
Intellectual Health

Walking, hiking, and biking have been associated with better cognitive performance by children at school. The activities have also been linked to improving the cognitive functions of adults, and decreasing the rate of cognitive decline among the elderly. This is all partly related to some microbiological effects of exercise on the brain, as many researchers believe. But perhaps it may also have something to do with the simple fact that regularly getting outside to take a walk or ride a bike helps people open their minds. It gives people a chance to slow down and step away from their stress, their to-do lists, and their TV's and clear their mind so they can think about things they don't normally get an opportunity to. By clearing their minds, people become more open to new ideas and opportunities, and may be more likely to choose to embrace them, leading to a lifetime of pursued learning.

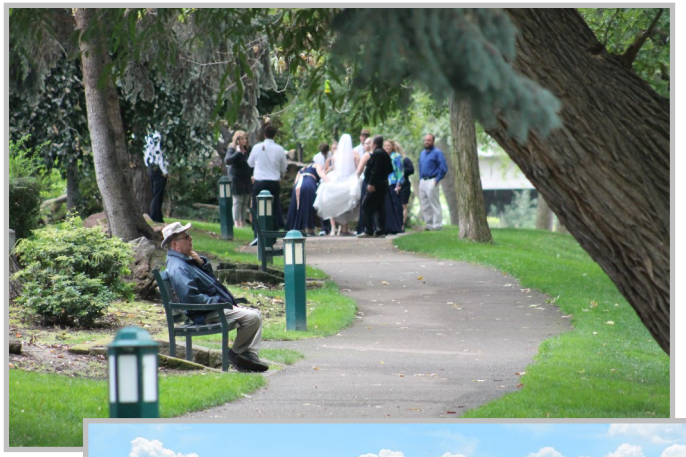
For some, the physical act of regular walking or biking may improve their intellectual health simply through the challenge of making it a part of their regular daily activity. For example, if an older adult wants to start walking one mile every day in order to ensure a healthier and longer life for him/herself it will take discipline, focus, and strength to achieve that goal – all qualities that are necessary for strong intellectual health.

Exhibit 2-1: The 7 Dimensions and Destinations in the Eagle Trails Master Plan Area ***(Illustrative purposes only)***

Destinations in the Eagle Area that Embody the 7 Dimensions of Health & Wellness

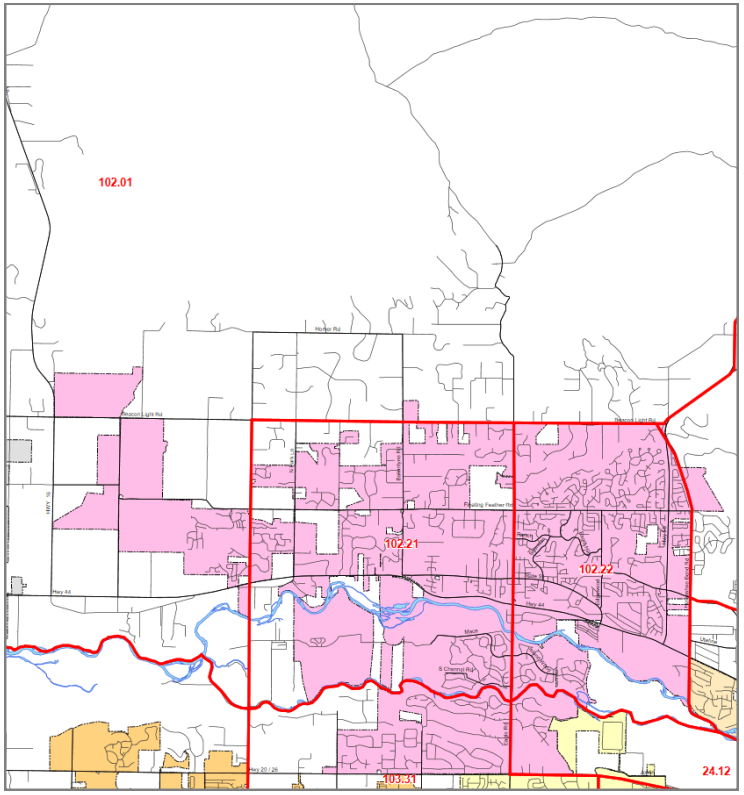


Scenes along Eagle trails that illustrate the 7 Dimensions of Health



3. Area Demographics & Health Indicators

The Ada County 2016 Community Health Needs Assessment (CHNA) conducted by St. Luke's acknowledges the leading causes of mortality and years of potential life lost in Ada County are chronic diseases, especially cancer and heart disease. The top two priorities for the health system include reducing current rates and preventing future rates of obesity, and mental illness.



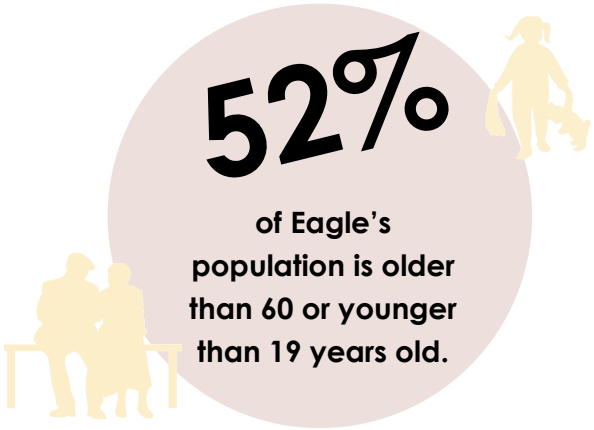
Demographics

Eagle's population has nearly doubled since 2000 to nearly 25,000 people based on 2016 Census estimates.

It is important to examine a community's demographics as part of evaluating walking, bicycling and health because demographic information provides valuable clues about probability for participation, possible impacts on community health, work force tendencies, and implementation strategies to optimize success. Social determinants of health data points can be used to paint a picture about a city like Eagle to help gauge current conditions and future scenarios vital to the success of the Pathways and Trail Plan.

Exhibit 3-1: Eagle Area Census Tract Data

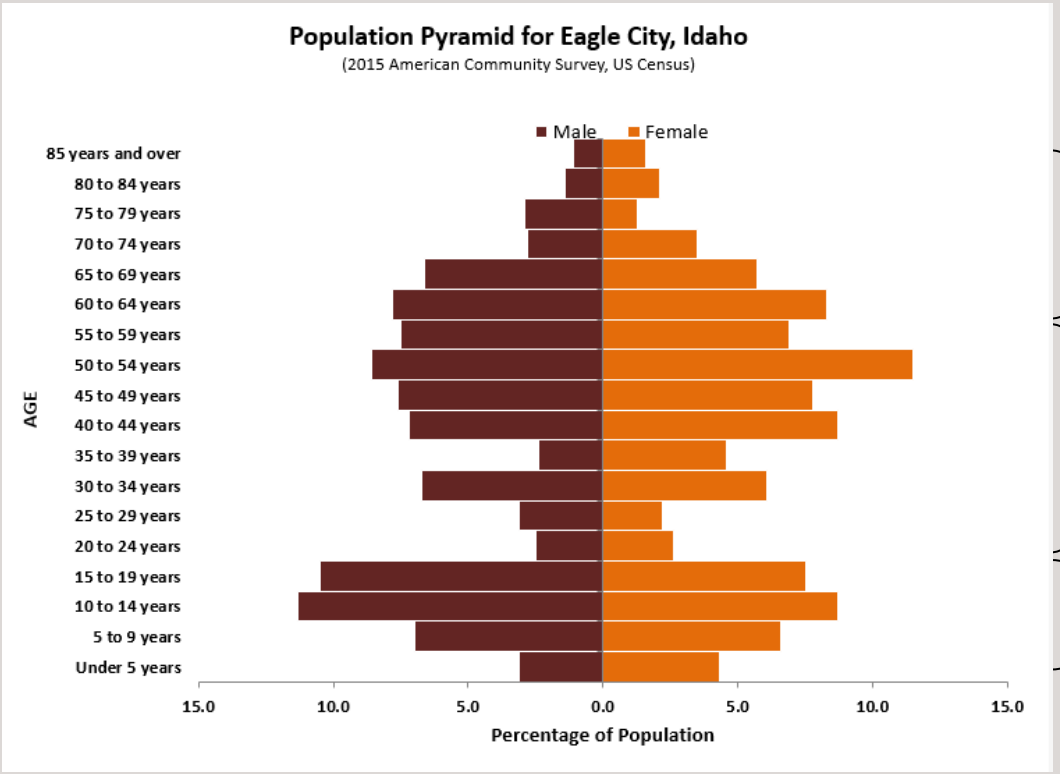
Block Group	Population	Median Age	Under 18	Median Income	SNAP Benefits	Commute Share W/B	Hispanic Origin	HS Diploma >25	Renter Occupied	Unemployment
102.01 Group 1	1559	52	22.4%	$83,365	0.0%	1.8%	0.0%	99.3%	0.0%	1.27%
102.01 Group 3	1844	35.1	25.8%	$70,664	2.0%	0.0%	**12.6%**	91.8%	20.2%	1.43%
102.21 Group 1	5184	47.4	24.8%	$88,945	0.7%	1.7%	5.7%	96.3%	11.4%	4.40%
102.21 Group 2	1635	40.7	29.3%	$66,284	2.9%	0.0%	0.0%	**90.7%**	34.3%	4.21%
102.24 Group 1	4593	44.7	28.9%	$93,194	1.9%	1.1%	1.2%	98.4%	10.0%	2.66%
102.25 Group 1	3467	39.3	27.7%	$67,074	4.8%	0.0%	6.1%	92.9%	15.0%	4.11%
102.25 Group 2	3942	44.1	22.3%	$59,196	9.1%	0.9%	4.7%	94.2%	**40.1%**	**7.26%**
102.25 Group 3	1498	**55.8**	15.8%	**$34,306**	**11.3%**	0.0%	5.4%	95.2%	27.5%	0.05%
103.31 Group 1*	10135	34.8	32.7%	$94,000	6.4%	0.0%	3.1%	99.7%	10.2%	3.08%
103.35 Group 1*	13272	23.7	**42.1%**	$78,194	5.1%	0.4%	8.0%	99.2%	22.0%	1.96%



Age

Nearly 50% of Eagle's population is classified as working age, between ages 20 and 64. While this is similar to distribution of population in other cities, the population pyramid in Exhibit 3-2 shows that within this group the ages skew toward the upper end of that age range, with a small percentage of the population younger than age 30. This will likely result in the proportion of Older Adults (current 24.6% of Eagle's population), especially those in the 50 to 64 years old range, increasing dramatically as the trails system is built out. This will alter preferences of that population as they seek to age in place and have an active lifestyle. Ensuring their homes are connected via safe, protected sidewalks and bike lanes to the trails will become increasingly important as things like in-street bike lanes become less desirable as people age and become less confident riders.

Exhibit 3-2: Population Pyramid for Eagle & Age Cohort Characteristics Related to Walking & Bicycling



Eagle Age Groups & Walking/Bicycling Needs

Older Adults (24.6% of Eagle)
Seeking quality of life during retirement and freedom of mobility. Concerns include living independently, social isolation and falling/sense of balance while walking and bicycling.

Working Population (47.8% of Eagle)
Seeking easier living and convenient access. Concerns include life/work balance, safety of self and family, and improving personal and family health. Want freedom of mobility in own community despite weekday commute.

Young Dependents (27.6% of Eagle)
Seeking to explore and express free will. Middle and High School ages seek freedom of mobility. Concerns by parents about safety and health.

Overweight and Obesity

Overweight and obesity are important risk factors for chronic disease and was identified as the most significant threat to area residents in the 2016 CHNA. Improving diet, increasing physical activity, and changing life habits, are the ways health systems are attempting to curb obesity within the Treasure Valley.

Poverty Status

The 2000 Census showed 62.7% of Eagle households had an income greater than $50,000 a year; by 2016 that had grown to 72.0% of households. Despite that increase, the percentage of individuals in Eagle whose household had an income below the federal poverty level grew from 3.8% of individuals to 6.2% of individuals. This represents a tripling of individuals in Eagle who live under the poverty level; from more than 450 individuals in 2000 to more than 1,500 individuals in 2016.

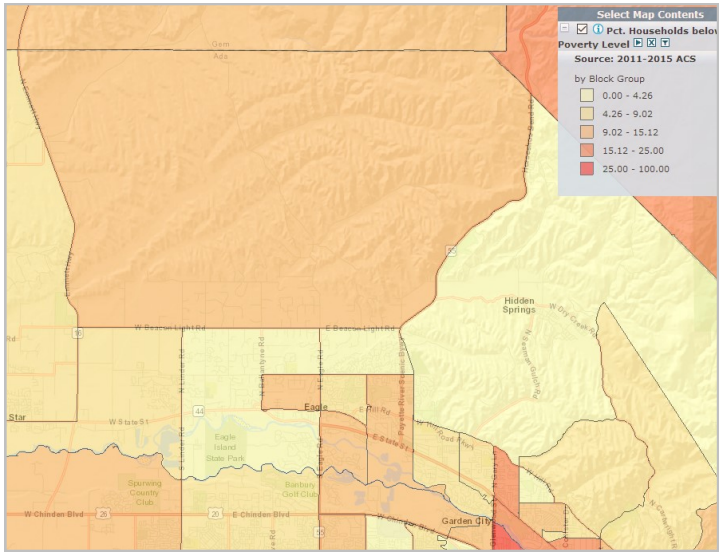


Exhibit 3-3: While poverty status by household is relatively low compared with other areas in Ada County, those with the highest rates in Eagle are more concentrated in the southeastern portion of the city (darker shades)

Leading Causes of Death

The leading causes of death in Ada County as identified by the IDHW are cancer and heart disease with several other preventable causes. (Exhibit 3-3) With a strong relationship between cardiovascular conditions, an active mind, and healthy habits, many of the leading causes of death can be minimized through regular pathway and trail activity.

Mental Health

The Community Health Needs Assessment identified the need for a better support system for mental health patients, especially through prevention. Outdoor recreation and activity through the pathways and trails can provide spaces for respite as well as a place for mental health agencies and services to work with clients to improve their mental health.

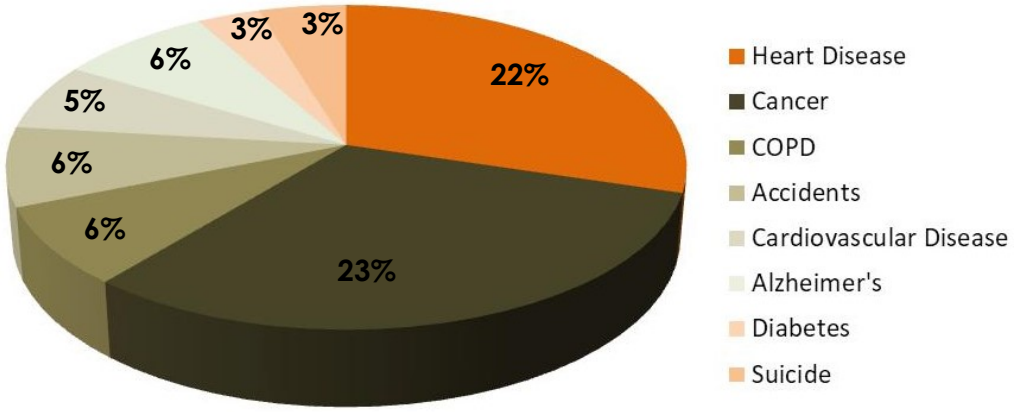


Exhibit 3-4: Leading causes of death in Ada County as per Idaho Department of Health and Welfare.

Vulnerable Population Concentration

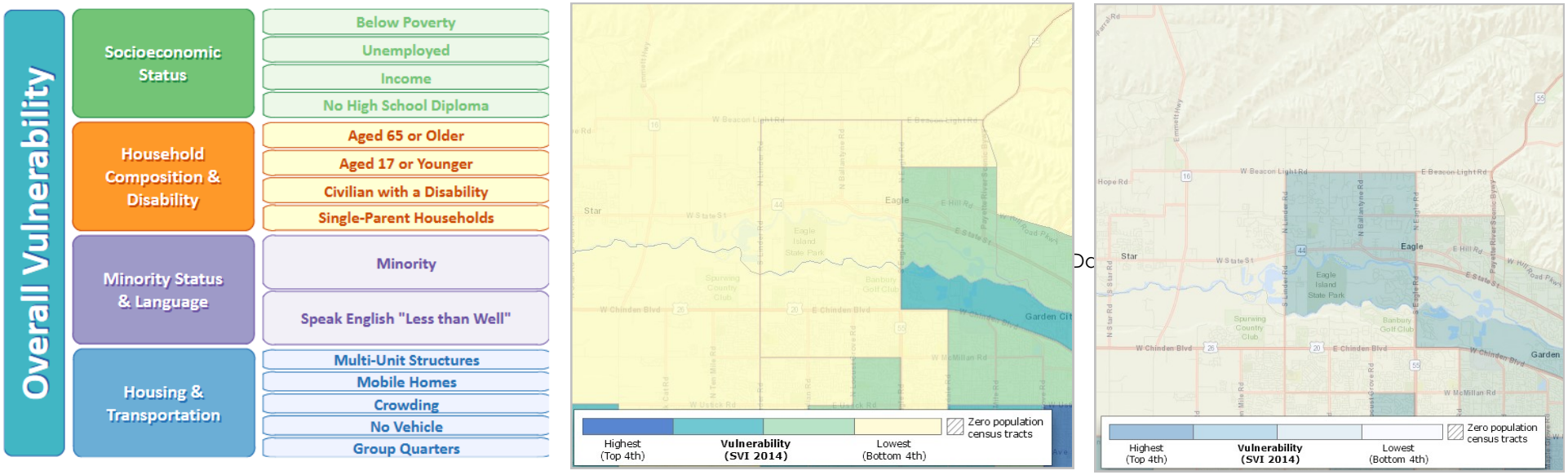
Social vulnerability is a concept growing in attention and describes the various ways people and households are vulnerable based on evidence-based indicators derived from Census data. Using such indicators (described in full at the Centers for Disease Control and Prevention website: https://svi.cdc.gov) the map interface provides additional insight into Eagle, as it layers many datasets in a way that helps to see identify how different geographies stack up against on another. It can be useful for deployment of resources or prioritizing of projects.

Using this method, areas of Eagle indicate having higher levels of concern (Exhibit 3-5). The overall vulnerability (top center) maps shows potential stresses amongst residents living east of Eagle Road and north of State Highway 44. The determination was made using the inputs described in their graphic (top left). Some of the categories with elevated measures when compared across the nation include persons below poverty status, population over age 65, and disabled population. Worth considering in the measure however, is again, that is data is by Census tract and includes both Eagle and non-Eagle residents is some instances.

As for housing and transportation vulnerabilities, a sub category of the vulnerability index, the measures show a similar geography but with an additional, and more severe vulnerability west of Eagle Road to Linder Road. One particular reason for the ranking is the number of mobile home units in that given part of Eagle.

This information coupled with the additional analysis provided in other sections of this HIA show that the implementation of new trails and pathways should may be prioritized in those areas depicting the most need based on numerous health and economic inputs. Given the plan will take many years to fully mature, initial projects would be most helpful in those areas of highest need.

Exhibit 3-5: Social vulnerability maps of Eagle as per https://svi.cdc.gov/Documents/Data/2014_SVI_Data/SVI2014Documentation.pdf



4. Health Impacts of the Eagle Trails Master Plan

Through scoping of the HIA it was determined that the best way to assess the health impacts of the Eagle Trails Master Plan would be to combine existing research on trail impacts with a facilitated workshop attended by Eagle area stakeholders. This method allowed for health impacts to be determined given the resources the rapid HIA allows through balancing what we know from research with what local stakeholder claim or desire with regard to long-term health outcomes.

Specific health impact claims were vetted using academic or medical research and are contained within this section. Claims were assessed for the probability of impact, the breadth of the impact and the documented impacts from similar proposals. Additionally, a logic model, common when attempting to connect a proposed policy, program, or plan to the actual health impacts of affected residents was created.

The logic framework was crafted first hand at the stakeholder meeting so that participants could better understand how a trail would eventually link to human health impacts.

This is not intended to be a comprehensive or exhaustive listing of health impacts given the time and resource constraints of a rapid HIA. It is intended to reflect the major health impacts. More specific impacts may be determined once the trail system is constructed and use of the system is known.

Eagle Master Trails Plan Goals

The Master Plan identified several goals and objectives to guide the system and align study findings with the vision statement. Exhibit 4-1 illustrates these goals and objectives and contains identifiers based on the likelihood each has for improving health. It also illustrates how goals other than those that specifically reference health can have an impact on health.

The purpose of identifying and reviewing these goals is to determine how the trail system recommendations and outcomes can help advance the mission of the trails along with other overarching community goals.

Health Impact: Stakeholder Input + Research

The assessment phase of the HIA is the most meaningful element of the process and combines input and claims about likely health impacts from stakeholders with evidence-based research on the health impacts of greenbelts.

Exhibit 4-1: Plan Goals and Likely Impacts on Health if Achieved

Plan Goals	Evidence of Improving Health	Primary Dimensions of Health	Potential Health Impacts
Goal 1. Provide Great Recreation Choices to Eagle's Citizens and Visitors **Expand the Greenbelt and in-town pathways systems** **Enhance and expand trails at Eagle Sports Complex to accommodate additional users and events** **Develop an expanded, formalized Foothills trail system through collaboration and planning with landowners and land managers**	**Strong**	**Physical** **Environmental** **Social** **Emotional** **Spiritual**	Recreational purposes have been shown to attract the most walkers and bicyclists for distances 1 mile or greater. The proposed system includes recreational trails and on-street/ greenbelt connections likely to attract utilitarian trips as well.
Goal 2. Promote Community Health **Host events that inform people about trails and pathways recreational opportunities.** **Encourage the use of trails and pathways by formal organizations and informal groups.** **Share informational materials about trails and pathways routes, conditions and appropriate uses.** **Work collaboratively with community health and transportation partners to promote coordinated planning.**	**Moderate**	**Economic** **Intellectual** **Social** **Emotional**	Increased physical activity will result from the trails, as will engagement by community members with one another, their neighborhood and their city. The more comfortable people become walking and bicycling, the more likely they will be to make it a part of their daily lives.
Goal 3. Trails and Pathways Support Economic Activities and Opportunities **Use trails and pathways system to attract investment, jobs and commercial activities.** **Promote the City of Eagle trails and pathways system as part of what makes Eagle a great place to live and do business.**	**Strong**	**Economic**	Using the trails as an economic development tool can bring jobs and healthcare services to the area. It can provide for upward social mobility for area residents and improve educational opportunities.

Exhibit 4-1, continued: Feasibility Study Goals and Likely Impacts on Health if Achieved

Plan Goals	Evidence of Improving Health	Primary Dimensions of Health	Potential Health Impacts
Goal 4. Ensure Equitable Access to Trails and Pathways **Ensure all parts of the community have similar levels of access to public pathways and trails.** **Continue to provide trails and pathways access and opportunities for adaptive recreationalists and people with different ability levels.**	**Strong**	**Physical** **Environmental** **Emotional** **Economic**	Ensuring all populations and neighborhoods have access to the pathway and trail system in order to recreate, connect to services, job centers, and other city offerings.
Goal 5. Proactively and Responsively Manage the Trails and Pathways System **Define and implement consistent trails and pathways standards.** **Adopt and implement a routine maintenance schedule for trails and pathways that protects the City's investment and extends its longevity.** **Invest in staffing, operations and capital projects at a level that is sustainable and allows priorities to be implemented.** **Actively engage with citizen groups, partner agencies, private developers and related organizations on an ongoing basis to assess trail and pathway needs and coordinate and implement projects.** **Collect and utilize data in trails and pathways management.**	**Limited**	**Physical**	Keeping the pathways, trails, and amenities in good working condition, free from hazards reduces injury potential, and maintains appeal for users. Continually collecting information about the numbers and typical characteristics of users for forecasting and health calculations.
Goal 6. Use Trails and Pathways to Connect and Circulate within and around the Community **Improve wayfinding.** **Add desired bridges and crossings.** **Complete routes connecting key destinations and activity centers in Eagle.** **Create desired trail connections in the Foothills.** **Connect to neighboring communities.**	**Strong**	**Physical** **Environmental** **Social** **Emotional** **Intellectual** **Spiritual**	Linking the trails to other destinations increases opportunities of use, which promotes behavioral change. People are connected at a personal level with their community, neighbors and institutions.

Exhibit 4-2: One-word or phrase responses from participating stakeholders

What leads to a healthy Eagle?

Trails Reflection

Community stakeholders from a variety of disciplines were brought together for two workshops.

Participants represented the following sectors:

- Public Health
- Local Government
- Schools
- Transportation
- Aging
- Neighborhoods
- Economic Development
- Healthcare
- Law Enforcement
- Equestrian Enthusiasts

As an introduction during the first workshop, participants were asked how and who might be impacted as a result of the Eagle trail system. (The responses are reflected in the word cloud in Exhibit 4-2.) These responses fostered strong initial dialogue about trails in general and how they can lead to public health changes. This discussion was followed by a thought generating walk around the campus of St Luke's Eagle, intended to further understand how trails may influence public health before generating concrete topical areas to be the focus of the HIA.

During the workshop, participants identified common areas worth further consideration through the HIA process.

- Improvement to Quality of Life
- Improved Chronic Disease Rates
- Economic Vitality
- Equity Through Increases Access

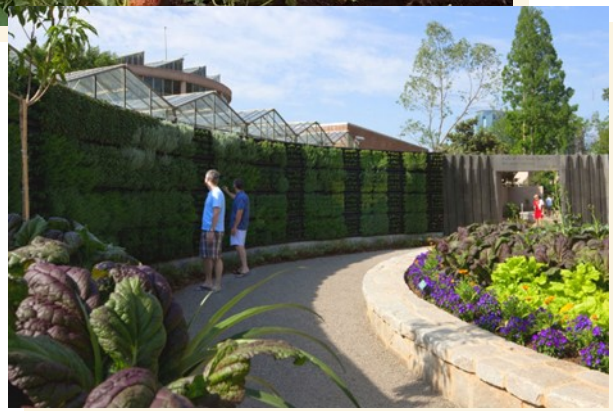
Improvement in Quality of Life

Quality of life is a term difficult to define. However, generally it indicates a strong economy, happy citizens, socially connected, and culturally rich. Attendees indicated that once the full trail system was in place, more people would participate in activity thus enriching their lives through experiences, communication, exposure to nature, and pride in their community.

Increase Sense of Community Culture - By using the trail system, residents would be immersed in the features that mean something to the residents of Eagle. Namely, walking along the Boise River, or in the foothills, has been part of the local culture for generations- the trails would continue that exposure for many more generations.

Improved Mental Health - Nature has a way of resetting a persons mind and ushering in a calmness not replicated in a gym setting or a walk/ride through a neighborhood. Most elements of the trail system are viewed as lending themselves to improved mental health through exposure to nature, social interaction, and physical activity.

Elementary school garden



Example of an Edible Landscape

Reduction in Obesity/Chronic Diseases

Chronic diseases are those largely brought on through continual exposure to toxic substances, poor behaviors, genetics, or harmful built environments. Many chronic diseases can be avoided by participating in a healthier lifestyle flush with regular physical activity, exposure to a healthy environment, and nutritious consumption. Trails allow participants to engage in physical exercise- both rigorous and casual. Reductions in obesity, a form of chronic disease, and others such a cancers, Diabetes, and asthma, are possible with regular activity. If such regular use occurs, positive gains are likely.

Improved Healthier indicator for Youth/Teens - If obese as a youth or teen, the probability is high that the condition will remain through adulthood. If exposure and use to the trail system at an early age occurs, rates of chronic diseases amongst the cohort can be minimized.

Healthier Workforce - A healthy workforce is vital to the productivity of a business. By workers regularly engaging in trail use, health measures of Eagle workforce would likely improve, thus translating into fewer work days missed, reduced health care costs, and more competitive business.

Examples of low/moderate income and specialty housing and along the Atlanta Beltline.

Should the health of both Eagle residents and workers within Eagle businesses improve, the local economy should follow.

Use of Trail System for Preventative Measures - Reducing chronic disease rates is a benefit of trails use, but preventing them to begin with is even more essential. Prevention is a key strategy for public health and one growing within the health systems throughout the nation. Regular use of trails can be a vital part of a more holistic lifestyle regimen.

Economic Stability

Participants identified a strong economy as being a desirable outcome with trail system implementation. Trails can act as magnets for out of area companies whether due to the appeal from their employers, or because they might be a business that develops products or services around the trail industry.

Land Use Growth - A feature of economic stability is steady and predictable growth. Trails were seen as one element to help ensure of this economic fundamental as amenities such as trails can minimize economic downturns by continuing to be an attractive community feature.

Equity Through Improved Access

Connectivity implies a physical connection from one place to another as well as a connection between differing types of community places. Being able to walk or bicycle to a job, a store, or place of recreation are types of connectivity identified by the workshop participants.

Help Increase Equitable Resource Assess - Many locations throughout cities experience challenging socio-economic conditions caused in part by a lack of access-trails can help improve such access and increase availability to community goods, services, and assets.

Other Themes Assessed

The pathway and trail system will assuredly address many existing barriers to active recreation and community navigation within Eagle. The existing plan addresses numerous elements of a successful pathway and trail system. However, additional consideration for features and public health needs should be given. Some of those features are apparent, while others are less obvious.

Personal Safety: Safety is a broad term that may include how physically safe a trail or pathway is in relation to a hazard like moving vehicles or steep embankments. It can also include principles such as assault or robberies. The primary concerns with safety have to do with traffic and roadway safety such as vehicle conflicts, narrow roadways, and a lack of driver awareness for pedestrians and bicyclists as well as safe riding and walking skills.

- **Plan Impacts: Calling for separated on-street facilities with adequate lighting, considerable safety treatments for street crossings to ensure use by all users not just more seasoned walkers/riders, regular patrols of pathways and greenbelt segments, and regular awareness public safety campaigns, would add value to the overall plan.**

Animal Control/Habitat: Putting people and horses in proximity with wild animals or off-leash dogs, can mean a threat to all using the trails and the animal habitat where people may be recreating. Most of the concerns to humans and even horses are over loose or intimidating dogs which can be a barrier to increased trail use, especially to the youth and seniors in the community. Additional threats could come from snakes, bobcats, and mountain lions. For animals, people pose a threat to their habitat and migration patterns if they stray from designated pathways or liter or somehow damage adjacent land.

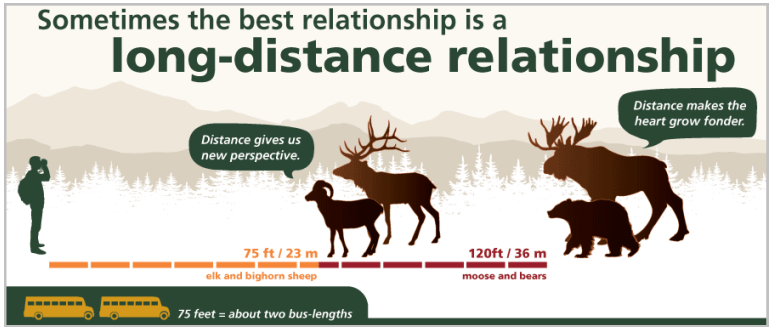
- **Plan Impacts: The Plan addresses some of the concerns mentioned by designating off-leash areas, though adding implementation steps that bolster education and awareness campaigns, trailhead signage, and enforcement of city code is recommended. Additionally, starting programs like youth rangers to further efforts to monitor and protect habitat is wise.**

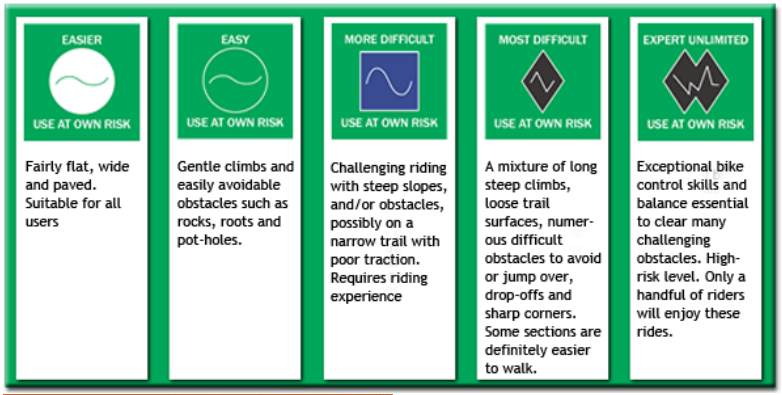
Communication: The Treasure Valley sees occasional air quality degradation events in both winter and summer. Ensuring communication with the public occurs in a timely manners is vital to reducing activities that may trigger bronchial events like asthma.

- **Plan Impacts: Signage, add-on to general bicycling education, additional social media and website communication.**

Exposure: The pathways and trails in the Eagle Foothills are especially exposed.

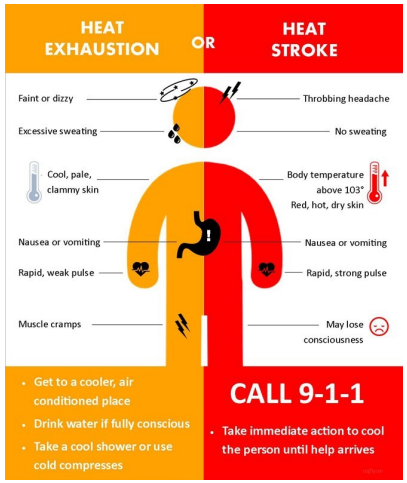
Examples of educational materials for areas that interface with wildlife habitat.





Sierra Madre Hiking Trails	Distance (miles) One-way	Elevation	Gain	Mountain Biking	Horseback Riding	Difficulty Level*
40 Big Creek	4.95	8,400'	650'	•	•	M
41 Purgatory Gulch	0.5	7,800'	400'	•	•	D
42 Encampment River	15	7,800'	1,100'		•	M
43 East Fork	7.27	8,950'	1,400'	•	•	M
44 Bottle Creek	8.3	8,760'		•	•	D
45 Green Mtn. Falls	1.7	8,500'	400'	•	•	M
46 Green Mountain	5.33	10,000'	400'	•	•	M
47 Continental Divide Nat'l Scenic Trail	44.8	9,750'	4,575'			M
Divide Peak to Deep Jack	11.7	9,000'		•	•	M
Deep Jack to Red Mountain	9.4	9,900'		•	•	M
Red Mountain to Pipeline Road	12	9,900'			•	M
Pipeline Road to Colorado State Line	7.5	9,300'		•	•	M
48 Verde Mine	4.61	9,500'	800'		•	M
49 Roaring Fork	7.85	9,000'	1,950'		•	M
50 Baby Lake	4.67	10,000'	1,550'		•	M
51 Elkhorn Stock Way	2.8	8,520'	240'		•	E

*E=Easy; M=Moderate; D=Difficult



Examples of signage near trails and pathways depicting level of effort or potential medical concerns.

Source:
http://www.shuswaptrails.com/
http://www.goin2wyo.com/the-trails.html

Very few trees or shade exist and will likely remain as such in keeping with the natural landscape. This setting equates to increased sun and heat exposure during summer months. Adding occasional shaded benches or prevention methods and signage would add value.

- **Plan Impacts: Suggesting the addition of signage identifying prevention techniques like clothing to reduce sun exposure, hats, and sun block, modest shade structures at regular intervals, canteen stations, are ideal.**

Environmental Degradation: Use of trails and pathways is for many people an escape from their normal environment and a submerging into the natural environment. Making certain the trails are well kept and void of trash or litter, damage to river banks, trees and bushes, or terrain is critical to include in the plan.

- **Plan Impacts: Adding language and specifics on the creation of an ambassador or volunteer patrols as well as clean up events, trail head trash cans, education campaigns are all elements worth considering.**

Level of Difficulty: Knowing how difficult a trail is in advance of embarking on a ride or hike can help increase use by demonstrating expected levels of exertion. For those just beginning, knowing easier trails are available is key. For more advanced users, knowing more challenging trails are at their disposal may keep local interest. Especially for more novice users, preventing overexertion, possibly prompting injury, or giving an unnecessary negative experience is important to maintain interest.

- **Plan Impacts: The Plan could benefit by suggesting tools such as advanced trail head signage inclusive of difficulty, time commitment, distance, and even estimated caloric expenditures.**

Health Benefits Assessment

This section contains an evaluation of likely impacts to health, financial standing and usage of the Eagle trails system. Exhibit 4-3 shows the results and quantifies the estimated health impact of the trails in terms of Direct Health Cost Reduction, which is health care cost reduction. This method used data obtained in Health Cost Reduction from an economic input-output model that generalized these benefits of greenbelts and trails, as found in an Econsult 2011 report on the subject.

The Low-Medium-High range reflects a potential usage by 5% (Low), 10% (Medium) and 15% (High) of the population of Eagle based on 2017 Census population estimates, along with the 2030 and 2040 population estimates provided by the Community Planning Association of Southwest Idaho (COMPASS) and cited in the City of Eagle's 2017 Comprehensive Plan.

Exhibit 4-3: Results of Health Benefits Assessment for Eagle Trails Plan

Year	2017		2030		2040	
Population	26,089		47,243		73,367	
5% Usage by Eagle residents	1,304	$ 402,000	2,362	$ 728,000	3,668	$ 1,130,000
10% Usage by Eagle residents	2,609	$ 804,000	4,724	$ 1,455,000	7,337	$ 2,260,000
15% Usage by Eagle residents	3,913	$ 1,205,000	7,086	$ 2,183,000	11,005	$ 3,390,000

The estimation of population usage is a conservative approach given limitations in data on usage rates, especially for a system that does not yet exist in its completed form. Usage will ultimately be impacted by connections along other routes—direct or indirect—and ability of the population to use the trail for diverse purposes, both for transportation and recreation.

The result is the estimated annual Direct Health Cost Reduction of this combination of trails would be approximately $804,000 annual based on Eagle's 2017 population and a 10% utilization rate by its citizens.

There are also Indirect Health Cost Reductions that are more difficult to estimate but studies by Econsult Corporation on the topic suggest it could be more than $1,000 per year per person, on average. At a Medium level of usage by residents in Eagle, the Indirect Health Cost Reduction figures could be more than $2.7 million a year in 2018. If these estimated health impacts were totaled, the amount would be approximately $8.5 million worth of annual, positive health impacts in 2018 with a potential for nearly $24 million in annual, positive health impacts in 2040, with a cumulative benefit of approximately $300 million through 2040.

Other potential, annual health related cost reductions/impacts include (based on 2018 approximations):

- **$4.8 million reduction in Lost Productivity Cost due to reduced absenteeism due to health;**
- **$26,000 reduction in Direct Worker's Compensation**
- **$70,000 reduction Indirect Worker's Compensation.**

Linkages to Health Outcomes

In general, buildout of the Pathways and Trails Plan is likely to move health outcomes and pre-cursors of health in a positive direction. Exhibit 4-5 summarizes the extent and likelihood of specific impacts, identifies sub-populations most likely to be impacted, and gauges the strength of the evidence supporting these impacts. It is organized in the following topics:

- **Quality of Life:** To the extent that the greenbelt system exposes people to natural, green environments and contributes to the walkability of neighborhoods, improved networks of social connections, or "social capital," will likely result.
- **Improved Chronic Disease Rates**: The positive impacts to helping address chronic disease rates are some of the most highly-studied facets of pathways and trails, that when combined with other healthy lifestyle choices create a healthier population.
- **Economic Health:** Examination of other areas with significant trail infrastructure suggests that a completed system would likely make a positive impact on the county's economy in two ways.
- **Environment:** This projects will provide a close-to-home entryway for a significant portion of Eagle residents to enjoy the outdoors and nature.
- **Physical Activity:** Pathways and trails provide physical activity opportunities for people of all ages and abilities, as well as income levels.
- **Safety:** From 2011-2016 there were 15 pedestrians and bicyclists involved in crashes on Eagle's roads. Safer alternatives to roadways as well as increased rates of walking and bicycling make these modes safer.

Exhibit 4-4: Legend for tables in Exhibit 4-5

Direction and Extent of Impact (combines direction, magnitude and severity into one measure): Severe impact for few or small impact on many = ↑↑↑ or ↓↓↓ Moderate impact on medium number = ↑↑ or ↓↓ Small impact on few = ↑ or ↓ Uncertain = ◊	*Likelihood of Impact:* Likely = it is likely that impacts will occur as a result of the proposal Possible = it is possible that impacts will occur as a result of the proposal Unlikely = it is unlikely that impacts will occur as a result of the proposal Uncertain = it is unclear if impacts will occur as a result of the proposal	*Distribution of Impact:* Name subpopulation impacted more (e.g., "low-income residents impacted more"; "Blacks impacted more") or "equal impacts" *Strength/Quality of Evidence:* *** (e.g., many strong studies) ** (e.g., one or two good studies) * (e.g., no clear studies, but generally consistent with principles of public health)

Exhibit 4-5: Linkages to Health Outcomes

Works cited listed in Appendix.

Health Outcome/Determinant	Direction and Extent	Likelihood	Distribution	Quality of Evidence
Quality of Life				
Stress reduction [1,2]	↑↑↑	Likely	Effect linked to green/natural spaces. Equal impact	**
Social connection and social capital [3,4,5,6,7]	↑↑↑	Likely	Residents of higher density neighborhoods more impacted	***
Improved attention	↑↑	Possible	Effect linked to increased exposure to nature and natural play settings. Adults in urban settings and children with ADHD diagnosis more impacted.	**
Family bonding	◊	Uncertain		*
Improved Chronic Disease Rates				**
Perceived general health and well-being [34,35]	↑↑	Likely	Those within 1-3km radius of green space and in urban areas impacted more; elderly and youth impacted more	**
Positive Child Development [37]	↑	Possible	Effect linked with exposure to nature	*
Respiratory health [38]	↑	Possible	Assuming decreased automobile traffic and increased physical activity	***
Cardiovascular health [39]	↑↑↑	Likely	Those more physically active impacted more	*
Cancer rates [40]	↓	Possible	Specifically, colon cancer. Those more physically active impacted more	*
Youth obesity (BMI levels) [41]	↓	Possible	Those with connectivity to play spaces impacted more. Those more physically active impacted more	
Economic Health				***
Housing values [42]	↑↑↑	Likely	Homes within 3200 ft. of trails impacted more	**
Rural property value [43]	↓	Uncertain	Agricultural land with tight zoning for trail corridors impacted more	*
Housing displacement	◊	Uncertain	Renters and fixed income residents impacted more	***
Business attraction [44]	↑↑	Likely	High-tech and service industries impacted more	**
Retail access [45]	↑↑	Likely	Likely concessioners (e.g. bike shops, cafes) impacted more	*
Workforce health improvements	↑	Uncertain	Worksites adjacent to trails impacted more	
Environment				*
Increased awareness/access to natural environments	↑↑	Likely	Residents with connections to the most natural sections of the project impacted more	*
Improved air quality [46]	↑	Possible	Equal impact	

Exhibit 4-5: Linkages to Health Outcomes, continued

Health Outcome/Determinant	Direction and Extent	Likelihood	Distribution	Quality of Evidence
Physical Activity (PA)				
Increased PA	↑↑↑	Likely	Residents within 1 mile of trail and targeted by promotional activities. Women, low SES and sedentary residents likely to be more impacted by trails.	** (mixed results in the literature)
Increased PA with increased street and pedestrian connectivity to non-residential destinations [12,13,14]	↑↑↑	Likely	Equal impact	**
Increased PA with access to pedestrian facilities (e.g. sidewalks, walking trails) [15,16,17,18,19]	↑↑↑	Likely	Women over 40; residents with household incomes under $20,000; sedentary people more impacted	*** (conflicting evidence)
Increased cycling with new bicycle lanes [23,23]	↑↑	Possible	Not specified; most research conducted in major urban settings	***
Increased PA with seeing others in neighborhood physically active	↑↑↑	Possible	African American women; rural, white adults more impacted	**
Increased PA with enjoyable scenery [27,28]	↑↑↑	Possible	Lower income residents more impacted	** (conflicting evidence)
Increase PA with perception of safety [30]	↑↑↑	Uncertain	White adults more impacted	** (conflicting evidence)
Increased moderate activity with nearby equine trail access.	↑↑	Possible	Women over 45; SES sensative	***
Safety				
Fewer cars on local roads [32,33]	↑	Likely	Equal impact; most research conducted in major urban settings	***
Decreased injury from bicycle crashes	↑	Likely	Assumption of some bicycle traffic moving from road use to separate trail use	***
Increased traffic safety	↑↑↑	Possible	Most densely utilized intersections more (assumption of less cars and less bicycle commuters at busy intersections)	***

Logic Framework

Based on input from workshops and analysis of research, it was determined that integrating other goals and outcomes with the pathways would be the best method to optimize opportunities for long-range health impacts resulting from construction of the routes recommended in the Eagle Pathways and Trails Plan (Exhibit 4-6).

To further evaluate the likely impacts, the HIA process led to a Logic Framework, also known as causal models or pathway diagrams. The Logic Framework is a method to map the many pathways by which health effects may occur resulting from a proposed action (construction of the pathways, adjunct uses, connections, and use in this case). Pathway diagrams may be thought of as plausible scenarios for what may happen to population health if particular decisions are made.

The diagram on the following page showcases how proposed actions related to pathways can impact long-range health conditions in the community. It will also help local decision makers, advocates, non-profits, planners and other more directly illustrate how the proposed actions related to but not directly inclusive of the pathways will impact public health.

What is key to remember in a logic framework is that simply building a pathway will not result in the anticipated health benefits directly. Additional actions need to take place include use of the pathways, maintenance, enhancements or programming, and many other steps. Constructing pathways may lead to action, and it is the action that leads to health benefits. With this relationship in mind, this is why a logic framework exercise is helpful as it highlights this causal relationship.

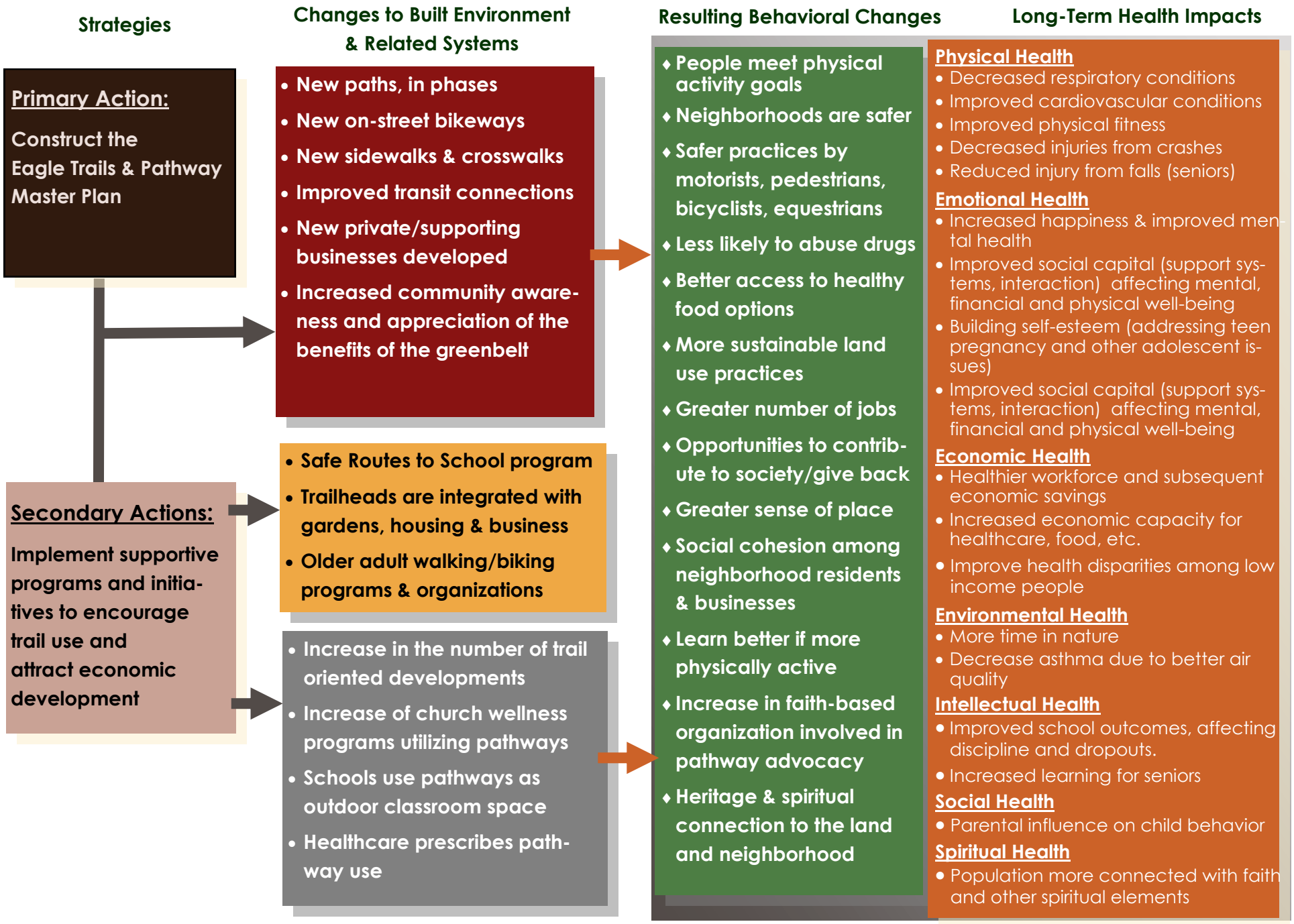
If we build it...

People are healthier

A **Logic Framework** (Exhibit 4-3), or pathway diagrams is used in the public health practice to describe how environmental and social conditions as well as risk and resilience factors influence health outcomes. This approach describes effects directly related to the proposal (building a greenbelt) and traces them to health determinants (such as air quality) and to health outcomes (such as asthma).

These are used to support the design of public health research as well as considering potential interventions.

Exhibit 4-6: Logic Framework



5. Recommendations & Monitoring

Stakeholders attending the workshop generated recommendation and monitoring steps intended to ensure the system addresses collateral concerns regarding adjacent access, user types, abilities, and typical functions part of everyday operations. Those steps were organized into categories addressed in this section for consideration of either amending the plan or independent action.

Connect to Nearby Areas

A trail system that connects to desirable destinations will ensure citizens are afforded access for recreational or utilitarian purposes, provide tourists ample opportunities to utilize the network and contribute to their activity and the local economy, and attract targeted users/customers to available adjunct features.

- Consider connections with other modes like transit, carpools, or vanpools.
- Given the desire to connect trails and the river, ensure to provide adequate safe space to avoid conflicts between trail users and waterway users.
- Consider connections to local economic hubs for customers and employees thereby promoting travel demand management strategies.

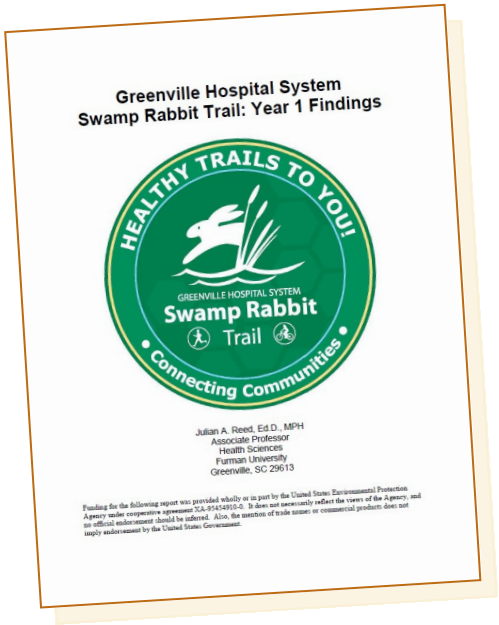
Collect Data

The actual health impacts of the trail are only known once it is built and used over a long period of time. Working with healthcare organizations and other stakeholders to collect data on trail and pathway users help bolster the findings of this HIA and make the case for future investments.

- Conduct an initial neighborhood walking, bicycling, riding and health survey to better understand current conditions in the area pre-construction.
- Recruit volunteers through the city to count existing use of existing trail segments and area streets in close proximity to planned trail segments.
- Once built, begin collecting health-specific data on greenbelt users and do this on an annual basis.
- Count trail users on a regular basis once fully constructed and consider installa-

Connecting the Dots

A critical component in optimizing health impacts of the greenbelt is linking it to other transportation and physical activity hubs within a walking or biking distance of Eagle. This includes long-distance destinations like downtown Boise, as well as emerging art and cultural hubs near the river in Garden City.



Continue to Assess Impacts

The health assessments being conducted post-construction for Greenville's Swamp Rabbit Trail provide a exemplary example of how to model post-intervention evaluation for the Eagle Trails Plan.

tion of permanent counters at key access points.

Keep the Conversation Going

The HIA workshop revealed there is a diverse group of stakeholders—many of which had never been in the room together prior to the workshop—who are interested in seeing the Master Plan through to completion. These groups have social, economic, cultural and health interests in helping ensure it succeeds.

- Convene an annual forum on the pathway to monitor progress and understand other emerging initiatives in the area.
- Identify the various partnership roles each group stands to play in implementation of the trail system, including what each group stands to give versus gain through being a partner.
- Determine which of the recommendations is best suited for each group given it will take many of them to achieve the desired health outcomes.

Environmental Stewardship

Environmental stewardship is an important value amongst area residents and a clean, natural setting has documented positive impacts on human health. It also enhances the experience of the pathway user.

- Minimize space requirements for roadways and building setbacks.
- Provide/preserve green space between roadways and greenbelt segments.
- Develop sites along the trails that capitalize on natural settings for users to sit, reflect, and enjoy a peaceful escape from the built environment.
- Work with local schools, organizations such as the Boys and Girls Club, and others to institute trailway ecological education programs.
- For unpaved trails, alert walkers, equestrian groups, and mountain bikers to avoid trails when wet to avoid damage.

Promote Social Cohesion

Recognizing the intrinsic value trails and paths can have with respect to social

interaction and health was also viewed as important for HIA participants. Social health includes promoting interaction among people, ensuring trails contribute to quality of life, and providing a calming effect by giving users a sense of familiarity and ownership over pathways.

- Promote an "Adopt the Trail" program for local citizens, social groups, or businesses to participate in to further promote a sense of local community.
- Utilize sections of the trails as part of local organized walks/runs and both bicycle and horse rides.
- Let local organizations, churches and youth groups know that using the pathways for social interaction purposes is encouraged.

Develop a Trailway Culture

To ensure that users of the pathways utilize the space safely, an understanding and education of common trail situations and occurrences is needed through the promotion of a greenbelt culture:

- Establish trail language/terminology, communication protocols and etiquette.
- Account for unique needs of the community along the trails, such as icon-based signage for non-English speaking users, or taller signs for horse riders.
- Develop reminders, tips and rules of the trails in the form of signage, web sites and presentations at various community events.
- Include pathway topics during outreach campaigns such as bike rodeos and local horse ridding locations.

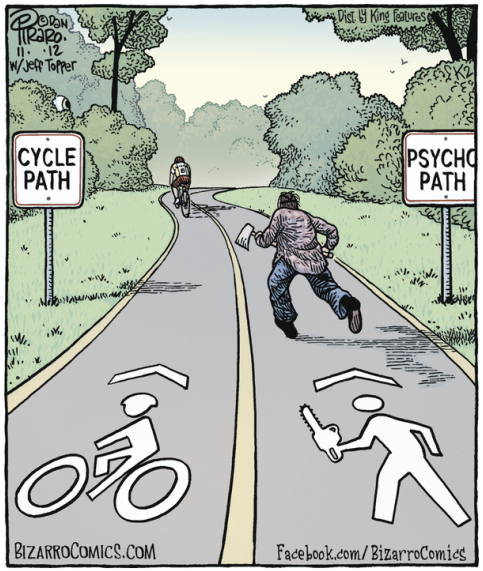
Account for Maintenance Needs

Maintaining a trail system is critical to protect personal safety and minimize hazards that may otherwise dissuade potential users.

- Ensure the trails are clear, free of hazardous debris, and tripping hazards are eliminated soon after they appear.
- Users must know who to contact for maintenance concerns.

Adopt the Trail

"Adopt a Greenbelt" or "Adopt a Trail" programs promote community interaction and help articulate messages related to valuing the greenbelt.



Think Safety

Safety considerations are paramount along greenbelts. If a trail is perceived as being unsafe, users will likely stay away. Increased use of the trail along with patrols that add "eyes" to the trail can allay many safety fears.
Comic from BizarroComics.com

- There is an expectation that maintenance is continuous and consistent.
- Investigate/plant non-invasive, colorful or edible vegetation adding to aesthetics that are proven not to uproot pavement and maintenance free.
- Establish maintenance patrols, most likely using volunteers, to pick up litter, report significant issues to authorities, and document evolving or developing conditions which may be hazardous to users.
- Develop both maintenance standards and formal agreements for the long term health of the pathways. Standards should contain technical specifications on mowing, weed abatement, pruning schedules, materials to be used in planting areas, and resurfacing standards.
- Maintenance agreements should formalize who is responsible for maintaining pathways and adjacent common areas, as well as trees and shrubs.

Ensure Safety for All Users

Safety is a prerequisite for users of trails and a topic that resonates in multiple arenas. Safety should include keeping people safe from a criminal element, reducing hazardous conditions, ensuring there is not a fear about other pathway users, and designing and signing traffic/street interfaces that promote visibility and safe practices by users and motorists.

- Law enforcement should develop a bicycle patrol specific to the pathway and nearby adjacent streets with the intention of monitoring users, traffic activity, and providing a general presence.
- Enforcement and signage discouraging "speeding" by bicyclists, mountain bicyclists, e-bikes and other wheeled users should be a focus.
- Launch a public safety campaign aimed at fundamentals of trail use such as discouraging head phones, reminding dog owners of leash laws, overtaking protocols between walkers, bicyclists, and horse riders, encouraging mobile phone users to report problems, and other similar messages.
- Construct connecting micro-paths from adjacent roadways for access by emergency vehicles and patrols.

- Minimize remoteness of a pathways alignment to keep users within a relative safe distance of adjacent areas or streets to prevent pockets of hidden zones, both visually and aurally.
- In heavy use or remote areas, install bicycle and stroller repair stations.

Minimize Vehicular Interactions

Minimizing exposure to vehicular traffic is essential to a healthy, safe, and vibrant pathway system. This has to be balanced with access considerations and an understanding that many users will first access trails by driving to and parking their motor vehicle. For on-street segments, buffered or separated facilities are essential. Users have been found to utilize a trail system much more regularly and for longer periods when they do not have to compete regularly with vehicles for space or time crossing intersections.

- When developing future roadway network plans with ITD or ACHD, minimize planning heavily used corridors near existing or future pathway sections.
- Re-evaluate future design plans involving adjacent trail corridor roadways for traffic calming measures to slow and steady traffic movements, particularly where trails and roads intersect.
- Inform motorists and trail users with signage/signals of approaching intersections, specifically atypical traffic patterns, or potential conflicts with motorists.

Integrate Economic Considerations

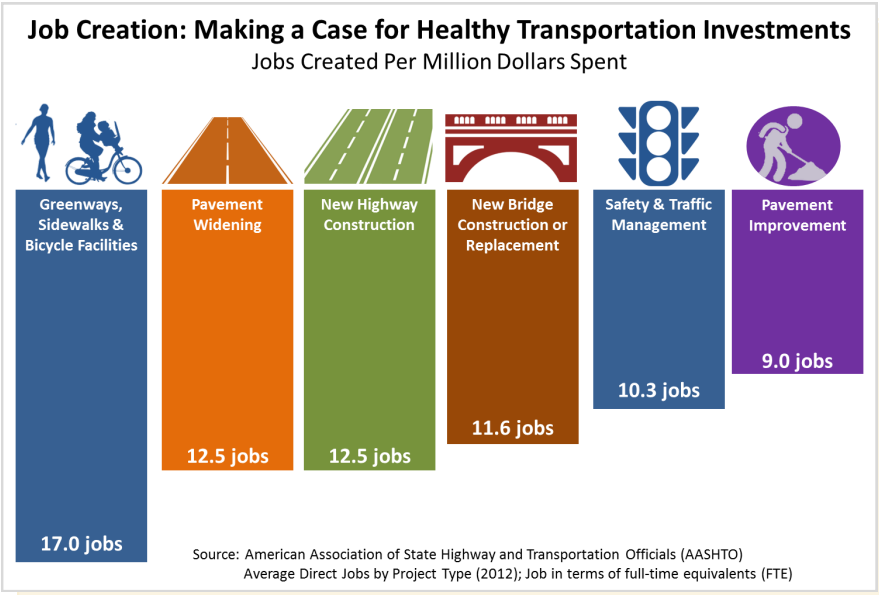
Workshop participants recognized the connection between trails and economic health. Economic health can come in the form of access to daily needs such as food and employment, reduction of transportation costs, an increase in economic activity through public/private investment, and attracting visitors.

- Promote the trail system to attract visitors, which provides an economic impact to nearby businesses and communities.
- Include transportation costs and household savings in public service announcements for the area trailways.

See It, Fix It

Fix-it stations help bicyclists and others make small repairs and pump up tires, giving greater peace of mind for greenbelt users.

- Consider methods to promote nearby economic opportunities without degrading the quality of the trailway experience. This can be achieved through low impact advertisements or community bulletin boards.
- Include trailway system as promotional feature for recruiting new businesses.



Data Driven Approach

A study by the national organization that represents state DOTs found that greenbelts create more jobs per million dollars spent than traditional highway and transportation investments.

- Align policies to allow for "Trail-Oriented Development" in the form of mixed uses along the paths where appropriate.

Funding Approaches

There are several strategies that can fund trail infrastructure. Beyond construction, funds may support gardens, wayfinding signage, benches, playgrounds, and promotion. Recently several initiatives have been paid for by health based organizations such as St. Luke's and Blue Cross Foundation of Idaho.

- **Health:** Trails support healthy living through behavior change. Funding can come from health foundations of insurance plans, large employers like ClifBar and Chobani, and others.
- **Economic Development/Tourism:** Pathways support economic development for the local commerce and trails attract visitors from outside the area. Funding can come from local and regional economic development programs (i.e. Community Development Block Grant)
- **Recreation:** Pathways support active and passive recreation. Funding can come from sources aim to support active and passive recreation (i.e. the state and federal recreation, trails and parks programs or the National Recreation and Park Association)
- **Transportation:** Trails provide an alternative approach to transportation. Funding can come from state/federal programs support active transportation (i.e. Transportation Enhancement Program and Safe Routes to School)
- **Environmental Protection:** Trails provide an opportunity to preserve nature and connect users to nature. Funding can come from programs aimed at protecting the environment (i.e. Environmental Stewardship Grants).

Evaluation

Within the HIA practice, there are numerous methods to evaluate the final product or process used or the final outcomes. For the Eagle Trails Master Plan HIA, which is of the Rapid variety and thus limited in the process used and final product when compared to a Comprehensive HIA, an outcome evaluation would be the most suitable. In order for this to be done however, time will be necessary to let projects and suggested strategies unfold and results to be measured.

An outcome evaluation is one that should objectively review how the results of the final effort are met by the residents of a community and what impacts those results are having. Figures like those derived from the HEAT tool are estimates based on common parameters of greenbelt use in the United States.

The evaluation process can be conducted in parallel with the monitoring step. When the various groups reconvene to discuss how improvements are going to occur, they should also determine what impacts are being made and how they relate back to the findings and claims made in the HIA. As the trails are constructed, support elements placed or suggested programs and policies enacted, the resulting changes and how they compare to the document, is the subject of the evaluation.

Once it is determined how the HIA findings compare with the results of suggested improvements, projects and policies, the Eagle partners can best determine the utility and value of the HIA process. This final step may become obvious when people begin using new trail segments and high rates of participation are evident, however a technical approach is still useful to prove the merits of the HIA effort and to determine if such a similar undertaking is necessary for other projects, policies, or plans in the future.

Combined Funding Pursuits

Through HIA we have linked access to greenbelts and access to community gardens, like this one along the Trail of the Coeur d'Alene's in downtown Kellogg, Idaho. This type of linkage helps broaden the funding options that can be pursued for the greenbelt and adjunct uses.

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