

Yellowstone County/
City of Billings
Growth Policy
Health Impact Assessment



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Executive Summary

The purpose of the Yellowstone County/City of Billings Growth Policy is to guide local officials and community members in making decisions about the community's growth, both development and redevelopment, that will affect the future of the community. The Growth Policy directs basic choices and provides a flexible framework for adapting to conditions over time. It is a collection of the goals and objectives for the community that will guide growth.

With funding from the Robert Wood Johnson Foundation, RiverStone Health, in coordination with the City of Billings Planning Division, began a Health Impact Assessment (HIA) of the Growth Policy in June of 2008. State regulatory requirements call for communities to provide a timetable for reviewing the Growth Policy at least every five years and also revise if necessary. The goal of the Growth Policy HIA is take a retrospective look at the Growth Policy that was adopted in 2003 in order to identify ways to make health a part of the decision making process related to the growth of the community by predicting health consequences, informing decision makers and the public about health impacts, and providing realistic recommendations to prevent or mitigate negative health outcomes, all of which is to be included in the updated 2008 Growth Policy. This report contains numerous recommendations concerning public policy, implementation, design and maintenance of the Growth Policy. The recommendations are intended to give decision makers, community members, designers and project implementers strategies that can be utilized to support positive health outcomes for all of the populations affected by the Growth Policy.

While the assessment is limited to Yellowstone County, many of the findings and recommendations are relevant to the entire state of Montana and beyond. HIAs enable communities to make the goal of positive health outcomes for all people a primary element in deciding the course of future projects and policies.

The Growth Policy Vision

With the Growth Policy affecting approximately 139,936 residents and 2,666 square miles in Yellowstone County, the need for long range planning becomes palpable in order to maintain a high level of public service and quality of life for Yellowstone County residents. Yellowstone County experienced population growth of 8.2% from 2000 to 2007, as well as a 15% progression in employment. The number of households in Yellowstone County increased from 52,084 in 1999 to 58,206 in 2006. Billings, the county's largest city with an estimated population of 101,876, is a major retail and wholesale trade, financial, energy, transportation and medical center; almost 110 acres was added to the city park inventory between 2000 and 2007.¹

The Yellowstone County/City of Billings Growth Policy is an issue driven document that proposes goals and objectives to guide the following growth elements: land use, economics,

aesthetics, natural resources, open space and recreation, transportation, public services and cultural and historic resources. 235 implementation strategies were developed for the 2003 Growth Policy; of those, 203 strategies were completed or attempted. Yellowstone County and the City of Billings are positioned to lead Montana into an era of economic, social and educational achievement. The vision for the Growth Policy is to act as a decision-making guide for progression into that era, make the right choices and shaping the leadership and future of the community.

Health and the Built Environment

“Virtually everything in our built environment is the way it is because someone designed it that way. We now realize that how we design the built environment may hold tremendous potential for addressing many of the nations’ greatest current public health concerns, including obesity, cardiovascular disease, diabetes, asthma, injury, depression, violence and social justice.”

Richard Jackson, MD MPH.

To reflect the role the Growth Policy can play in health, it is necessary to explore the current and past relationships between health and the built environment. Initially, we defined health as “a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity,” later adding health is “a positive concept emphasizing social and personal resources, as well as physical capabilities.”²³ The built environment includes all of the physical structures engineered and built by people—the places we live, work, and play; including our homes, workplaces, schools, parks and transit arrangements.⁴ These definitions are important in their recognition that numerous causes influence the ability to be healthy.⁵

As Neighborhood density has decreased over the last 100 years, the changes have had both direct and indirect impacts on our built environment and health. Today’s trend, sometimes referred to as “urban sprawl”, is characterized by huge increases in urbanized land area and in vehicle miles traveled.⁶

Changes in the built environment and development patterns have contributed to loss of wildlife habitat as well as degradation of not only water resources, but water quality as well.⁷⁸ Increases in impervious surfaces, such as parking lots, and contaminant surface water runoff contribute to a loss in availability and use of safe, clean water supplies leading to negative effects on both recreation and consumption.⁹

With more vehicle miles traveled (VMT) comes the likelihood for more vehicle crashes; correspondingly, increased pedestrian injuries and fatalities. Automobiles now claim more than 40,000 lives each year in the United States.¹⁰ In addition, further VMT contribute to overall releases of air pollutants.¹¹ “Mobile sources” (mostly cars and trucks) account for approximately 30% of emissions of oxides of nitrogen and 30% of hydrocarbon emissions;¹² however, in automobile dependent areas, the proportion may be substantially higher.¹³

Furthermore, carbon dioxide and other vehicle emissions contribute to accumulation of greenhouse gases in the atmosphere¹⁴, which may ultimately impact health by affecting the transmission and spread of infectious diseases¹⁵

Our built environment also affects individual mental health as well as population-wide well-being. The built environment may indirectly influence development and maintenance of socially supportive networks within a community. Higher levels of this type of “social capital” have been linked to lower levels of morbidity and mortality.¹⁶ Similarly, housing type and quality, neighborhood quality, noise, indoor air quality and light have all been linked to personal mental health.¹⁷ Lastly, it has been reported that walkability and mixed use of neighborhoods are related to an enhanced sense of community and social capital.^{18,19}

Possibly the most evident link between the built environment and health relates to the occurrence of overweight and obesity in the United States. Research tells us that communities that portray the effects of less-dense development are associated with populated areas.²⁰ One study reports that, after controlling for individual differences, those living in sprawling communities are more likely to walk less during their leisure time, weigh more, and have a greater prevalence of hypertension than those living in more compact places.²¹ To add, the likelihood of obesity seemingly increases in mixed land use, but rises with increases in time spent in a car per day.²² The built environment may also play a role in controlling weight by controlling food access and availability. It has been shown that grocers are more likely to be located in areas that represent a higher socio-economic status, and also that fruit and vegetable intake is positively associated with the presence of a grocery store.^{23,24}

The built environment does not fully account for Americans increasingly sedentary lifestyles, and physical inactivity does not tell the entire story of the national epidemic on being overweight. Still, by having the potential to affect health in the aforementioned ways, there is sufficient evidence for linking health and the built environment to warrant the inclusion of health considerations in project and policy decisions. With this, there is reason to believe that the Growth Policy, which will directly affect 2,666 square miles and 139,963 Yellowstone county residents, will play a role in the future health of the people who live, work and play in the jurisdiction.

A Health Impact Assessment

A Health Impact Assessment (HIA) is “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.” HIA is most often used to address built environment projects and is a beneficial tool for public health, planning, community residents and policymakers to ensure that health remains a critical consideration when making decisions about the built environment. This type of assessment can provide valuable evidence about the health impact of a project and can add emphasis to any policy or funding opportunity.²⁵ Often, the result of an HIA is a set of evidence-based recommendations that seek to negate or minimize potential or actual negative impacts on health and bolster health promoting aspects of a policy, program or project.²⁶ The ultimate goal of each HIA project is to provide a healthier living environment for everyone in the community.

The steps of an HIA include: **screening**, which determines if an in depth assessment is necessary and if HIA will add value to the decision-making process; **scoping**, identifies the particular issues that should be addressed in the HIA and determines a management approach for the HIA; **assessment**, which considers the nature and magnitude of health impacts and the affected populations; **reporting**, which circulates the results of the HIA to decision makers, individuals implementing the plan/policy, and community stakeholders; and **evaluation**, which reviews the effectiveness of the HIA process and evaluates the actual health outcomes as a result of the project or policy.

HIAs are flexible and can be adapted to meet the needs of the project and the project staff. They can be done at your desk in a day (rapid assessment) or can be a year long process that results in a comprehensive report (comprehensive assessment). Most typically HIAs will be conducted prospectively; which is to say, before any action has been taken and during the planning stage. Less standard are retrospective HIAs, which are carried out after a program or project has been completed or after a policy has been implemented. It is used to inform the ongoing development of existing work.²⁷

The Growth Policy HIA Methodology

The Yellowstone County/City of Billings Growth Policy HIA provides an opportunity to examine the potential health impacts of all development and redevelopment opportunities for the most populated county in Montana. The HIA recognizes the health impacts of the Growth Policy on all affected populations; it provides a comprehensive public health analysis of the project to inform decision makers. Lastly, the HIA creates a body of work that can be used to inform public health and transportation practitioners, citizens, developers and elected officials throughout the county as well as enhance the Growth Policy revision process.

Researchers with expertise in public health and planning were assembled to conduct the HIA of the Growth Policy. The purpose of the multidisciplinary team was to convene a panel with expertise on issues relating to city planning, including transportation, land use, economic development, environmental management, and public policy, as well as public health, including epidemiology and environmental health.

The Plan

To conduct the HIA, the team had to establish an understanding of the composition of the Growth Policy and its margins, which, at the start of the HIA process, was entering its first revision process. The team utilized the *2003 Yellowstone County/ City of Billings Growth Policy* as its basis for the HIA. The 2003 Growth Policy provides a framework for land use, economics, aesthetics, natural resources, open space and recreation, transportation, public services and cultural and historic resources. By taking a retrospective look at the 2003 Growth Policy to assess the parameters of the potential to impact the health of the community, the team was able to identify key strengths and weaknesses of the Growth Policy as it pertains to health. Recommendations based upon the retrospective findings were provided to the governing bodies of the Growth Policy for use during the revision process.

Affected Populations

As of 2007, the population of Yellowstone County was 139,936; the number of households in Yellowstone County increased by 10% from 1999 to 2006. To characterize the health status of the population living within the borders of Yellowstone County, a Community Health Assessment (CHA) was conducted in 2006. While no single health issue emerged as critical, the CHA identified mental health, unintentional injury, heart disease, physical activity, and nutrition as areas that warranted improvement. With the population of Yellowstone County projected to grow steadily in the next several years, significant opportunities for health improvement exist in Yellowstone County through a more comprehensive growth plan.

Potential Health Impacts of the Growth Policy

The Growth Policy HIA resulted in the identification of one critical overarching issue: although several of the issues that are addressed in the 2003 Growth Policy speak to health issues indirectly, there is a need for the document to take a more direct approach to health. Taking this into consideration, researchers recommended that a list of health issues currently being faced by the residents of Yellowstone County, policies to address each of the issues identified, and strategies to ensure the implementation of the policies be included in the 2008 Growth Policy.

Prominent Local Health Issues

The critical overarching issue that was pinpointed was that the 2003 Growth Policy, while mentioning the importance of smart growth in the built environment, does nothing to identify issues, policies and strategies specific to improving the health of the community. Utilizing various sources of data including the CHA HIA team members have identified the foremost health matters currently facing Yellowstone County as emergency preparedness, nutrition, pedestrian safety and traffic, physical activity, social capital, safety and crime, and affordable housing and living wage jobs.

Emergency Preparedness

Anecdotal evidence provides us with a basis for planning and preparing communities for unexpected emergencies. Events such as Hurricane Katrina, and more locally the 2006 Emerald Hills Fire (where the only exit to the neighborhood was blocked by the fire), have taught much about the ways in which communities are designed. When planning new developments as well as when maintaining older, more historic neighborhoods, it's important to consider emergency preparedness elements such as providing neighborhood residents and emergency responders with more than one entrance and/or exit and to identify and map neighborhoods as to the level of risk associated with natural disasters. The Growth Policy can serve as a means to address emergency preparedness issues for all residents as Yellowstone County and the City of Billings continues the redevelopment and the development process.

Nutrition

Increases in obesity and chronic diseases associated with poor diets have led to concern that some low-income and rural communities lack access to affordable and nutritious foods, allowing some areas to become food deserts. A food desert is a district with little or no access to foods needed to maintain a healthy diet.²⁸ A healthy diet includes fruits, vegetables and whole grains and is low in fat, added sugar and salt. Healthy diets are recommended for the prevention of cardiovascular disease and the prevention of such chronic diseases as diabetes, hypertension, stroke and certain types of cancer. Access to food stores and food service places, particularly grocery stores, differs by socioeconomic status, with grocers locating in wealthier neighborhoods and convenience stores and fast food establishments situating themselves in areas of lower socio-economic status. The Growth Policy has the potential to bring light to this issue by allowing planners to pay special mind to those areas that have been identified as food deserts in the community.

Pedestrian Safety and Traffic

A key characteristic of today's growth and development can be seen in the relationship that has evolved between low density development and more automobile travel: vehicle miles traveled increase as neighborhood density decreases.²⁹ Automobile use offers extraordinary personal mobility and independence; however, it is also associated with health hazards, including motor vehicle crashes and pedestrian injuries and fatalities. Each year, automobiles cause about 6,000 fatalities and 110,000 injuries among pedestrians nationwide.³⁰ While many factors contribute to the high rate of pedestrian fatalities, including alcohol abuse, inadequate lighting, and pedestrian behavior, the increase in high-speed, pedestrian-hostile roads in expanding areas likely plays an important part. Walking offers important health benefits, but safe and attractive sidewalks and paths are needed to attract walkers and ensure their safety.³¹

Physical Activity

We have good evidence to support that a lack of physical activity is contributing to obesity and other health problems. People have always moved about as part of everyday living—as part of doing their jobs, taking care of their homes and families and as they travel from place to place. What has changed is the amount of physical activity people get in the course of everyday life. A movement from dense neighborhoods to more spread out, automobile-dependant neighborhoods has led to a decline in daily physical activity. In general, the trend has been that few people try walking or bicycling to reach destinations because communities are being planned such that the distances between destinations do not warrant physical activity. The way we plan our communities can have a strong impact on the amount of activity community members are engaging in; therefore the Growth Policy can play an important role in increasing opportunities for physical activity.³²

Social Capital

Social capital can be defined as the collective value of a network whose purpose is to inspire trust in and provide support for other members of that community. It is the degree to which

people feel that they live in and belong to a socially cohesive group, and the range of activities and resources that emerge as a consequence of those ties. Research has shown that social networks and community involvement have positive health consequences. The way we design and build communities and neighborhoods affects social capital. Research also shows pedestrian-oriented, mixed use neighborhoods are expected to enhance social capital because they enable residents to interact. Residents living in walkable, mixed-use neighborhoods are more likely to know their neighbors, to participate politically, to trust others and to be involved socially. Individuals with high social capital tend to live longer, and are mentally and physically healthier.³³

Safety and Crime

Neighborhoods that have diverse functions, residential, commercial, institutional, and leisure, may be safer than single function areas. Multi-function areas attract a continual flow of people throughout the day and evening, providing a level of informal surveillance. Dissimilarly, criminal activity is more likely to occur in places that are quiet and deserted. Research indicates that the physical characteristics of neighborhoods and the residences are more important than the demographic characteristics of the people living in the neighborhood in predicting levels of crime and fear of crime; reducing crime will only partially the fear of crime in neighborhoods. In order to also reduce the fear of crime, efforts must be made to create a built environment that promotes safety and reduces crime.³⁴

Affordable Housing and Living Wage Jobs

Three inter-related aspects of residential housing have an overall affect on the health of families: the physical conditions within homes, conditions in the neighborhood surrounding the homes, and housing affordability. When adequate housing protects individuals and families from harmful exposures and provides them with a sense of security, privacy, stability and control, it can make important contributions to health. Good physical and mental health depends on having homes that are safe and free from physical hazards. Along with conditions in the home, conditions in the neighborhoods have been increasingly shown to have affects on short and long-term health and longevity. The shortage of affordable housing limits families' and individuals' choices about where they live.³⁵

Priority Growth Policy Recommendations

The goal of the Growth Policy HIA was to identify potential health impacts and make recommendations that can increase positive health outcomes and decrease or mitigate negative health outcomes. The following is a list of all recommendations:

- Work with neighborhood task forces to create emergency preparedness plans, and provide annual updates and presentations
- Support neighborhood development that provides more than one entrance and/or exit for residents
- Reduce the number of cul-de-sacs and dead-end streets
- Plan neighborhoods that foster disaster and evacuation routes
- Engage the fire department and other local emergency responders in neighborhood plans

- Identify floodplains that may be utilized for emergency flood corridors
- Adopt subdivision regulations that require adequate fire protection
- Subdivision design, building placement, and landscaping can be modified to minimize wildfire risk
- Identify and map areas of wildfire risk
- Create ways to mitigate problems that could potentially pose vector-borne and rodent-associated health threats, e.g., West Nile Virus and Hantavirus
- Strive to increase access to nutritious foods for residents in all neighborhoods
- Encourage the presences of grocers within mixed-use neighborhoods
- Improve ways to access existing grocers
- Support community gardens
- Promote the operation and expansion of local farmers' markets
- Install traffic calming devices in residential neighborhoods to discourage cut-through traffic and ensure pedestrian safety
- Maintain routine upkeep of pedestrian walkways, e.g., removal of gravel on sidewalks, etc.
- Provide wide shoulders on roadways where sidewalks do not exist
- Encourage subdivisions to incorporate safe routes to school during the planning process; create opportunities for existing communities to identify safe routes to school
- Require subdivisions to provide for the continuation of pedestrian and bicycle access as identified by Heritage Trails Plan
- Educate all commuters: automobile, bicycle, etc. on bicycle right-of-way and traffic laws
- Create ways to make physical activity part of everyday living an a logical alternative to automobile transportation
- Create mixed use developments that offer convenient places to work and shop within walking distance of residences
- Encourage physical activity for school-aged children by providing safe routes to school
- Develop trails that can be utilized for transportation to destinations, e.g., downtown
- Identify and map new and existing trails
- Continue to promote the "Buses and Bikes" program
- Provide neighborhoods and their members with the tools necessary to become a successful community
- Encourage community gathering places
- Prioritize construction of Aquatic Center/Community center in Heights
- Encourage neighborhoods to give back to the community through activities such as annual cleanup day
- Amend Public Nuisance Ordinance to address the removal of boarded up and abandoned houses in neighborhoods
- Create ways to protect the lives and properties of all citizens and visitors; improve the quality of life in our communities
- Create large, open space play areas in parks to keep kids off the streets

- Provide adequate street lighting
 - Ensure adequate resources for public safety and crime prevention
 - Encourage Neighborhood Watch programs
 - Provide adequate traffic control
 - Provide a safe and secure environment in neighborhood parks by enforcing laws and addressing use by transient and homeless populations as camping areas
 - Enable the development of affordable housing by providing development incentives
 - Make recommendations for land use that may include rehabilitation and redevelopment
 - Attract businesses with a minimum average annual wage equal to the living wage index
 - Continue to improve marketing for our community to employers paying a living wage
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Overall, the Growth Policy has the potential to have a large positive impact on the health of Yellowstone County residents. The retrospective HIA identified several strategies of the Growth Policy that touch upon the topic of community health; however, the recommendation was made to consider incorporating a separate Community Health section into the revised 2008 Growth Policy so that health is specifically discussed during the planning process. The next step of the HIA provided recommendations to overcome or mitigate some of the pertinent health issues that were identified by the team. The Yellowstone County/City of Billings HIA reinforced the link between public decisions and public health consequences and promoted a continuing dialogue between decision makers, city planners and public health experts on strategies to create a healthy city.

Section 1: Introduction

The 2003 Yellowstone County and the City of Billings Growth Policy was created as a guide for local officials and community members when making decisions that will affect the future of the community. The intention of the Growth Policy is to direct basic policy choices and provide a flexible framework for adapting to real conditions over time. The 2003 Growth Policy is a commitment to the residents of Yellowstone County that the local governments shall acknowledge and attempt to achieve public goals. In accordance with a timetable that has been established for reviewing the Growth Policy at least once every five years and revising the policy if necessary, the Growth Policy is scheduled to undergo updates in 2008.

This type of project carries the potential for both positive and negative health consequences. The question of health benefits is particularly important given that Yellowstone County is the most populous county in the state of Montana. Therefore, with funding from the Robert Wood Johnson Foundation, RiverStone Health, with assistance from the City of Billings Planning Division, began a Health Impact Assessment of the Yellowstone County/City of Billings Growth Policy in 2008. RiverStone Health's team is comprised of Jennifer Staton, Grassroots Advocate, Hillary Harris, Director of Population Health Services, with assistance from Barbara Schneeman, Director of Communications and Advocacy. This team of public health professionals received additional support from city planning experts with knowledge in urban design, land use and transportation planning.

Although HIAs have been in use for years in other countries, they have only recently been introduced in the United States. The goal of all HIAs is to accurately analyze and promote equitable policies and projects. In particular, the purpose of the Growth Policy HIA is to make health a part of the policy and design decisions that will impact the growth of Yellowstone County and the City of Billings, informing the public and decision makers about health impacts and provide realistic recommendations. Overall, these recommendations are intended to give decision makers, communities, developers and project implementers strategies that can be implemented to support positive health outcomes that will have the most impact on the greatest number of people.

Furthermore, while the assessment is limited to the Yellowstone County/City of Billings Growth Policy, many findings and recommendations can be translated to the entire state of Montana. In addition, this HIA is a unique and potentially path-altering tool. Throughout this process it has been made evident that across all segments of the population, there is a general agreement that health is a desirable goal. Therefore, this HIA could enable Yellowstone County and the communities it contains, to make the goal of positive health outcomes for all people a core element in deciding the course of future projects and policies.

Section 2: The Growth Policy and Health

This section describes the Yellowstone County/City of Billings Growth Policy, its history and the major components involved in the creation. It also provides a broad definition of health, describes the Health Impact Assessment (HIA) methodology and examines the momentum for conducting an HIA on the Growth Policy.

2.1 The Growth Policy

The Growth Policy is about making the right choices to shape the future of the community. It directs basic policy choices and provides a flexible framework for adapting to real conditions over time. The general vision for the community is one where there is a quality of life that attracts people who have capital, skills, knowledge and creativity; the community should ideally offer a wide range of opportunities to live, work, learn and play; the community values trails, parks and green space; and the residents support an attractive, efficient, economically vibrant community that is safe. The Growth Policy does not stand alone. It is founded on completed plans and policies already accepted by Yellowstone County and the City of Billings. The Growth Policy is framed by many meetings and forums in both Billings and Yellowstone County. It is a commitment to the residents of Yellowstone County that the local governments shall acknowledge and attempt to achieve public goals.

2.2 History of the Growth Policy

At the beginning of the 21st century, Yellowstone County and the City of Billings are positioned to lead Montana into a new era of economic, social and educational achievement. Since 1990, Montana State Legislature has revised Title 76, governing Land Resources and Use, of the Montana Code Annotated (MCA) to require more specific information. Previously coined “Comprehensive Plans”, Growth Policies are now required by state law. Growth Policies must follow the following regulatory requirements:

1. Community goals and objectives
2. Information describing an inventory of the existing characteristics and features of the jurisdictional area, including land uses, population, housing needs, economic conditions, local services, public facilities, natural resources, other characteristics and features proposed by the planning board and adopted by the governing bodies.
3. Projected trends for the life of the growth policy for each of the following elements: land use, population; housing needs; economic conditions, local services, natural resources, and other elements proposed by the planning board and adopted by the governing bodies.
4. A description of policies, regulations, and other measures to be implemented in order to achieve the goals and objectives above
5. A strategy for development, maintenance, and replacement of public infrastructure, including drinking water systems, wastewater treatment facilities, sewer systems, solid waste facilities, fire protection facilities, roads, and bridges
6. An implementation strategy that includes:

- a. A timetable for implementing a growth policy,
 - b. A list of conditions that will lead to a revision of the growth policy,
 - c. A timetable for reviewing the growth policy at least once every 5 years and revising the policy if necessary
7. A statement of how the governing bodies will coordinate and cooperate
 8. A statement explaining how the governing bodies will define the criteria for reviewing sub-divisions, evaluate and make decisions regarding proposed subdivisions with respect to the criteria, and a statement explaining how public hearings regarding proposed subdivisions will be conducted.

The last Growth Policy was adopted in 2003. In 2001, The City–County Planning Department began the process of crafting this Growth Policy. To identify issues of concern to the community, the City-County Planning Department held a series of meetings with area residents targeting two types of groups: special interest groups, such as environmental groups, the development community, the business community; and geographical groups represented by neighborhood task forces. Beginning in early 2002, the Department made presentations at 31 separate venues and asked those attending for input on the issues already identified as well as any new issues they might want to raise. A working draft of the Growth Policy was made available to the general public on December 30, 2002. A final draft was published on May 8, 2003. The County Commissioners adopted the policy on September 11, 2003 and the City Council adopted the document on September 8, 2008.

The 2003 Growth Policy contains 235 strategies for smart growth in the community. Of those, 203 strategies were completed or attempted (85%) from 2003-2008. It has been five years since adoption of the 2003 Growth Policy, and the time has come for the community to review the Growth Policy and update its vision to ensure the community maintains a position of regional leadership. The Yellowstone County Board of Planning in coordination with the City-County Planning Department launched a review and update of the 2003 Growth Policy to ensure it is in compliance with state law. The adoption deadline for the revised Growth Policy is December 31, 2008.

2.3 2003 Growth Policy Components

Land Use: Historically, Yellowstone County has been dominated by agriculture and related uses. Much of the early business in Billings developed to service the surrounding ranches and farms. Today, agriculture is still a dominant land use, but residential development and commercial uses have gained considerable ground.

Population: Yellowstone County has enjoyed steady growth for the past several decades. Growth within Billings has been gradual, especially in the last 10 years. Yellowstone County and the City of Billings are the most populated county and city in Montana. There are only two other incorporated jurisdictions in the county: Laurel and Broadview. In addition, there are numerous unincorporated communities.

Housing: The need and availability of housing in Yellowstone County is relative to the space and income requirements of the residents. Housing availability is also relative to the condition and vacancy of units. The cost of housing is also a critical factor in determining the availability of housing. According to the Billings Housing Needs Analysis, the need for low cost housing exceeds the supply.

Economic Conditions: Yellowstone County is the most populous county in Montana. Billings is the county seat and is the state’s largest city. It has one of the nation’s largest regional trade areas that serves almost 400,000 people. Resource industries and agriculture dominate the local economy. Billings is the medical and educational center for the region.

Public Facilities and Services: There are four governments that own or lease real estate in Billings: federal, state, city and county. Combined, they own or operate nearly 2,000,000 square feet of property. Public Services in Yellowstone County include water supply, wastewater treatment and disposal, solid waste collection and disposal, natural gas, electricity and telephone.

Natural Environment: The physical environment of Yellowstone County has strongly influenced the economic, social and physical development of the county: climate, vegetation and wildlife, soil, geology, and hydrology.

Transportation: The transportation system hierarchy in Yellowstone County begins with the Federal Highway System, which includes Interstates 90 and 94. U.S. Routes present in the county include U.S. Highway 87, 212 and 310. Numerous state highways and secondaries traverse the county in addition to county roads and city streets.

Open Space and Recreation: Parks and recreational facilities, as well as natural areas, are an integral part of the quality of life in Yellowstone County. Several entities within Yellowstone County administer and maintain parkland and recreational sites.

Cultural and Historic Resources: Yellowstone County has been inhabited over the last 12,000 years and the remains of human activity can be found virtually everywhere. Approximately 450 of the more than 23,000 archaeological and historical sites identified in Montana are located in Yellowstone County. The majority of these sites are located in or near the Yellowstone River valley.

2.4 What is Health?

Many people define health simply as the absence of disease—that living without chronic conditions such as cardiovascular or respiratory disease is to be healthy. A complete definition of health recognizes the multifaceted characteristics that should be included in order to achieve the all-encompassing concept that the word health represents.

In 1948, World Health Organization Constitution (WHO) defined health as “a state of complete physical, social and mental well-being, and not merely the absence of disease or

infirmity.” This definition was further expanded in the 1986 Ottawa Charter for Health Promotion to include the ability of an individual or group “to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment.”

It is important to recognize that numerous factors influence the ability to be healthy. Known as health determinants, these factors include biological, social and economic, environmental, lifestyle, services, and policy. Science has shown that the most significant determinants of health are very personal, such as those based on genes, sex, and age (the biological factors) and behavior, like diet, activity levels, sexual behavior, and the consumption of drugs and alcohol. Still, many external factors—the environment where we live, work, and go to school, and those social and economic factors, policies, and services shaping the environment—contribute to the second half of the definition of health, the ability “to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment.” It is the later category of health determinants which the Growth Policy has the greatest ability to shape through specific policies and interventions.

2.5 How Might the Growth Policy Influence Health?

To reflect the role the Growth Policy can play in health, it is necessary to explore the current and past relationships between health and the built environment. Initially, we defined health as “a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity,” later adding health is “a positive concept emphasizing social and personal resources, as well as physical capabilities.”^{36,37} The built environment includes all of the physical structures engineered and built by people—the places we live, work, and play; including our homes, workplaces, schools, parks and transit arrangements.³⁸ These definitions are important in their recognition that numerous causes influence the ability to be healthy.³⁹ Most notably, the composition of land use patterns, transportation and urban design has the greatest potential for health impacts.

Land use patterns refer to the proximity and the mixing of different land uses. Two land use scenarios generally exist: those that are characterized by separated land uses and those that mix the usage to include housing, schools, shopping areas and offices. Land use patterns determine the proximity of different activity centers and spatially determine where we do things such as work, attend school, shop and other activities.

The built environment refers to the man-made surroundings that provide the setting for human activity. It also includes transportation infrastructure such as highways, streets, railroads, sidewalks, transit services, bike lanes and multi-use trails. Land use and transportation are closely linked since transportation connects the activities that have been organized in the land use patterns and provides people with options for getting to different places. If distinct land uses are separated, if the distances between them are great, and if roads are more available than sidewalks and paths, then people shift from walking and bicycling to driving.

Urban design is a framework that orders elements of land use patterns, transportation, etc., into a functional and attractive network. Design will determine how far a building is from the street and the height of that building. It dictates the width of a sidewalk and the

placement of street lighting. Design leads the character of the buildings and sets the aesthetic qualities of the environment. It's about making connections between people and places. The potential influence of the built environment on health was most obvious when infectious disease was the primary public health threat during the industrial revolution; unsanitary conditions and overcrowded urban areas facilitated the spread of infection.⁴⁰ The sanitary reform movement was in response to this public health crisis. The passage of many resolutions and acts lead to improvements in several areas concerning public health and the decrease in episodes of infectious disease.

In 2000 in the United States, infectious disease was replaced by chronic disease as the leading cause of death. However, even today in the age of chronic diseases there remains an important connection between health and the built environment. Physical spaces can expose people to toxins or pollutants and influence lifestyles that contribute to cardiovascular disease, heart disease and diabetes. Chronic diseases are among the most common and costly problems today; they are also among the most preventable. Engaging in healthy behaviors such as good nutrition, physical activity and avoiding tobacco use can prevent or control the occurrence of the chronic condition.

The built environment influences the public's health predominantly in relation to chronic diseases. There is good evidence to support that the burden of chronic disease can be reduced through an active lifestyle, proper nutrition and reduced exposure to toxins. Additionally, research has suggested a linkage between the characteristics of the built environment and human health.⁴¹ This research has received much attention from both the public health sector and planning communities. It has associated the built environment with respiratory and cardiovascular health, fatal and non-fatal injuries, physical fitness, and mental health. Supplementary research is needed to show causality between elements of the built environment and chronic disease. However, it is evident that enough of a significant relationship exists to warrant health consideration in projects and policy decisions.

Evidently, the Growth Policy represents a considerable influence in the growth of Yellowstone County and the City of Billings. It will in one way or another affect over 2,635 square miles, with indirect impacts reaching far beyond county boundaries. Therefore the Growth Policy has a role to play in the future health of those who live, work, and go to school in Yellowstone County. Well coordinated, smart growth policies can provide the stage for healthy living by providing people with the infrastructure and urban design to make walking, biking and transit a viable transportation option, by providing parks and trails for physical activity, social interaction and recreation, by locating health promoting jobs and services such as grocery stores and health care centers, closer to where people live. Nonetheless, the lessons learned in the development of Yellowstone County can lead to better informed new development and redevelopment throughout Montana.

2.6 What is Health Impact Assessment?

While the link between the built environment and chronic health conditions is still evolving, there is significant evidence that a relationship exists. Therefore, a need exists for the tools and methodology to understand how changes in the built environment affect public health. One such tool is health impact assessment, or HIA. While the primary work in HIAs has been performed in Europe, Canada and elsewhere the tool is gaining momentum in the

United States. HIA is 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” (WHO, Gothenburg Consensus, 1999).

There are three main types of HIAs. Prospective HIAs are conducted before a policy or project is implemented; retrospective HIAs take place after a policy or project is implemented; and concurrent HIAs are conducted simultaneously while a policy or project is implemented (this type is more common in projects or policies that are implemented over an extended period of time). There is also a differentiation in HIAs based on the amount of time and effort; rapid, intermediate and comprehensive HIAs taking anywhere from a few weeks to several years to complete, respectively. Regardless of type, HIAs are intended to make health considerations a part of the decision-making process.

The final product of an HIA is a set of evidence-based recommendations intended to inform decision makers and the general public about the health related issues associated with the project. The recommendations provide practical solutions to amplify positive health outcomes, and remove or mitigate negative health outcomes.

While there are several different techniques that can be used when conducting an HIA; all HIAs share many critical steps. These crucial steps include: screening, which determines whether or not there is a need to conduct an HIA; scoping, which establishes the study area boundaries, identifies possible consequences, and determines a management approach for the HIA; assessment, which considers the nature and the magnitude of the health impacts and the affected population; reporting, which disseminates the results of the HIA to decision makers, individuals implementing the plan/policy, and community stakeholders; and monitoring and evaluation, which reviews the effectiveness of the HIA process and evaluates the actual health outcomes as a result of the project or policy.

2.7 Why Conduct the Growth Policy HIA?

The current Growth Policy, adopted in 2003, while mentioning the importance of smart growth, has limited strategies to address growth needs as they pertain to health. Without healthy people and communities, decision makers can never hope to achieve an economically and socially vibrant city. From this it becomes clear that there is an opportunity for an HIA to add value to the review and revision of the policy. Conducting an HIA on the Growth Policy will create opportunities to bring health into the community via the *revised* Yellowstone County/City of Billings Growth Policy by challenging the way we build, work and live; encouraging decision makers to take a look at the community not only as a place to live, but as a vehicle to promote health and well-being.

Section 3:

Growth Policy Health Impact Assessment Methodology

The Growth Policy Health Impact Assessment (HIA) adheres to the critical steps of any form of HIA. These include screening, scoping, assessment, reporting, and monitoring and evaluation. This section provides an overview of each of these steps in relation to the Growth Policy HIA.

3.1 HIA Project Team

To conduct an HIA of the Growth Policy, a team of researchers with expertise in public health was assembled and supported by experts in the field of planning. The purpose of the multidisciplinary interaction was to have a better understanding of the issues of city planning, including land use, economic development, environmental management, and public policy, as well as public health, including epidemiology and environmental health.

3.2 Screening

Screening was conducted during a meeting of the public health and planning departments. The process brought together members of the project team and other public health and planning researchers to apply their knowledge and experience to quickly assess whether the Growth Policy had the potential to impact health, and if so, then decide if those impact are well know and could be supported.

Through several meetings, the group determined that the Growth Policy did have the potential to significantly impact health as it pertains to smart growth strategies since many decisions made by the City and County officials will be guided by the goals expressed in the Growth Policy. It was believed that the consideration of health effects could make the document better-rounded.

3.3 Scoping

Scoping strives to highlight the key issues that should be considered to define the health impact assessment and establishes the parameters under which the health impact assessment will be conducted. For the Growth Policy HIA, the research team concentrated the scoping phase on identifying the appropriate level for the HIA, the affected populations and baseline health status, and the identification of key health impacts.

3.3.1 Assessment Level

HIA is a tool that is flexible and responsive to both the proposal it is assessing, and the people involved in the assessment.

⁴²

An intermediate level assessment was chosen for the Growth Policy HIA; researchers collected and analyzed existing data as well as new data, hosted and supported community meetings, identified key stakeholders and informants, and gathered and appraised information made available since the creation of the 2003 Growth Policy. Figures a and b

represent timelines produced by the Planning Department Staff and the HIA research team respectively.

Figure a:

2008 City/County Growth Policy Update Proposed Schedule—subject to change

ITEM	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.
Update Background Chapters						
Planning Board Growth Boundary Map						
Status Report to Planning Board (7/22)		★				
Public Meeting 1 – Kickoff (8/7)			★			
Public Meeting 2 – Review Goals & Strategies (8/21)			★			
Draft Revised Policy						
Status Report to Planning Board (9/9)				★		
Public Meeting 3 – Present Draft (9/18)				★		
Prepare Final Draft						
Planning Board - Public Hearing (10/21)					★	
BOCC Discussion (11/3)						★
City Council Work Session (11/3)						★
Broadview CC Discussion (?)						★
City Council Action (11/24)						★
BOCC Action (11/25)						★
Broadview CC Action (?)						★

Update Background Chapters – Many of the chapters contain information that changes periodically, for example, population, land use, housing, etc. We have begun updating these chapters with current data.

Planning Board Growth Boundary Map – Staff suggests that this map be incorporated as a new subchapter under Population Projects.

Status Reports to Planning Board (7/22 and 9/9) – Staff will provide the Planning Board with updates on the progress of the Growth Policy updates and the outcomes of the public meetings.

Public Meeting #1(8/7) – The purpose of this meeting is to inform participants of the Growth Policy, background information, desired outcomes and the process schedule. Goals, objectives and implementation strategies will be distributed for review.

Public Meeting #2 (8/21) – Staff will update the implementation strategies to indicate what has been accomplished and to what degree. Public focus groups will be used to evaluate remaining strategies, modify strategies and add new ones. It is possible that additional issues will be raised. New issues most likely can be categorized under existing goals.

Draft Revised Policy - Based on input from the public meetings and other sources, staff will prepare a revised policy for review.

Figure b:

2008 City/County Growth Policy HIA Proposed Schedule—subject to change

ITEM	JULY	AUG.	SEPT.	OCT.	NOV.
Meeting with Candi Beaudry (7/8)	•				
Begin draft recommendations					
Public Meeting 1 (8/7)		•			
Present HIA to Planning Board (8/12)		•			
Complete draft recommendations		•			
Meeting With Candi Beaudry (8/18)		•			
Public Meeting 2 (8/21)		•			
Incorporate feedback into draft					
Finalize recommendations			•		
Present final recommendations to Planning Board			•		
Public Meeting 3 (9/18)			•		
Public Hearing TBD					

July 8th, 2008 meeting with Candi Beaudry—this meeting will be to discuss the timeline, process and to receive input from Candi as to preferences for the layout of recommendations.

Begin draft recommendations—staff will begin the HIA process and begin to form recommendations for growth needs pertaining to health. Staff will also be summarizing the Community Health Assessment so that it can be added to the Growth Policy as a separate chapter.

Public Meeting 1 (8/7)—staff will attend this meeting to listen to public feedback and begin taking into considerations any feedback that will steer the HIA recommendations.

Present HIA to Planning Board (8/12)—staff will give a presentation to the planning board that briefly describes the HIA process as well as give justification for completing an HIA on the 2008 City/County Growth Policy. This presentation will also explain the plans for the recommendations as well as determine the follow-up and evaluation methods that will be used after the 2008 Growth Policy has been completed.

Complete draft recommendations—staff will have completed a draft of the HIA recommendations by August 15th, 2008. These recommendations will be presented to Candi Beaudry along with the planning board for critique.

Meeting with Candi Beaudry—a meeting with Candi Beaudry will take place August 18th, 2008 to discuss the draft of the recommendations. Staff will be looking to receive any feedback from Candi as well as any commentary that she has received from the planning board.

Public Meeting 2 (8/21)—staff will attend the second public meeting to listen to public feedback and continue hearing public comments that will help determine final recommendations.

August 15th, 2008-September 1, 2008 incorporate feedback into recommendations: staff will take feedback from public meetings 1 and 2 and infuse it where appropriate into the recommendations that have been drafted. Staff will also give sufficient consideration to the critiques and comments that were given from Candi and the planning board.

September 5th, 2008 staff will have finalized all recommendations that are to be presented to the planning board as well as the chapter that summarized the Community Health Assessment.

September 15th, 2008 presentation of final recommendations will be made to the Planning Board.

Public Meeting 3 (9/18)—staff will attend this meeting to evaluate public response to the final recommendations.

Public Hearing TBD

Public Meeting #3 (9/18) – Staff will present draft, revised policy.

Prepare Final Policy – Based on feedback from the public meeting, staff will prepare the draft final Policy. The draft will be circulated for review to the Planning Board and governing bodies.

Planning Board Public Hearing (10/21) – The Planning Board will hold the required public hearing and forward recommendations to the governing bodies.

BOCC Discussion, Billings City Council and Broadview City Council Work Sessions (11/3) – Staff will present the draft final Policy to the governing bodies at their respective work sessions.

Billings City Council Action (11/24) – City Council will act to approve, deny or modify the revised Growth Policy.

BOCC Action (11/25) – The County Commissioners will act to approve, deny or modify the revised Growth Policy.

Broadview City Council Action (?) - City Council will act to approve, deny or modify the revised Growth Policy.

3.3.2 The Affected Populations

The entire population of Yellowstone County is affected by the contents of the Growth Policy since it is a collection of the goals and objectives for the community. The goals presented in the document resulted from extensive public comment and the values expressed through issues and concerns generated from extensive public comment. The goals are to help local governments establish benchmarks and are often used to support decisions. Many decisions made by City and County officials will be guided by the goals expressed in the Growth Policy. When making decisions, elected officials, advisory boards and staff should consult these goals and objectives and ask “Will this project result in...?” The last part of this sentence should be completed with the applicable goal or objective. If the answer is yes, the project is consistent with the Growth Policy. If the answer is no, it may be necessary to employ mitigating measures.

Baseline health status of the affected population

In 2006, the Alliance, an affiliated partnership consisting of Billings Clinic, St. Vincent Healthcare, and RiverStone Health, sponsored a comprehensive Community Health Assessment (CHA). The CHA used national (Healthy People 2010) and state benchmarks to identify opportunities for community health improvement. The CHA was conducted by Professional Resource Consultants, Inc. The Community Health Survey developed for this assessment gave a remarkably complete and accurate view of the health status of Yellowstone County residents through a randomized telephone survey of the health and behaviors of 400 community members. The sample drawn for this survey was representative of the Yellowstone County population in terms of socioeconomic characteristics and geographical location. Existing vital statistics and other health related data were also incorporated into this assessment for Yellowstone County. To further gain perspective from community members, five focus groups were conducted in Yellowstone County, including groups among: community leaders; social service providers; physicians and health professionals; employers; and educators and public service professionals.

The CHA provides information for consideration when developing effective interventions. This information ensures the issues of greatest concern for Yellowstone County are identified and considered when decision to commit resources are made, thereby making the greatest possible impact on the status of the community’s health. The 2006 CHA serves as a tool toward reaching three basic goals:

- To improve residents’ health status, increase their life spans, and elevate their overall quality of life. A health community is not only one where its residents suffer little from physical and mental illness, but also one where its residents enjoy a high quality of life.
- To reduce the health disparities among residents. By gathering demographic information along with health status and behavior data, it is possible to identify population segments that are most at-risk for various diseases and injuries. Intervention plans aimed at targeting these individuals may then be developed to combat some of the socio-economic factors which have historically had a negative impact on residents’ health.
- To increase accessibility to preventive services for all community residents. More accessible preventive services will prove beneficial in accomplishing the first goal

(improving health status, increasing life spans, and elevating the quality of life), as well as lowering the costs associated with caring for late-stage diseases resulting from a lack of preventive care.

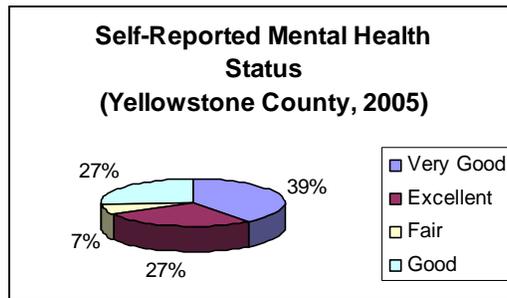
While no single health issue emerged as critical, the CHA identified mental health, unintentional injury, heart disease, physical activity, and nutrition as areas that warranted improvement. From this data, significant opportunities for health improvement exist in Yellowstone County with regard to the aforementioned health areas. These areas of concern have been presented in no particular order, and are subject to the discretion of the area providers or other local organizations and community leaders as to actionability and priority.

Mental Health

Mental health is a state of successful performance of mental function, resulting in productive activities, and fulfilling relationships with other people. Mental health is indispensable to personal well-being, family and interpersonal relationships, and contributions to community and society. Mental disorders are health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) which are associated with distress and/or impaired functioning that spawn a host of human problems that may include disability, pain, or death. Mental illness is the term that refers collectively to all mental disorders. Mental disorders generate an immense public health burden of disability. In established market economies such as the United States, mental illness is on par with heart disease and cancer as a cause of disability. Suicide, a major public health problem in the United States—occurs most frequently as a consequence of a mental disorder.

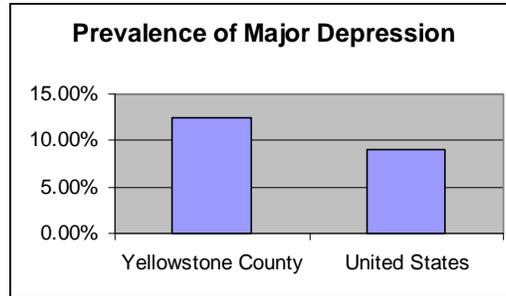
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The majority of Yellowstone County adults (66.3%) rate their overall mental health as “excellent” or “very good.” However, 6.9% of Yellowstone County adults believe that their overall mental health is “fair” or “poor.” Yellowstone County results more favorable than national findings that state 11.7% of adults believe that their overall mental health is “fair” or “poor.”



Source: 2005 PRC Community Health Survey, Professional Research Consultants

Women are more likely than men to report “fair” or “poor” mental health status. Across Yellowstone County, 12.4% of adults report that they have been diagnosed with major depression by a physician at some point in their lives. This is slightly higher than national findings (9.1%).



Source: 2005 PRC Community Health Survey, Professional Research Consultants
 Source: 2005 PRC National Health Survey, Professional Research Consultants

Key demographic characteristics of Yellowstone County note the following:

- Women report a higher prevalence of major depression than do men.
- Adults aged 18 to 64 more often report a diagnosis of major depression than do older adults.
- Low-income adults report a much higher prevalence of diagnosed major depression.

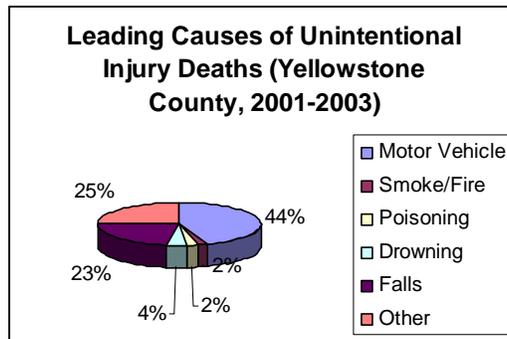
Nearly one out of four Yellowstone County adults (25.7%) report that they have had two or more years in their lives when they felt depressed or sad on most days, although they may have felt okay sometimes. This represents roughly 25,757 adults in Yellowstone County who have faced or are facing prolonged bouts with depression. This is similar to the national report of 24.9%.

Community health panelists in Yellowstone County discussed the mental health of the residents in the community. One major concern expressed by panelists was the lack of mental health education as it pertains to prevention and care. Panelists are concerned that community residents don't seek mental healthcare until it is a crisis situation. Community members, one panelist feels, do not feel as comfortable as they should seeking out help early in an illness. Further education for the support of mental health problems could help individuals seek the help they need before their illness progresses. One panelist suggested the high prevalence of mental illness in the area may be due to the fact that the community has more mental health services than surrounding communities. Among Yellowstone County respondents reporting major or chronic depression, 59.5% acknowledge that they have sought professional help for a mental or emotional problem.

Unintentional Injuries

The risk of injury is so great that most persons sustain a significant injury at some time during their lives. Nevertheless, this widespread human damage too often is taken for granted, in the erroneous belief that injuries happen by chance and are the result of unpreventable "accidents." In fact, many injuries are not "accidents" or random, uncontrollable acts of fate; rather, most injuries are predictable and preventable. For ages 1 through 44 years, [United States] deaths from injuries far surpass those from cancer—the overall leading natural cause of death at these ages—by about three to one.⁴⁴

Motor vehicle crashes account for nearly on-half of all accidental deaths in Yellowstone County.



Source: Montana Department of Public Health and Human Services
Source: Office of Vital Statistics

Between 2000 and 2002, the annual average age-adjusted unintentional injury death rate in Yellowstone County was 40.7 per 100,000 population. This is lower than the Montana rate for the same period (53.0%); however, it is higher than the rate reported for the United States (35.8%).

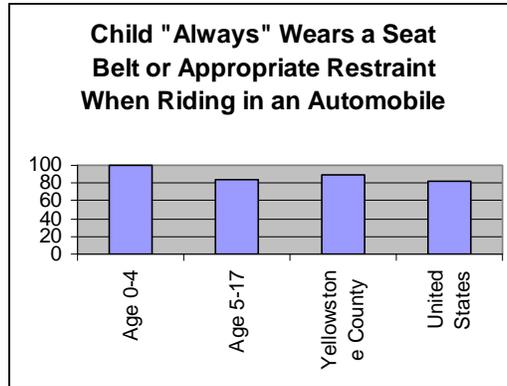
Motor Vehicle Accidents

Over the past several years, the Yellowstone County age-adjusted motor vehicle accident death rate has trended upward. Between 2000 and 2002, the annual average age-adjusted motor vehicle accident death rate in Yellowstone County was 17.8 per 100,000 populations. This is lower than the Montana rate of 25.5 for the same period and higher than the United States’ rate of 15.5.

Seat Belt Use

76.8% of Yellowstone County adults report “always” wearing a seat belt when driving or riding in an automobile. This is statistically similar to national findings (78.3%); both fail to satisfy the Healthy People 2010 target (92% or higher). In Yellowstone County, men are much less likely to report “always” wearing a set belt than are women. There is a strong positive correlation of seat belt use with age in Yellowstone County. Only three-fourths of adults under age 65 “always” wear a seat belt, compared to 86.0% of those aged 65 and older. Lower-income respondents are much more likely to report consistent seat belt use than middle to high-income respondents.

89.3% of Yellowstone County parents of young children report that their child “always” wears an appropriate child restraint (e.g., safety seat or seat belt) when riding in an automobile. This is more favorable than national findings (81.3%).



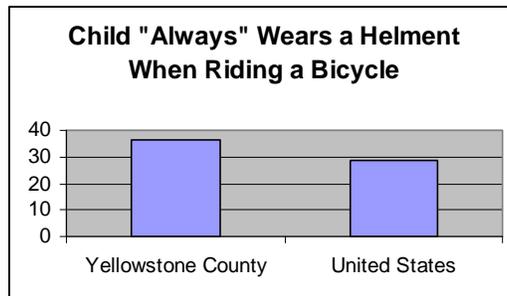
Source: 2005 PRC Community Health Survey, Professional Research Consultants

Source: 2005 PRC National Health Survey, Professional Research Consultants

Source: Healthy People 2010, 2nd Edition. U.S. Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, November 2000.

Bicycle Helmet Usage

36.2 % of Yellowstone County parents of children aged 5 to 17 report that their child “always” wears a helmet when riding a bicycle. This is statistically similar to national findings (28.8%).



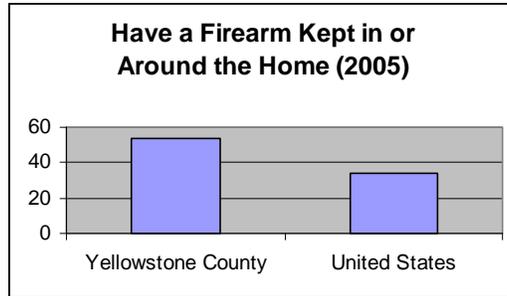
Source: 2005 PRC Community Health Survey, Professional Research Consultants

Source: 2005 PRC National Health Survey, Professional Research Consultants

Firearms

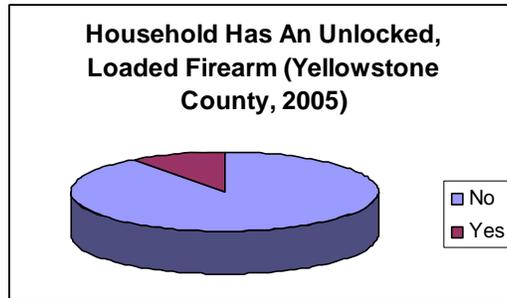
53.5% of Yellowstone County adults have a firearm kept in or around their home. This is statistically much higher than the national rate of 34.1%.

55.0% of Yellowstone County households with children have a firearm in or around the home. Reports of firearms in or around the home are more prevalent among men, especially those in middle-to-high-income households.



Source: 2005 PRC Community Health Survey, Professional Research Consultants
 Source: 2005 PRC National Health Survey, Professional Health Consultants

Among Yellowstone County households with firearms, 9.9% report that there is at least one weapon that is kept unlocked and loaded. This is statistically similar to national findings that report 7.6%.



Source: 2005 PRC Community Health Survey, Professional Research Consultants
 Source: 2005 PRC National Health Survey, Professional Research Consultants
 Source: Healthy People 2010, 2nd Edition. U.S. Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, November 2000.

Violence

Violence claims the lives of many of the Nation’s young persons and threatens the health and well-being of persons of all ages in the United States. Violent crime rates in Yellowstone County appear to be increasing during the period between 1994 and 2003. 4.0% of Yellowstone County adults report that they have been the victim of a violent crime in the area in the past five years. This is less favorable than national findings (1.5%). In Yellowstone County:

- Women much more often report experiencing violent crime than do men.
- Adults under age 65 much more often report experiencing violent crime than older adults.

Family Violence

3.2 % of Yellowstone County adults acknowledge being the victim of domestic violence in the past five years. This is statistically similar to national findings that report 2.7%. In Yellowstone County, reports of domestic violence are greater among adults under the age of 65 years as well as person in the low-income category.

Heart Disease

Heart disease and stroke—the principal components of cardiovascular disease—are the first and third leading cause of death in the United States respectively, accounting for more than 40% of all deaths.

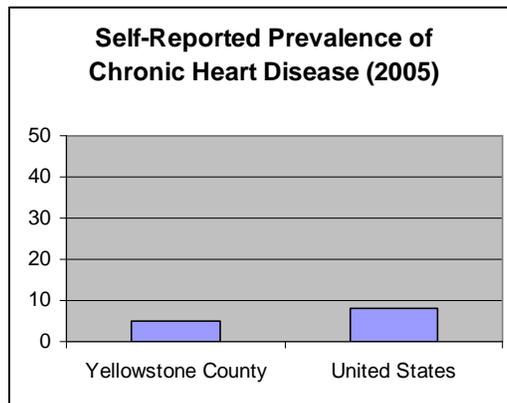
- About 950,000 Americans die of heart disease or stroke each year, which amounts to one death every 33 seconds.
- Although heart disease and stroke are often thought to affect men and older people primarily, it is also a major killer of women and people in the prime of life. More than half of those who die of heart disease or stroke each year are women.
- Each year, about 63 of every 100,000 deaths are due to stroke.

Looking at only deaths due to heart disease or stroke, however, understates the health effects of these two conditions:

- About 61 million American (almost one-fourth of the population) live with the effects of stroke or heart disease.
- Heart disease is leading cause of disability among working adults.
- Stroke alone accounts for the disability of more than 1 million Americans.
- Almost 6 million hospitalizations each year are due to heart disease or stroke.
- About 4.5 million stroke survivors are alive today.

The economic effects of heart disease and stroke on the U.S. healthcare system grow larger as the population ages. In 2001, the nationwide cost for heart disease was \$105 billion; for stroke, \$28 billion. Lost productivity due to stroke and heart disease cost more than \$129 billion.⁴⁵

5.1% of Yellowstone County adults report that they suffer from or have been diagnosed with heart disease, such as coronary heart disease, angina, or heart attack. This represents approximately 5,100 adults in Yellowstone County. This report is more favorable than national findings (8.2%).



Source: 2005 PRC Community Health Survey, Professional Research Consultants
 Source: 2005 PRC National Health Survey, Professional Health Consultants

3.3% of Yellowstone County adults report that they suffer from or have been diagnosed with cerebrovascular disease (a stroke). These findings are slightly higher than statewide findings (1.8%) as well as nationwide findings (2.4%).

Hypertension (High Blood Pressure)

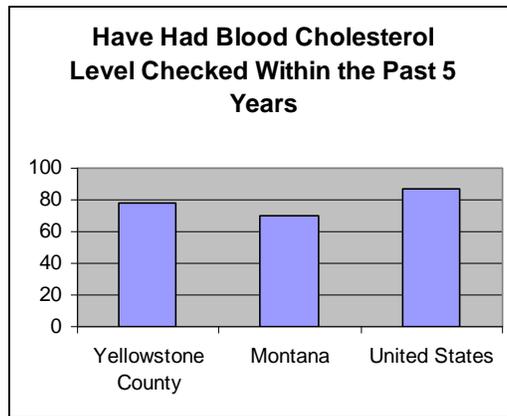
High blood pressure is known as the “silent killer” and remains a major risk factor for coronary heart disease, stroke, and heart failure. About 50 million adults in the United States have high blood pressure.⁴⁶

94.6% of adults in Yellowstone County have had their blood pressure tested within the past two years. This is identical to national findings, and very close to the Healthy People 2010 target of 95%. 26.1% of Yellowstone County adults have been told at some point that their blood pressure was high; an additional 2.1% have not been tested in the past five years. The prevalence of high blood pressure in Yellowstone County is less favorable than Montana findings (21.3%) and more favorable than national findings (34.2%). Nearly nine out of 10 Yellowstone County adults (88.9%) who have been told that their blood pressure was high report that they are currently taking actions (medication, diet, and/or exercise) to control their condition.

High Blood Cholesterol

High blood cholesterol is a major risk factor for coronary heart disease that can be modified. More than 50 million United States adults have blood cholesterol levels that require medical advice and treatment. More than 90 million adults have cholesterol levels that are higher than desirable. Experts recommend that all adults aged 20 years and older have their cholesterol checked at least once every 5 years to help them take action to prevent or lower their risk of coronary heart disease. Lifestyle changes that prevent or lower high cholesterol include eating a diet low in saturated fat and cholesterol, increasing physical activity, and reducing excess weight.⁴⁷

77.7% of Yellowstone County adults have had their blood cholesterol checked within the past five years. This is more favorable than Montana findings (70.1%) and less favorable than national findings (86.6%).



Source: 2005 PRC Community Health Survey, Professional Research Consultants

Source: Behavioral Risk Factor Surveillance System Survey Data. Atlanta Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2003 Montana data.

Source: 2005 PRC National Health Survey, Professional Research Consultants

Source: Healthy People 2010, 2nd Edition. U.S. Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, November 2000.

28.5% of Yellowstone County adults have been told by a health professional that their cholesterol level was high. This is similar to both the statewide (29.8%) and national findings (32.9%). In addition, 26.1% of Yellowstone County adults who have been told that their cholesterol level was high have not had their cholesterol checked in the last five years. Further, nearly 35% of low income respondents and close to 45% of young adults have not been tested in the past five years.

Nine out of 10 Yellowstone County adults (83.6%) who have been told that their blood cholesterol was high report that they are currently taking actions to control their condition, such as through medication, diet, and/or exercise.

Total Heart Disease Risk Factors

Individual level risk factors which put people at risk for cardiovascular diseases include:

- High Blood Pressure
- High Blood Cholesterol
- Tobacco Use
- Physical Inactivity
- Poor Nutrition
- Overweight/Obesity
- Diabetes⁴⁸

Nine out of 10 Yellowstone County adults (89.1%) report having one or more cardiovascular risk factors. Yellowstone County demographics show that men more often present one or more cardiovascular risk factors than do women, adults aged 65 and older are at a much greater risk than young adults, and lower-income adults more often report one-or more cardiovascular risk factors.

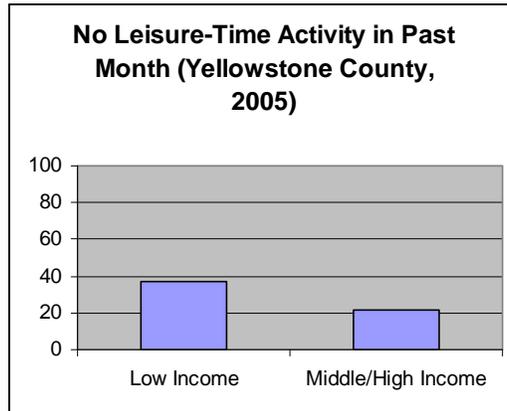
Three health-related behaviors contribute distinctly to cardiovascular disease:

- **Poor Nutrition:** People who have poor nutrition are more likely to be overweight; people who are overweight have a higher risk for cardiovascular disease. Almost 60% of United States adults are overweight or obese.
- **Lack of Physical Activity:** People who are not physically active have twice the risk for heart disease of those who are active. More than half of United States adults do not achieve recommended levels of physical activity.
- **Tobacco Use:** Smokers have twice the risk for heart attack of nonsmokers. Nearly one-fifth of all deaths from cardiovascular disease, or about 190,000 deaths a year nationally, are smoking related.⁴⁹

Physical Activity

Research has demonstrated that virtually all individuals will benefit from regular physical activity. A Surgeon General's report on physical activity and health concluded that moderate physical activity can substantially reduce the risk of developing or dying from heart disease, diabetes, colon cancer, and high blood pressure. Physical activity also may protect against lower back pain and some forms of cancer. On average, physically active people outlive those who are inactive. Regular physical activity also helps to maintain the functional independence of older adults and enhanced the quality of life for people of all ages.⁵⁰

26.3% of Yellowstone County adults report no leisure-time physical activity in the past month. This report is significantly less favorable than Montana findings (18.8%). There is a strong negative correlation with income in Yellowstone County—persons living at low income levels more often report not getting any physical activity (37.5%) in their leisure time in the past month than do middle to high income persons (21.9%).



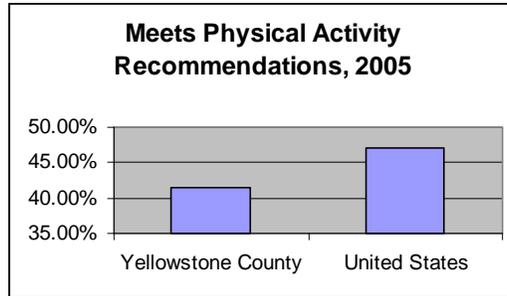
Source: 2005 PRC, Community Health Survey, Professional Research Consultants
 Source: Healthy People 2010, 2nd Edition. U.S. Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, November 2000.

In the United States, poor diet and physical inactivity lead to 300,000 deaths each year—second only to tobacco. People who are overweight or obese increase their risk for heart disease, diabetes, high blood pressure, arthritis-related disabilities, and some cancers. Not getting an adequate amount of exercise is associated with needing more medication, visiting a physician more often, and being hospitalized more often. The direct medical cost associated with physical inactivity was \$29 billion in 1987 and nearly \$76.6 billion in 2000. The annual cost of obesity in the United States is about \$100 billion.

Adults should strive to meet either of the following physical activity recommendations:

- Moderate-intensity physical activities for at least 30 minutes on five or more days of the week⁵¹, or
- Vigorous-intensity physical activity three or more days per week for 20 or more minutes per occasion.⁵²

In Yellowstone County, less than half of adults (41.4%) participate in regular, sustained moderate or vigorous physical activity. This data is less favorable than national findings (47.2%).

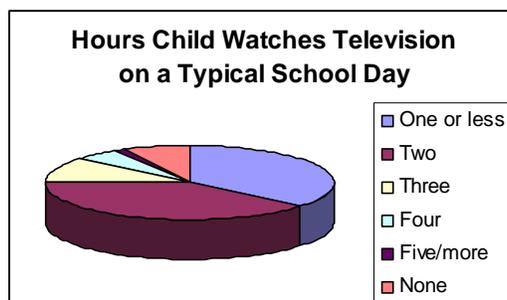


Source: 2005 PRC Community Health Survey, Professional Research Consultants

Adults aged 40 to 64 and adults living at lower income levels are the two demographic groups in Yellowstone County least likely to meet the physical activity recommendations. 36.8% of Yellowstone County adults report that their physician has asked about or given advice to them about physical activity in the past year. Nearly one-fourth of Yellowstone County community members participate in a regular fitness program or center. Most (76.4%), however, do not. Of those not participating, 22.9% cite not having enough time to exercise and 21.4% cite the expense of the programs/centers as reasons why they don't regularly participate in a fitness program or center. Nearly all of Yellowstone County area residents are aware of exercise and fitness opportunities available in the area (93.5%). When asked what could be done in the community to help them exercise more frequently one in ten Yellowstone County respondents mentioned that more convenient exercise facilities would help them to exercise more frequently. Other less mentioned attributes that would help respondents exercise more frequently include more walking trails and more convenient biking trails, free or subsidized exercise programs, and lower costs.

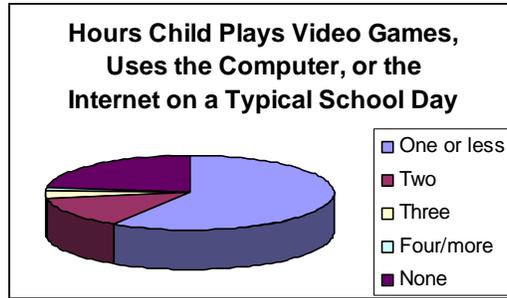
Sedentary Activities for Children

Only 7.4% of Yellowstone County parents report that their child does not watch any television on a typical school day; and 17.6% indicate that their child watches three or more hours of television per typical school day.



Sources: 2005 PRC Community Health Survey, Professional Research Consultants.

A total of 18.3% of Yellowstone County parents indicate that their child plays video games, uses the computer, or uses the Internet for two or more hours in a typical school day.

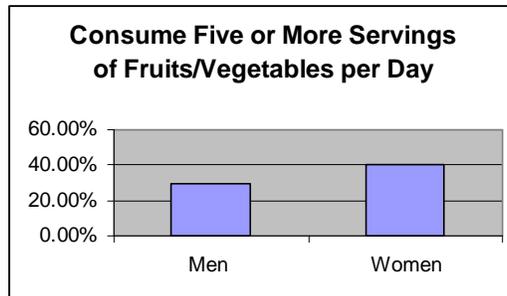


Source: 2005 PRC Community Health Survey, Professional Research Consultants.

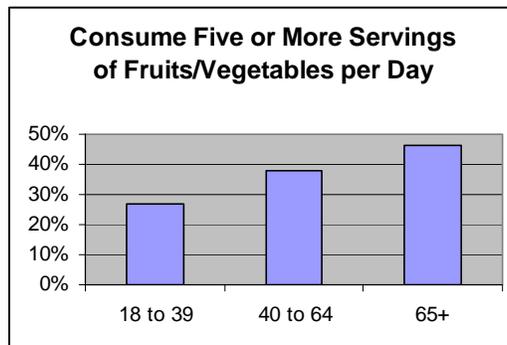
Nutrition

The benefits of good nutrition are multiple. Besides helping you maintain a healthy weight, good nutrition is essential for the body and all of its systems to function optimally for a lifetime. In fact, the benefits of good nutrition can be found in physical and mental health because a healthy diet provides energy, promotes good sleep, and gives the body what it needs to stay healthy.⁵³

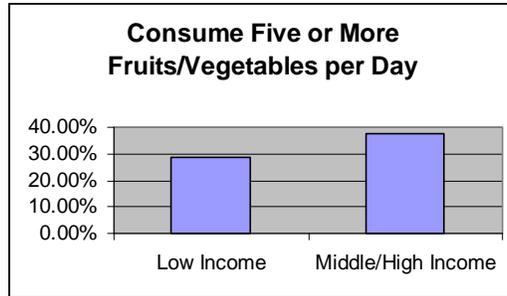
The U.S. Department Agriculture recommends that Americans consume at least five servings of fruit and vegetables per day. A slim 34.9% of Yellowstone County adults report eating five or more servings of fruits and/or vegetables per day. Survey respondents less likely to consume five or more fruits/vegetables per day are men and adults aged 18 to 39. The following charts further examine fruit/vegetable consumption by various demographic characteristics.



Source: 2005 PRC Community Health Survey, Professional Research Consultants.

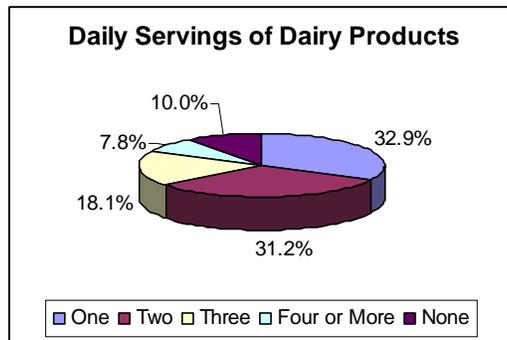


Source: 2005 PRC Community Health Survey, Professional Research Consultants.



Source: 2005 PRC Community Health Survey, Professional Research Consultants.

U.S. Department of Agriculture guidelines encourage the consumption of two to three dairy servings per day. One-fourth of Yellowstone County adults report eating three or more servings of dairy per day; a total of 10% report eating zero servings of dairy per day.



Source: 2005 PRC Community Health Survey, Profession Research Consultants.

The preceding data gives an overall glance of the health status of Yellowstone County residents. There is a reasonable relationship between the built environment and health. Perhaps the most easily understood link relates to the occurrence of overweight and obesity. The built environment affects weight management by affecting both food intake and energy expenditure through physical activity. The built environment may also play a role in controlling weight by shaping food access and availability. Our built environment can contribute to individual mental health as well as population-wide well-being. In addition, the built environment affects vehicle usage; with more driving comes more vehicle crashes as well as pedestrian injuries and fatalities. Moreover, increased vehicle usage contributes to overall releases of air pollutants which are associated with numerous adverse health outcomes.⁵⁴

As we begin to recognize and understand the health consequences associated with the built environment, we can begin to design effective and coordinated regional planning. Many of the health related benefits that could flow from the “smart growth” approach—less air pollution, increased access to nutritious foods, more physical activity, fewer motor vehicle crashes—would also yield economic benefits, such as less emergency room visits and more marketable communities.

3.4.3 Identification of Health Impacts

The HIA staff used a comprehensive approach to identify the key health issues that may be impacted as a result of the Growth Policy. The purpose of this method was to determine which issues concern the public the most and which issues have the potential to have the greatest impact on the current health status of Yellowstone County. This tactic involved public involvement, dissemination of online information and survey, approval from the governing bodies (Planning Board, County Commissioners and City Council) and the development of a logic framework.

Public Involvement

Three community-wide meetings were conducted during the 2008 Growth Policy update process. The first meeting served as a venue to reintroduce the purpose of the Growth Policy, discuss the existing 2003 Growth Policy and changes in the community since 2003, and finally outline the update process to draft the 2008 document. The second meeting was meant to engage the participants in a hands-on analysis of the existing community issues and implementation strategies in the Policy to determine how these issues and strategies should be updated and new ones added. After the public feedback was gathered at the second meeting and through other meetings with stakeholders and web-based comments, a third meeting provided the community with an opportunity to provide feedback on the new proposed implementation strategies before the draft document was presented to the Board of County Commissioners, and Billings City Council. In total, more than 90 people from across the County attended the community meetings to learn and give feedback.

Online Information and Survey

A 'Growth Policy Update' webpage was created for the 2008 document and included information on the update process, meeting dates, meeting presentation materials, document drafts, and other information. A "Notify Me" email system was set up to allow anyone to be notified via email of upcoming meetings and when new material was posted to the website. This list grew to more than 247 email addresses and staff received a lot of positive feedback from the community for adding this notification feature. An electronic comment option also was incorporated on the webpage. This system enabled anyone to submit comments to the staff during the document drafting process. At last count, 27 comments were collected through this service.

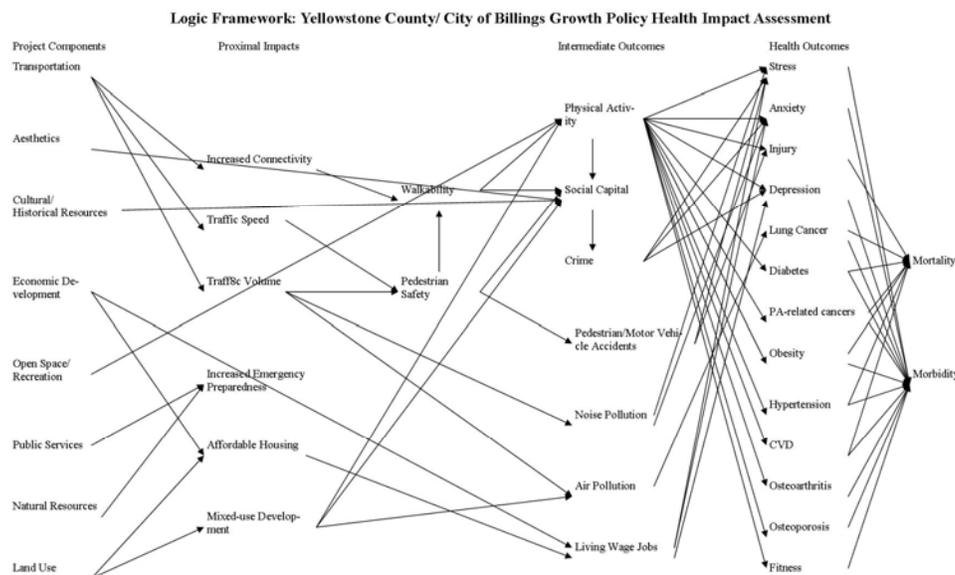
An online survey also was utilized to allow the community to vote on the proposed new implementation strategies before they were presented to the Board of County Commissioners, City Council and Broadview Town Council; 271 surveys were completed. The survey results were organized by element to show the level of support for each new proposed strategy and also ordered to show the most supported to least supported new strategies. This information was provided to the Planning Board, Board of County Commissioners, and City Council to assist the governing bodies in determining the community support for the new strategies.

Approval by the Governing Bodies

During October and November of 2008, a draft of the 2008 Growth Policy was reviewed and refined simultaneously by the Yellowstone County Planning Board, and the governing

bodies. The staff discussed the draft document at several of its regular meetings, held two special meetings to review and edit the document and conducted a public hearing before making a recommendation to the governing bodies for adoption of the Policy. Additionally, the public was invited to three work sessions of the Board of County Commissioners and two work sessions of the Billings City Council After informal review, each governing body conducted a public hearing. Throughout the drafting process, the most current version of the proposed Policy also was posted on the Planning Department’s Webpage and copies were made available upon request at the Planning office.

Logic Framework



3.5 Assessment of Health Impacts

The assessment stage synthesizes and critically assesses the information collected during the screening stage, in order to prioritize health impacts. Assessment is a complex task that involves making explicit judgments to prioritize potential impacts. Because the assessment stage explores numerous issues, a detailed explanation of approach is detailed in the following sections.

3.6 Evaluation and Follow-up

The evaluation and follow-up stage has three components: process evaluation, impact evaluation and outcome evaluation. Process evaluation examines how the HIA was conducted for the purpose of learning from the experience and provides information that will be useful to future HIA theory and practice. Impact evaluation looks at the changes that took place as a result of the HIA and outcome evaluation looks at the actual health outcomes.

Process evaluation took place during the completion of the HIA and questions asked during this evaluation period included:

- How was the HIA undertaken?
- What resources were used?
- How were recommendations formulated and prioritized?
- How were recommendations delivered to decision makers?
- What did those involved in the HIA think of the process?

Answers to many of the process evaluation questions can be found in the body of this HIA text, including how the HIA was undertaken, resources used, and how recommendations were formulated. The information delivery to decision makers was done in a variety of ways including presentations, written summaries and conversationally. There were a number of lessons learned during the process. For example, one important lesson learned was that the first step in the process should be determining how to explain HIA in a succinct and easy to understand manner so all the benefits of conducting an HIA are conveyed effectively. HIA presents itself as a fairly abstract concept, often difficult to conceptualize. HIA practitioners need to discern the best possible method for presenting the theories in a logical manner for stakeholders. Until HIA presents itself as a sought-after tool, practitioners will likely need to market the notion of HIA to stakeholders. For this reason, practitioners will need complete understanding of the full value an HIA has to offer and a succinct and easy manner to convey this message.

The second lesson learned from the process evaluation was the value in finding the champion among your partners; this can help you bypass hurdles. Start by identifying your partners; those who have a vested interest in improving the health of the community. Enhance your partners' understanding of HIA by providing them the necessary materials to comprehend how and why the tool might be used. From there, you should look amongst your partners to seek out the champion—or the player who best understands the purpose of HIA and its place within your community. Begin dialogue with this advocate to identify the most effective uses for HIA and select an appropriate conduit (program, policy, or project) to begin cooperatively initiating the HIA process.

The response from the HIA partners involved in the process has been very positive on the whole and there will continue to be increased collaboration on a variety of activities among these partners.

The second type of appraisal, impact evaluation, looks at the HIA's effect on the decision making process. The questions asked for this evaluation piece included:

- Were the recommendations implemented?
- Was the HIA able to support inclusive public engagement?
- Has the HIA led to new partnerships to influence healthy public policy?
- Has the HIA impacted changes in the way institutions frame health issues.
- Did the HIA lead to unexpected changes?

While the results of the impact evaluation are still ongoing at the time of writing this report there have been numerous impacts already seen. For example, all recommendations were

implemented with minor changes. The changes to the recommended strategies included the removal of words such as “required” or “must” since the Growth Policy is not a regulatory document. The HIA was able to support inclusive public engagement and various methods were used to include the public in the process. The HIA has led to various new partnerships with the strongest relationship developed between the local health department and the local planning department. Continued collaboration on a variety of activities among the partners continues to occur. We believe that the HIA impacted changes in the planning process as health is now an area directly discussed and considered during the planning process. The most unexpected change that the HIA led to was that RiverStone Health has had the opportunity to apply for continued funding for policy development since a Community Health Section of the Growth Policy is in place and paves the way for future work.

The third type of evaluation, outcome, evaluates the accuracy of the predicted health outcomes. There are a number of challenges faced in this evaluation including data availability and the timeline for seeing the outcomes is long term for this project. In 2011, the Alliance have committed to conducting another Community Health Assessment in the same manner as the 2006 CHA so that the results can be directly comparable. Although it is not anticipated that health results from many of the Growth Policy recommendations will be seen this quickly, the Alliance has planned for a comprehensive CHA to be completed in five year intervals creating the opportunity for long term health impacts to be seen.

Outcome evaluation will also occur as the City-County Planning Department analyzes all strategies at the completion of the five year Growth Policy cycle to determine the strategies that have been attempted or completed during the past five years. If the strategies were attempted but not completed the reason for the non-completion is reviewed and assessed. This analysis will be completed in 2013.

In addition, while the Growth Policy is just a guiding document some of the strategies recommended could be more widely implemented if they became a policy (e.g. complete streets). Therefore, another outcome of the Growth Policy will be to see how many proposed strategies make it to the level of policy adoption.

Section 4:

Prominent Local Health Issues

The overarching issue that was identified during the HIA states that while mentioning the importance of smart growth and the built environment and including growth strategies that have underlying health elements, the 2003 Growth Policy does not have strategies specific to improving the health of the community. The evidence that supports the idea that the built environment and the way communities are planned have a significant impact on the health of the residents defends this critical recommendation. To expand on this overarching recommendation, the team worked to identify the important health issues the residents of Yellowstone County are currently facing in which the Growth Policy may be able to impact.

4.1 Emergency Preparedness

Anecdotal evidence provides us with a basis for planning and preparing communities for unexpected emergencies. The extent to which a community manages to achieve a sustainable future largely depends upon how well the community integrates the concepts and principles of sustainable development. An essential characteristic of a sustainable community is its resilience to disasters. This fact was recognized and promoted as part of the recovery efforts following the 1993 Great Midwest Flood. A working group of Federal agency representatives and environmental, planning and design professional actively assisted flood-damaged communities and encouraged them to incorporate sustainable re-development concepts into their reconstruction efforts. Other events, such as Hurricane Katrina, and more locally the 2006 Emerald Hills Fire (in which the only neighborhood evacuation route was blocked by a fire), have taught much about the ways in which communities are designed.⁵⁵

There are two reasons why disaster preparedness and hazard mitigation planning should be at the top of a community's planning agenda. First, they will be prepared for the inevitable disaster before it strikes, saving lives, property, time, money and resources. Second, emergency preparedness and planning can unite constituencies in the community behind a common goal. By far, the best time to begin the process of incorporating disaster resistance into the community is before the event strikes. A planning process can be carefully developed that identifies hazards, assesses vulnerabilities, and identifies and prioritizes hazard mitigation actions.⁵⁶

When planning new development as well as maintaining older, more historic neighborhoods, it's important to consider emergency preparedness elements such as providing neighborhood residents and emergency responders with more than one entrance and/or exit and to identify and map neighborhoods as to the level of risk associated with natural disasters.

Recommendation

The team identified the local issue that existing neighborhood plans lack sufficient detail to address emergency preparedness. A policy to create neighborhood plans that encourage

emergency preparedness has the potential to speak to this issue. Some strategies that have been identified to implement this policy include:

- Work with neighborhood task forces to create emergency preparedness plans, and provide annual updates and presentations
- Support neighborhood development that provides more than one entrance and/or exit for residents
- Reduce the number of cul-de-sacs and dead-end streets
- Plan neighborhoods that foster disaster and evacuation routes
- Engage the fire department and other local emergency responders in neighborhood plans
- Identify floodplains that may be utilized for emergency flood corridors
- Adopt subdivision regulations that require adequate fire protection
- Subdivision design, building placement, and landscaping can be modified to minimize wildfire risk
- Identify and map areas of wildfire risk
- Create ways to mitigate problems that could potentially pose vector-borne and rodent associated health threats, e.g., West Nile Virus and Hantavirus

4.2 Nutrition

Increases in obesity and chronic diseases associated with poor diets have led to concern that some low-income and rural communities lack access to affordable and nutritious foods, allowing some areas to become food deserts. In the community nutrition environment, stores and restaurants are the most numerous food outlets. Supermarkets, we know, are less common in lower income and minority neighborhoods than in other neighborhoods.⁵⁷ Recent public health research suggests a person's "nutrition environment"—the food stores, restaurants, and local agriculture—has a compelling on his or her individual food choices. The research shows that fruit and vegetable intake increases significantly with each additional supermarket located in a census tract.⁵⁸ The availability and affordability of healthy food is essential for healthy eating, but in lower income communities this availability is often limited or non-existent.

In the United States, two key elements of a community's nutrition environment have undergone significant changes in the past few decades: type and location of food outlets.⁵⁹ Neighborhood grocery store that used to sell a range of grocery products have been replaced with smaller stores that tend to be higher priced and offer alcohol, cigarettes and high calorie snack foods. Similarly, fast food outlets have also moved in to many urban areas to offer large portions of cheap, unhealthy food.⁶⁰ Full service grocers are often located far from urban centers with vehicular travel being the most convenient and widely recognized means of getting to the store. As a result, vulnerable populations such as elderly, youth, disabled and lower income populations without cars often lack access to healthy food stores but do have unhealthy convenience store food and fast food nearby.

Evidence of this trend can be seen in neighborhoods located in Yellowstone County. The Southside of Billings, where the 2000 US Census showed that 39.5% of the population lives below the poverty level, is known to be of a lower socioeconomic status. The Southside neighborhood is also the most racially diverse neighborhood in Billings with 21.0% of the

neighborhood of Hispanic Origin and 8.7% American Indian/Alaska Native. The graduation rate in this neighborhood is 44.0% and only 5.3% of have completed four or more years of college. The neighborhood, with a population of 4,138 according to the 2000 Census, currently has no full service grocery store. The 2006 CHA does not breakdown results of health status in Yellowstone County by neighborhood but there is anecdotal evidence that the residents of this neighborhood suffer from many health conditions including obesity.

Recommendation

The team identified the local issue that not all neighborhoods in Yellowstone County have ways to access nutritious foods. A policy to strive to increase access to nutritious foods for residents in all neighborhoods was created. The strategies that have been developed to implement this policy include:

- Encourage the presence of grocers within mixed-use neighborhoods
- Improve ways to access existing grocers
- Support community gardens
- Promote the operations and expansion of local farmers' markets.

4.3 Pedestrian Safety and Traffic

A key characteristic of today's growth and development can be seen in the relationship that has evolved between low density development and more automobile travel: vehicle miles traveled increase as neighborhood density decreases.⁶¹ Automobile use offers extraordinary personal mobility and independence; however, it is also associated with health hazards, including motor vehicle crashes and pedestrian injuries and fatalities. In addition, this type of expansion is associated with less walking and bicycling and more automobile travel than denser communities. Regular physical activity is critically important for the health and wellbeing of people all ages. Regular physical activity has been shown to reduce rates for chronic disease, including heart disease, diabetes, cancer and high blood pressure. Low density development does not fully account for Americans' increasingly sedentary lifestyles in that physical activity does not tell the entire story of the obesity crisis. However, by contributing to physical inactivity and consequently to obesity and associated health problems, sparse development has negative consequences.

Similarly, each year, automobiles cause about 6,000 fatalities and 110,000 injuries among pedestrians nationwide.⁶² There is an extremely complex relationship between urban growth and motor vehicle crashes—one that goes beyond this simple explanation: more driving means greater exposure to roadway dangers, which in turn translates to higher likelihood of a motor vehicle crash. Rates of automobile fatalities and injuries per driver and per mile driven have fallen as a result of safer vehicles and roadways, seat belt use and other measures, but the absolute toll of automobile crashes remains high—claiming more than 40,000 lives each year.⁶³ While many factors contribute to the high rate of pedestrian fatalities, including alcohol abuse, inadequate lighting, and pedestrian behavior, the increase in high-speed, pedestrian-hostile roads in expanding areas likely plays an important part. Walking offers important health benefits, but safe and attractive sidewalks and paths are needed to attract walkers and ensure their safety.⁶⁴

The trail system in Yellowstone County has continued to expand in recent years with nearly 20 miles of off-street network and 5 miles of on-street bike lanes added since 1995. However, despite all this work there remains one major obstacle to the trail system in Yellowstone County. That problem is connectivity. In 2004, the Heritage Trail Plan (outlining future growth opportunities for the Yellowstone County trail system) was completed and adopted. The Heritage Trail Plan should serve as a guide for local governing bodies and City staff as they make decisions, set policy, and prioritize projects and their funding.

Recommendation

- Install traffic calming devices in residential neighborhoods to discourage cut-through traffic and ensure pedestrian safety
- Maintain routine upkeep of pedestrian walkways, e.g., removal of gravel on sidewalks, etc.
- Provide wide shoulders on roadways where sidewalks do not exist
- Encourage subdivisions to incorporate safe routes to school during the panning process; create opportunities for existing communities to identify safe routes to school
- Require subdivisions to provide for the continuation of pedestrian and bicycle access as identifies by Heritage Trails Plan.
- Educate all commuters: automobile, bicycle, etc. on bicycle right of way and traffic laws

4.4 Physical Activity

Physical inactivity is a major, largely preventable threat to health. Scientific evidence emphatically supports the notion that regular physical activity, even at moderate levels, reduces the risk of morbidity and early mortality. Several aspects of growth and development of the built environment are associated with activity. Recreational resources such as parks and open space, land use and proximity to destinations, availability of sidewalks, an aesthetically please environment and social and community support are all associated with physical activity.

People have always moved about as part of everyday living. What has changed in the recent past is the amount of physical activity people get in the course of everyday life. The U.S. is a nation of drivers—only 1% of trips are on bicycles and 9% are on foot.⁶⁵ For comparison, in the Netherlands 30% of all trips are on bicycles and 18% are on foot and in England the corresponding figures re 8% and 12%.⁶⁶ Approximately 25% of all trips in the U.S. are shorter than one mile; of these, 75% are by car.⁶⁷

In Yellowstone County, the statistics are even lower with the Billings Urban Area 2005 Transportation Plan (<http://mt-billings.civicplus.com/DocumentView.aspx?DID=1946>, section 3 page 8) showing that in the Billings Urban Area the predominant mode of transportation to work is the single occupant vehicle (81.9%); that is, persons driving alone

to work, and 9.7% using carpools and only 3.0% walking or biking. The transit (bus) share of the work trips comprises less than 1% of the work trip mode share.

Recommendation

- Create ways to make physical activity part of everyday living and a logical alternative to automobile transportation
- Create mixed used developments that offer convenient places to work and shop within walking distance of residences.
- Encourage physical activity for school-aged children by providing safe routes to school
- Develop trails that can be utilized for transportation to destinations, e.g., downtown
- Identify and map new and existing trails
- Continue to promote the “Buses and Bikes” program

4.5 Social Capital

There is no set and commonly agreed upon definition of social capital; however, the commonalities of most definitions are that they focus on social relations that have productive benefits. Encouraging human contact and social activities as well as promoting community involvement and maintenance of a secure environment are included in the American Planning Association’s seven factors for great neighborhoods. For the purposes of this HIA, social capital is defined as the degree to which people feel that they live in and belong to a socially cohesive group—in this instance, a neighborhood and/or community, and the range of activities and resources that emerge as a consequence of those ties.

A growing number of researchers agree that social capital leads to positive health consequences. Theoretically, the neighborhoods most likely to promote physical and mental health via social capital are these that are missed use and pedestrian oriented. These neighborhoods are often referred to as “traditional” or “complete” neighborhoods and are typically found in older cities and towns. These neighborhoods enable residents to perform daily activities without the use of a car by creating a place where pedestrians are not forced to compete with cars along busy highways or to walk across expansive parking lots. Ultimately, pedestrian-oriented, mixed-use neighborhoods are expected to enhance social capital because they enable residents to interact.

The traditional or complete neighborhood can be contrasted with its modern suburban counterpart that usually contains only houses. Daily needs are not met in the neighborhood; if residents want to shop, worship, or go to a restaurant, park or library, they must travel by car. Most modern, car dependant suburbs are not designed to encourage social interaction and therefore, do little to enhance the social capital of its residents.

Recommendation

- Encourage community gathering places
- Prioritize the construction of Aquatic Center/Community Center in Heights
- Promote the organization of community gardens

- Encourage neighborhoods to give back to the community through activities such as annual cleanup day
- Encourage kids to play in parks to keep them off the streets
- Support neighborhood schools as centers of community

4.6 Safety and Crime

Much time and energy has been spent on researching the impact of the built environment on crime and the fear of crime in neighborhoods. From this research we have gained practical knowledge to support the notion that the fear of crime often times has a greater effect on neighborhood residents than actual crime. Many citizens suffer psychological distress because of their fear of crime. Often times, being fearful of crime can be as problematic as being a victim or witness to crime.

In 1972, Oscar Newman formulated a theory from his research investigating the effect of the built environment on crime and the fear of crime. The theory states that spaces that convey the likelihood of obstruction and difficulty of escaping are less apt to attract potential criminals. Newman’s theory has since been examined and supported by numerous research studies.

A second area of research into the impact of the built environment on crime has been supported by the “broken window” thesis of James Q. Wilson and George Kelling. The theory states that signs of neglect and decay as accumulation, uncared-for building exteriors and broken windows are evidence that residents of the area feel vulnerable and have begun to withdraw from community involvement and upkeep, signaling to would be criminals that residents are not likely to respond to criminal activity.

Additionally, Jane Jacobs’ focused research efforts on diverse land use, arguing that neighborhoods with different functions—residential, commercial, institutional and leisure—may be safer than single use areas. Multi-functional areas attract a continual flow of people throughout the day and evening hours, providing a level of informal surveillance. In contrast, criminal activity is likely to occur in places that are quiet and deserted.

Recommendation

- Amend Public Nuisances Ordinance to address the removal of boarded up and abandoned houses in neighborhoods
- Encourage neighborhoods to provide adequate street lighting
- Encourage Neighborhood Watch programs and resources for public safety and crime prevention
- Provide adequate traffic control
- Provide a safe and secure environment in neighborhood parks by preventing illegal activities and use by transient and homeless populations as camping areas

4.7 Affordable Housing and Living Wage Jobs

A citizen's physical living environment, comprised of housing and the neighborhood where they reside, has a critical impact on one's health and well-being. Many low income families struggle to meet their housing needs or can only afford substandard, crowded housing. These families are often referred to as "shelter poor", meaning they pay much more for rent than the 30% of income that customarily defines "affordable housing." In fact, shelter poor households, upwards of 50% of their income go to housing, which means they cannot meet other basic needs after paying their housing costs.⁶⁸

There are two main reasons for this discrepancy; lack of affordable housing and/or lack of living wage jobs, both which have considerable impacts on the health of a community. When families can no longer sustain a situation such as this, they often become homeless.

Homelessness and housing instability have an adverse impact on the physical, mental and emotional well-being of families who are faced with such burden. Members of these families often lack primary medical care and are therefore more likely to have increased emergency room visits and/or hospitalizations. Because unaffordable housing requires families to make trade offs between rent and other basic necessities, family members are also more likely to experience hunger and food insecurity.

Recommendation

- Enable the development of affordable housing, particularly near work centers and existing neighborhood schools, by providing development incentives
- Make recommendations for land use that may include rehabilitation and redevelopment.
- Attract businesses with a minimum average annual wage equal to the living wage index
- Continue to improve marketing of our community to employers paying a living wage

Appendix A: 2003 Yellowstone County/City of Billings Growth Policy Strategies

Code of Color:

Blue: Positive Health Strategies

Pink: Negative Health Strategies

Black: NA Strategies

Implementation Strategies: Land Use Element

ISSUE I: Existing neighborhood plans lack sufficient detail to address neighborhood character and preferred land use patterns.

POLICY I: Preserve neighborhood integrity by creating neighborhood plans that specifically address land use issues.

1. Develop a neighborhood plan that:
 - b. Develops goals for transit and multi-modal paths and trails
 - d. Assesses the adequacy of parks and open space in the neighborhood
 - e. Supports a full range of housing opportunities
 - f. Minimized through traffic on local streets

ISSUE II: The current zoning ordinances and subdivision regulations do not meet the goal of preventing incompatible uses in and adjacent to existing City Neighborhoods and County townsites.

POLICY II: Ensure that development is compatible with the character of the neighborhood and townsites.

1. Revise the zoning ordinance to:
 - a. Reduce uses permitted in Neighborhood Commercial Districts that are inappropriate for residential neighborhoods, such as tattoo parlors and some types of drive-through businesses
 - c. Support mixed use development that exhibits elements of compatibility
 - d. Require landscaped boulevards in developments
2. Revise the zoning ordinance to require commercial development to:
 - b. Consolidate width of driveways and curb cuts across public sidewalks
 - h. Provide landscaped edges in developed areas to define the edges and visually screen automobile or other service uses.

ISSUE III: Rural townsites are not prepared to handle increased growth.

POLICY III: Equip rural townsites with tools to plan for increased populations or to plan to increase population.

1. Involve rural school districts and fire districts in plans
2. Prepare community plans, similar to neighborhood plans for Broadview, Acton, Lockwood, Shepherd, Huntley Project (Huntley, Worden, and Ballantine) and Custer. The community plan will:
 - c. Assess the adequacy of parks and recreation facilities in the community
 - d. Support a full range of housing opportunities
 - e. Minimize through traffic on local streets, improve safety of intersections with State highways and improve safety of State secondary routes and County section line roads.
 - f. Resolve issues with unmarked railroad crossings

ISSUE IV: Urban sprawl threatens the rural character of land surrounding Billings, increasing the cost of providing public services, and threatens the vitality of the City core and Downtown.

POLICY IV: Coordinate efforts to concentrate development in the adjacent to the existing City limits.

3. Evaluate and adopt appropriate rural growth management techniques designed to concentrate development while preserving agricultural land, sensitive natural environments and open space which may include:
 - c. Performance zoning designed to limit large lot subdivisions
4. Define Urban Planning Area and limit development beyond that boundary

ISSUE V: There is a serious lack of affordable housing for low to moderate income households.

POLICY V: Enable the development of affordable housing in appropriate areas throughout the City and County.

1. Direct staff to evaluate the alternatives available for affordable housing and bring them to the governing bodies for consideration
2. Provide incentives for affordable housing projects by reducing infrastructure and permitting requirements where appropriate
3. Develop Downtown housing strategies
4. Support the City's Affordable Housing strategies by training code enforcement, policy, and County Health personnel on housing rehabilitation and homebuyer assistance programs.

ISSUE VI: Mixed-use neighborhoods are not encouraged or supported.

POLICY VI: Create diverse and vibrant neighborhoods that offer convenient places to work and shop with walking distance of residences.

1. Modify zoning regulations to include:
 - a. Mixed-use development zones
 - b. “Urban village overlay zones”
 - c. Performance zones based on building types, not use
2. Add mixed-use or planned unit development design standards in subdivision regulations
3. Evaluate the potential to rezone portions of commercial strips to allow for mixed-use, especially vacant shopping malls
4. Formulate more types of single family zoning districts

Implementation Strategies: Economic Development Element

ISSUE I: Lack of focus on economic development.

POLICY I: Promote locales for economic development assistance or “Employment Clusters”.

1. Support efforts to revitalize Downtown by increasing investment and capital improvements in Downtown Billings
2. Attract better paying jobs

ISSUE II: Lack of living wage jobs.

POLICY II: Attract businesses with a minimum average annual wage equal to the living wage index.

2. Identify and implement secondary and post-secondary training programs to meet employer needs.
3. Coordinate efforts among City, County, schools and major businesses

ISSUE III: The entryways to our communities are unattractive and present other physical barriers discouraging economic development.

POLICY III: Create attractive entryways and improve access to and through Billings and Yellowstone County.

2. Implement and enforce a Public Nuisance Ordinance in the City

ISSUE V: Like many other Montana cities, the economic viability of Downtown Billings is uncertain.

POLICY V: Support private and public initiatives to strengthen the economic viability of Downtown Billings.

2. Support economic development efforts that would encourage a sustainable Downtown economy.
3. Facilitate programs that would encourage property renovations in the Downtown

5. Increase parking in the Downtown to encourage economic development

Implementation Strategies: Aesthetics Element

ISSUE I: There are areas in the City and County that present a poor image of the community.

POLICY I: Certain areas have been targeted to increase the aesthetic or visual quality of the community: the Rimrocks, the Yellowstone River, Downtown Billings and urban streetscapes.

1. Rimrocks. The face of the rimrocks has the advantage of being unbuildable due to topography. Strategies to preserve the view corridor created by the rimrocks include:

- b. Develop safe trails along the base or top of the rimrocks to allow for public access
- c. Limit antennas, towers, utility and communication lines in the vicinity of the rimrocks
- e. Limit building height near the edge of the rimrocks

2. Yellowstone River. The river is the front door of Yellowstone County. Strategies to protect the river include:

- a. Restrict further industrial zoning adjacent to the Yellowstone River
- b. Implement the recreational plans in Parks2020 and Yellowstone River Greenway Master Plan and include historical and cultural resources of Yellowstone River.
- c. Extend public open space and access along the riverfront
- d. Strict enforcement of building restrictions in the floodway and floodplain
- e. Expand noxious weed removal program along river banks
- g. [Organize annual cleanup day for individual neighborhoods](#)

4. Streetscape. Pedestrian friendly streets and neighborhoods result in high quality of life. Strategies to improve the urban streetscape include:

- a. Require street trees to be planted along boulevard walks
- b. Permit special street signage to identify neighborhoods
- c. Encourage boulevard sidewalks in residential developments

ISSUE II: New development and signs, cell towers, power lines and other structures could reduce the visual quality of the rims.

POLICY II: Maintain an undeveloped buffer zone along sandstone cliffs or “Rimrocks” surrounding Billings.

2. Adopt subdivision regulations that favor park land dedications along the face and top of rimrocks

Implementation Strategies: Natural Resource Element

ISSUE I: The quality of the Yellowstone River and the associated riparian habitat is threatened.

POLICY I: Strive to protect the Yellowstone River so that wildlife, wildlife habitat, water quality and quantity, recreational activities and aesthetic values will be preserved.

2. Support river protection measures by establishing a conservation corridor along the Yellowstone River as recommended in the BikeNet and the Yellowstone River Greenway Master Plan. Provide incentives or disincentives as improvement requirements in subdivision regulations

ISSUE III: Due in part to the arid nature of our environment and the remoteness of some developments, there is an increased risk to human life and property from wildfires.

POLICY III: Reduce the risk of wildfire and limit the amount of property damage resulting from wildfires.

1. Adopt subdivision regulations that require adequate fire protection. Fire protection facilities may include the installation of dry hydrants, cisterns and sprinklers. Subdivision design, building placement, and landscaping can be modified to minimize wildfire risk
3. Encourage in-fill development to eliminate sprawl by providing development incentives
4. Identify and map areas of wildfire risk

ISSUE VI: Certain development is damaging our natural resources.

POLICY VI: Preserve environmentally sensitive areas.

7. Map flood prone areas in Yellowstone County in accordance with the federal Emergency Management Agency (FEMA) program, and state and local standards
8. Identify floodplains that may be utilized for emergency flood corridors, as well as parks, greenways, multi-purpose trail networks, and other recreational uses.

Implementation Strategies: Open Space and Recreation Element

ISSUE I: Some neighborhood parks appear to receive more funding for improvements than other neighborhood parks.

POLICY I: Provide for the rational distribution of parks and recreation facilities among neighborhoods and outlying communities.

1. Encourage the County to develop and maintain County parkland
2. Retain and maintain parks in existing neighborhoods

6. Implement Parks2020 and Yellowstone River Greenway Master Plan parkland acquisition recommendations

ISSUE II: Billings and Yellowstone County need more major recreation facilities and need to improve those we already have.

POLICY II: Prioritize and program the construction and maintenance of major recreational facilities.

3. Utilize the Capital Improvements Planning process to schedule construction of an Aquatic Center and rehabilitation of Cobb Field.

4. Reconsider placing the Aquatic Facility Bond issue on the ballot to acquire funding for the planned facility in addition to other grant sources

ISSUE III: Private land development sometimes restricts access to public land.

POLICY III: Ensure continued access to public lands managed for recreational purposes.

1. Identify and map existing access to public recreational land.

3. Adopt subdivision regulations that prohibit eliminating existing access to public recreational land

4. Acquire public right-of-way for recreational purposes through existing and proposed development that is acceptable to adjoining residence.

ISSUE IV: Billings and surrounding County townsites need more multiple use trails.

POLICY IV: Continue to integrate a multi-purpose trail network into the community infrastructure that emphasized safety, environmental preservation, resource conservation and cost effectiveness.

1. Adopt the update of the non-motorized transportation plan to include more multiple use trails throughout the County

a. Ensure that the plan designates corridors and routes that would be conducive for future trail development

b. Ensure that the plan provides direction and policy to implement the trail plan

3. Provide shoulders or bike lane improvements on City streets and County roads

6. Include corridor preservation and trail development as part of new subdivision review

8. Adopt bicycle and pedestrian-friendly development review procedures and design standards

ISSUE V: Public access to areas above and below the rimrocks is limited and decreasing each year.

POLICY V: Preserve existing and develop new opportunities for public access to the rimrocks.

2. Encourage land owners to grant recreational easements that provide access above and below the rims

ISSUE VI: Public access to area along the Yellowstone River is limited and decreasing each year.

POLICY VI: Preserve existing and develop new opportunities for public access to the Yellowstone River.

3. Explore creative opportunities to create new areas open to public access along the Yellowstone River, such as:

a. Removing fences restricting access to public right-of-way at bridges—
SAFETY CONCERN??

Implementation Strategies: Transportation Element

ISSUE I: Speeding in City neighborhoods and outlying communities.

POLICY I: Ensure traffic speeds in neighborhoods and townsites are maintained at safe levels.

1. Design roads to reduce speeds

2. Use traffic calming devices **when approved by neighborhood or community residents**

3. Enforce speed limits

4. Educate public about safety aspects of speeding in residential areas by posting informational signage

5. Work with the Montana Department of Transportation and Highway Commission to implement desired speed limits on State routes

6. Utilize speed display equipment

7. Police and Sheriff should become more vested in neighborhoods and townsites through increased presence.

ISSUE II: Safe and efficient **traffic (seems too motorized)** circulation around and through the City.

POLICY I: Improve traffic circulation throughout the urbanized area.

4. Prepare a Transportation Plan for Lockwood and other rural townsites

5. Plan for and construct new north-south connections to alleviate congestion on existing connections and cut-through traffic in neighborhoods

6. Use traffic calming devices in residential neighborhoods to discourage cut-through traffic and ensure pedestrian safety.

ISSUE III: Lack of adequate traffic control.

POLICY III: Standardize traffic control to improve traffic flow and alleviate congestion.

4. Closely monitor accident rates at unsignalized intersections and develop appropriate safety projects to reduce these rates.
6. Bring traffic controls in school zones into compliance with State law

ISSUE IV: The design of roads, streets and pedestrian facilities can be more attractive and functional.

POLICY IV: Update design standards for roadways, streets and sidewalks.

1. Design road segments to include clear vision triangles, landscaped boulevards and medians, and safe pedestrian crossings, especially in urban growth areas
2. Use context sensitive traffic calming devices to control traffic and improve aesthetics
4. Adopt sidewalk standards based on a rational approach that considers street hierarchy, land use, connectivity and population densities

ISSUE V: Obstacles to efficient and safe traffic flow.

POLICY V: Eliminate transportation barriers between neighborhoods and institute programs to ensure convenient and safe access to neighborhoods.

1. Coordinate traffic signals
2. Develop and implement a plan to improve railroad crossings within the community
3. Program and construct additional routes to access downtown and West End for the Heights
4. Develop a program for situating employment center in the Heights to reduce commuter traffic

ISSUE VI: Deteriorated conditions of City streets and County roads.

POLICY VI: Provide City and County residents with well-maintained streets and roads through a scheduled maintenance and replacement program.

3. Continue the ongoing City program of maintaining pavement markings, signals, signs and street lights

ISSUE VIII: More people should ride the MET.

POLICY VIII: Encourage the use of alternative transportation modes.

2. Increase the “Buses and Bikes” program
3. Consider the use of smaller buses when replacing existing buses—

ALTERNATIVE FUELING METHODS?

5. The City and County shall institute alternative modes incentive programs for their employees.
6. The Alternative Modes Coordinator shall work with community employers to assist with establishing alternative modes incentive programs
7. The City and County shall consider allowing employees to flex their work schedules to co
8. Study adjusting bus schedules to serve work force, middle schools, high schools and Metra Park, and extend bus service to Lockwood, the Airport and newly annexed areas.

ISSUE IX: The sidewalk system in the city needs upgrading; many sidewalks are cracked and broken.

POLICY IX: Maintain and replace sidewalks when necessary.

1. Where appropriate, sidewalk policies should address alternatives to pedestrian facilities such as multi-purpose improved trails, undeveloped pathways, and shared roadways.

ISSUE X: Lack of circulation connection in subdivisions and neighborhoods.

POLICY X: Minimize the impact generated by new subdivisions on existing development.

1. Revise City and County subdivision regulations to:
 - a. Require subdivisions to demonstrate how the subdivision will impact traffic on existing subdivision roads and streets
 - c. Require subdivisions to provide multiple outlets, when appropriate

Implementation Strategies: Public Facilities and Services Element

ISSUE II: Dilapidated and unsafe properties in City neighborhoods and County townsites.

POLICY II: Commit resources to abating deteriorated and unsafe buildings, junk vehicles and unsightly garbage accumulation on private property.

1. The City and county should adopt a Minimum Standards Ordinance or Decay Ordinance that would require private properties to meet minimum safety requirements. Abatement programs should be:
 - a. Clear and explained to residents before implementation by the Code Enforcement staff
 - b. Flexible, not overly restrictive, especially about how people meet standards
 - c. Coordinated between the City and county code enforcement

ISSUE III: Safety is a concern in neighborhoods and outlying County townsites.

POLICY III: Protect the lives and properties of all citizens and visitors and improve the quality of life in our communities.

2. Ensure adequate resources (more people) for public safety, especially as City annexes.

4. Maintain acceptable levels of fire protection

ISSUE V: There are vacant structures around Billings and in the County that could be reused.

POLICY V: Cooperate with preservationist, developers, school districts and residents to seek appropriate reuse of public and private facilities.

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