

Washington County Bicycle and Pedestrian Facility Design Health Impact Assessment

Contributors

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Executive Summary

Washington County is one of five counties making up the Portland Metropolitan area and the second most populous county in the state of Oregon.

Washington County is committed to promoting healthy communities and operating the county roadway system in a cost-effective and environmentally responsible manner.

The complexity of Washington County's population and geography challenge traditional bike and pedestrian facility design standards so the Health Impact Assessment (HIA) was selected as a tool to understand community motivation for bicycle and pedestrian usage in effort to improve access to active transportation opportunities for all county residents.

Key partners in this effort included representatives from Washington County departments of Land Use and Transportation, Environmental Health, Public Health and Disability, Aging and Veterans Services as well as community representation from a broad range of organizations to ensure an inclusive and equitable process.

A randomized survey of residents was conducted to inquire about biking and walking habits as well as barriers to these activities. Additionally, a series of community listening sessions were held to gather qualitative data and ensure equitable inclusion of a broad range of perspectives.

Key findings from the community engagement process include: safety concerns in high traffic areas; cultural perceptions of walking and biking in lower socio-economic communities; distance from transit to preferred destinations; and lack of active transportation opportunities including access to walkways and bike paths. Preliminary findings from the survey include a preference for bike and pedestrian pathways that are separated from traffic.

Introduction

Washington County is committed to promoting healthy communities by encouraging active lifestyles, building and maintaining the best transportation system, ensuring the safety of all roadway users, and operating the county roadway system in a cost-effective and environmentally responsible manner.

The most important health benefits of active transportation are those related to obesity and air quality.¹ Making bicycle and pedestrian facilities more accessible encourages physical activity, supports healthy lifestyles, and could reduce air pollution caused by fossil fuels.

This grant-funded HIA will provide valuable information to decision makers as the county updates its Transportation Plan's 'active transportation' (bicycle and pedestrian) policies, develops a 'toolkit' for bicycle facility design, and develops a strategy for prioritizing bicycle and pedestrian improvements. The HIA will also help inform the design of active transportation features included in future county transportation projects.

Key partners in this effort included representatives from Washington County departments of Land Use and Transportation, Environmental Health, Public Health and Disability, Aging and Veterans Services as well as community representation from a broad range of organizations to ensure an inclusive and equitable process. These organizations included; county and city government, citizen participation organizations, bicycle and pedestrian advocates, community based organizations and traffic safety advocates.

HIA Rationale

Washington County's existing roadway design standards include bicycle lanes for major urban roads and shoulder bikeways for rural roads. Design practices for bicycle facilities have evolved rapidly over the past five years and like many jurisdictions, Washington County's existing road design standards don't include the latest innovative bicycle treatments. In an effort to provide engineers and planners more options to address safety concerns and accommodate a wider range of bicyclists, Washington County developed a Bicycle Facility Design Toolkit to supplement the current County Road Design Standards. HIA findings will help the County plan for a more inclusive and complete pedestrian and bicycle system designed to best meet community need, reduce vehicle use and increase opportunities for physical activity. The HIA will provide recommendations to encourage designs that increase safety, bicycle ridership, and attract new bicyclists which are goals of the Bicycle Facility Design Toolkit.

Community Profile

Demographics

Washington County is one of five counties making up the Portland Metropolitan area and the second most populous county in the state of Oregon. Within a physical footprint of 727 square miles, Washington County residents range from rural and migrant farm workers to high tech industry employees living in urban and suburban settings. While it is home to the fifth and sixth largest cities in the state, approximately half of county residents live in unincorporated areas and 7% of the population lives in a census-designated rural area.²

The population has grown by approximately 70% since 1990, reaching nearly 540,410 in 2011.³The population is one of the most diverse in the state and continues to experience more growth in the Hispanic/Latino and Asian communities. In 2011, 13.2% of the county identified as Asian/Pacific Islander and 15.7% identified as Hispanic/Latino. Washington County has a relatively young population with 35% of the population under age 24⁴, 64% of the population between 18 – 64 years of age and 10% 65 years of age or older.⁵ Poverty rates in Washington County have steadily increased since the year 2000 with disparities in poverty and disability status by age, race and ethnicity. The county's population is the most diverse in Oregon (Figure 3).

Table 1. Poverty Rates by Age and Race/Ethnicity⁶

	Percentage of population	Percentage in poverty	Percentage disabled
Total population		10%	9.4%
White	69.7%	9%	10.5%
Black	2.7%	16%	19.1%
Hispanic origin	15.7%	22%	5.3%
Asian	10.6%	8%	3.4%
American Indian	1.7%	24%	N/A
Pacific Islander	0.9%	22%	N/A

HIA Methodology

HIA Components

HIA is defined as “a structured process that uses scientific data, professional expertise, and stakeholder input to identify and evaluate public health consequences of proposals [or projects] and suggests actions that could be taken to minimize adverse health impacts and optimize beneficial ones”⁷ (HIA uses quantitative, qualitative and community participatory techniques to help decision makers make choices about alternatives and improvements that can be made to prevent disease and injury and to actively promote health.⁸ HIAs are implemented including the following five steps:

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

Screening

The complexity of Washington County’s population and geography challenge traditional bike and pedestrian facility design standards. Washington County selected HIA as a tool to understand community motivation for bicycle and pedestrian usage in effort to improve access to active transportation opportunities for all county residents.

The Washington County departments of Land Use and Transportation and Health and Human Services are systematically building capacity to promote healthy communities through collaboration on a variety of projects. The HIA has continued that effort by providing the necessary support to create a healthier, sustainable, and safer transportation system.

The screening process involved a broad range of staff from all levels of Washington County Health and Human Services and Land Use and Transportation. This provided a comprehensive understanding of the need for more equitable approaches to addressing barriers to active transportation among all residents in Washington County. The initial workgroup included the following:

Name	Role	Title
Toby Harris	Program Contact	Environmental Public Health Program Supervisor, Washington Co. HHS
Amanda Garcia-Snell	Program Lead	Chronic Disease Prevention Program Coordinator, Washington Co. HHS
Kelly Jurman	Program Support	Health Promotions Supervisor, Washington Co. HHS
Shelley Oylear	Program Support	Bicycle and Pedestrian Coordinator, Washington Co. LUT
Rose Kelter	Project Support	Portland State University MPH Intern

Throughout the development of the grant application, the workgroup engaged in discussion that specifically identified the need to conduct an HIA that would emphasize the importance for understanding the barriers to bike and pedestrian activity among all residents in Washington County. Specifically, the workgroup determined that an HIA should answers the following questions:

- What types of cyclists are in Washington County and in what proportions to the population?
- Why and where do people cycle now?
- Where would they like to go (destinations)
- What are the obstacles to cycling
- What would encourage them to cycle more?

The workgroup anticipated that this information, would inform bikeway-pathway designs that enhance the likelihood of use, increase opportunities for physical activity, provide alternative access to community services and enhance the quality of life in Washington County.

This project is sponsored by the Washington County departments of Land Use and Transportation and Health and Human Services. Representatives from Oregon Health Authority's Center for Health Protection worked with staff from Washington County Health and Human Services and Land Use and Transportation to conduct this screening process.

The HIA was funded by the Centers for Disease Control through a grant administered by the Oregon Health Authority's Center for Health Protection. In-kind donations were contributed by Washington County Health and Human Services and Washington County Land Use and Transportation.

Washington County Departments of Land Use and Transportation and Health and Human Services have engaged in significant public involvement processes in regard to healthy communities and active transportation design over the course of the last 2 years. This information was utilized in lieu of specific and targeted methods of community engagement during the screening process.

Scoping

The scoping process was conducted by representatives from Washington County Health and Human Services and Washington County Land Use and Transportation. Facilitation and assistance was provided by staff from the Oregon Health Authority. A scoping meeting was held in spring 2012 and attended by representatives from Washington County HHS, LUT and the Oregon Health Authority Center for Health Protection. At this meeting, participants determined the goals, mission and research question for the Health Impact Assessment. Particular emphasis was made on defining the population of interest. While vulnerable populations were identified, further discussion needed to be conducted to narrow down the scope. Ultimately the workgroup selected children under age 18 and adults over age 65 as the population of focus. These groups were identified for a variety of reasons, primarily they experience disproportionate rates of obesity and chronic disease respectively; they represent the full spectrum of safety concerns with the assumption that if facilities are safe for them then they are safe for most people; and they are frequently underrepresented by bicycle and pedestrian advocates in Washington County.

The connection between increasing physical activity and improvements in health are clear. Active transportation strategies, such as supporting facility design elements that encourage biking and walking for short trips is one way to improve physical activity opportunities throughout a community. Therefore, the goal of this HIA is to understand barriers to biking and walking in Washington County and research the connection between health, building environment design and future transportation policies.

Bicycle and pedestrian advocates in the area have historically provided a wealth of anecdotal evidence about the state of bike and pedestrian facilities around the county, however no formal assessment has been conducted about how residents in general view and utilize the facilities.

Apart from the anecdotal evidence gathered from bicycle advocates, epidemiological data on active transportation use is limited for this area. Therefore, our assessment methods involved a literature review to collect data from other comparable regions to supplement what currently exists. To identify barriers to walking and biking in Washington County, we conducted a randomized survey of residents to inquire about their biking and walking habits as well as barriers to these activities. Additionally, a series of community listening sessions were held to gather qualitative data and ensure equitable inclusion of a broad range of perspectives.

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The steering committee was comprised of a series of partners representing various sectors of the community. It was important to include individuals who represent some of Washington County’s most vulnerable populations. Committee members include representatives from city and county government, bicycle and pedestrian advocacy groups, schools, and non-profit organizations that represent ethnic and racial minority populations (see roster below). The steering committee members aided in the design and implementation of the survey and listening sessions and will serve as advocates for the project after the report is completed.

Name	Organization
Kaely Summers	Adelante Mujeres
Susan Peithman	Bicycle Transportation Alliance
Margo Barnett	Oregon State University Extension
Jeff Hill	Washington County Division of Aging and Veteran Services
Toby Harris	Washington County Environmental Health
Kathleen O’Leary	Washington County Public Health
Steph Routh	Willamette Pedestrian Coalition

The assessment was conducted by the HIA workgroup which included representatives from Washington County departments of Land Use and Transportation and Health and Human Services. The data team provided technical assistance for the assessment, survey design, and analysis. They also gathered existing epidemiological data for the final report. This team was comprised of Kimberly Repp, Epidemiologist, Washington County HHS and Steve L. Kelley, Senior Planner, Washington County LUT. Continuous consultation throughout the process was provided by the steering committee. The project lead and student intern will write the final report with input from additional workgroup members.

Literature Review and Local Conditions

The built environment refers to human-made (versus natural) resources and infrastructure designed to support human activity, such as buildings, roads, parks, restaurants, grocery stores and other amenities.⁹ The characteristics of the built environment can affect the health of residents in multiple ways. The built environment can have substantial impact on health outcomes such as obesity, arthritis and asthma; consequently it is a focus of many public health interventions. Increasing bicycle and pedestrian facilities is an important way the built environment and the health of a population can be improved by increasing physical activity rates, decreasing chronic disease rates and traffic fatalities, and improving air quality.

In a poll conducted by Metro, 80% of people said they wanted to live and work in areas where they could walk, bike, and take transit.¹⁰ Unfortunately, Washington County is home to four out of ten focus areas identified for improvement in the Portland Metro region by a pedestrian network analysis conducted by TriMet¹⁰. This is a clear indication that many locations in Washington County lack the infrastructure to make active transportation a safe and viable option.

Washington County used the literature review to specifically understand the relationship between active transportation and health outcomes. The questions addressed within the literature review were:

- What are the barriers to walking and biking in Washington County?
- What are some evidence-based strategies that could reduce the barriers to walking and biking in Washington County?
- What types of active transportation strategies would reduce pedestrian and bicycle related injuries and fatalities?
- How would increased active transportation improve health outcomes related to chronic disease and air quality in Washington County?
- How could health outcomes of older adults and children be impacted by increased opportunities for active transportation?

Walkability and Bikeability

In the Portland Metro Region 43.7 % of all trips made by autos are less than 3 miles in length, and nearly 15% are less than a mile, distances that could easily be completed by foot or bicycle¹¹. There are real or perceived barriers¹² that impact a person's decision to not walk or bicycle for these short trips, often the barriers are related to the built environment. A walkable community is one where sidewalks, trails, and street crossings are safe, accessible, and comfortable for people of all ability levels.¹³ Numerous studies have shown that there is a positive association between walkability, increased physical activity, and reduced obesity rates.¹⁴ Similar to walkability, bikeability pertains to ease and safety of getting around by bicycle.

A common concern regarding bicycle and pedestrian planning is that of an increased incidence of traffic injuries and fatalities involving these modes of transit. However, research shows that motorists adjust their driving in the presence of increased numbers of bicyclists and pedestrians.¹⁵ Increased visibility of cyclists and pedestrians encourages others to utilize these modes of transit, and thus motorists become more aware of sharing the road. Research shows that states with higher levels of walking and biking have lower levels of pedestrian and bicyclist fatalities.¹⁶ In Portland, as cycling rates have doubled over the past decade, the number of crashes involving a person on a bike has remained fairly constant.¹⁶

To increase the share of biking and walking trips, bicycle and pedestrian infrastructure network is needed to form safe connections between destinations. According to national surveys, Americans say they would walk or ride a bicycle to work, or to run errands, if it was safe and convenient to do so¹⁷. Pedestrian and bicycling barriers and intersections include a wide variety of physical features that make it difficult or less safe for pedestrians and bicyclists to travel. These barriers include:

- Absence or gaps in s system, and substandard widths
- Utility poles, signal control boxes, signs, and other obstructions-Obscured sight distance
- Poor maintenance of facilities
- Lack of designated roadway crossings opportunities
- Lack of lighting and security along routes
- Frequent driveway crossings
- Discourteous or inattentive drivers
- Lack of enforcement of traffic laws,
- Safety or perceived safety threats from motor vehicles as well as threats to personal safety
- Weather
- Unimproved or poorly designed railroad crossings
- Uncomfortable environment that could result from traveling immediately adjacent to high-volume and/or high-speed traffic

Continuity of facilities and connections to desired destinations is essential to encourage both bicycle and pedestrian travel. Especially important is connecting people to other modes of transportation such as transit. Improving access to multimodal travel is an important element in facilitating regional travel. The use of two or more modes of transportation in a single trip (i.e., bicycling and riding the bus) can extend the distance that someone is able to travel, thus reducing another barrier to pedestrians and bicyclists: destinations that are out of reach.

There are a variety of ways to improve walking and bicycling, namely through the Five E's—Engineering, Education, Enforcement, Encouragement, and Evaluation.

Engineering, operating, and maintaining quality bicycle and pedestrian facilities is a critical element in producing a comfortable and safe environment for all users. The engineering solutions to improve the quality of the pedestrian and bicycle network include:

- Traffic calming
- Street crossing treatments
- Railroad crossing treatments

- Designing for special pedestrian populations
- Roadway, bikeway and pedestrian facility design
- Maintenance
- Path, trail, and sidewalk design including landscaping and features
- Traffic management
- Access and on-street parking management
- School zone improvements
- Intelligent Transportation System (ITS) technologies.

Education can be a powerful tool for changing behavior, perception, and improving safety. Pedestrians, bicyclists, and motorists alike can benefit from educational tools and messages that teach them the rules, rights, and responsibilities of various modes of travel.

Enforcement of traffic laws and regulating pedestrians, motorists, and other roadway users is a key element for ensuring a safe and healthy walking environment. Enforcement programs can be used to educate transportation facility users about the traffic laws that govern them, serve as periodic reminders to obey traffic rules, encourage safer behaviors, and monitor and protect public spaces. They can also help reinforce and support educational programs.

Encouragement activities that target individuals, organizations, or events to promote walking and bicycling, create awareness about bicycling and pedestrian issues and inform others to the ways that bikeable and walkable places foster healthier, more livable communities. Employers, retailers, and schools may offer incentives to encourage bike and pedestrian travel as well as organizing fun events.

Evaluation of current activities and planning for the future are essential to ensure that you are indeed on the right path to overcoming barriers to walking and biking. Monitoring and documenting outcomes and trends that result from the previous E’s work provide important information to best utilize limited resources to reach goals.

Table 1. Bike Facilities in Washington County

County Roads within Urban Growth Boundary (UGB):	Total Miles of Road	Miles without Bike Facilities
Arterials – access between collectors and freeways or urban centers	132 miles	45 miles
Collectors- access to residential streets	71 miles	60 miles
State Roads within UGB*:		

Principal Arterials	39 miles	7.5 miles
Arterials	5.8 miles	0.5 miles

*Data does not include Freeways 1-5, 1-205, US 26, OR 217

Chronic Disease

The burden of chronic disease is significant in Washington County, with nearly one third of all adults suffering from at least one preventable chronic disease (Table 2).

Table 2. Age-adjusted prevalence/incidence of chronic disease conditions in Washington County

	Washington County*	State of Oregon**
Chronic Health Condition	Adult	Adult
Arthritis	23.1%	27.3%
Asthma	9.0%	10.2%
Heart Attack	2.5%	4.0%
Angina	3.1%	3.7%
Stroke	1.9%	3.3%
Diabetes	5.9%	8.2%
High Blood Pressure	22.9%	27.1%
High Blood Cholesterol	30.2%	37.5%
Cancer Prevalence		12.5%

*BRFFS 2006-2009, Adult percentages are age-adjusted

**2009 only, adult percentages are age-adjusted

Physical Activity

According to the CDC¹⁸, regular physical activity helps improve overall health and fitness and reduce the risk for chronic diseases. In 2009, 16.5% of adults age 20 and over in Washington County reported no leisure time physical activity.¹⁸

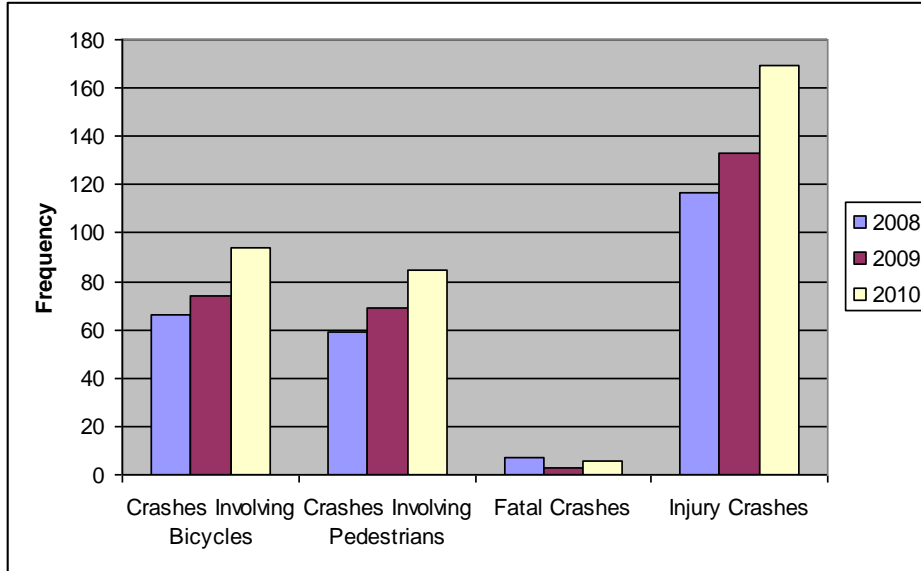
Census Journey to Work and American Commuting Survey data for 1960 thru 2009 compared to obesity levels over the same period indicate that as bicycling and walking levels in the United States have drastically decreased, overweight and obesity levels have reached all time highs, demonstrating an important correlation between physical activity and obesity. (Ogden and Carrol 2010, Census 1960-2000, American Commuting Survey 2009). National data shows that states with the lowest bicycling and walking rates have the highest rates of obesity, diabetes and high blood pressure (Alliance for Biking and Walking, 2012-BRFSS 2009, ACS 2009).

Traffic Fatalities and Injuries

Traffic fatalities and injuries have significant effects on health and safety. Crashes cause personal tragedy, congestion, and loss of productivity while contributing to rising healthcare costs. According to Oregon Department of Transportation¹⁹ records for Washington County from 2008 to 2010, crashes involving bicycles and pedestrians were steadily on the rise (Figure 1). In 2010

alone there were eighty-five traffic crashes involving pedestrians and ninety-three involving bicyclists in Washington County. Of these, six resulted in fatality, accounting for sixty percent of all crash related fatalities that year.

Figure 1. Washington County Crash Data 2008-2010



The National Highway Safety Administration collects data on traffic collisions. National data indicates that between 2007 and 2009 nearly one-quarter of all bicycle fatality victims are under the age of 16 or over the age of 65 and 26% of pedestrian fatalities. Bicyclists account for 2% of all traffic fatalities in the U.S. while 12% of the traffic fatalities in the U.S. are pedestrians. Although bicycle and pedestrians crashes with motor vehicle risk are low compared to vehicle to vehicle crashes, they are more likely to involve serious injury or death.

Air Quality

Poor air quality is associated with chronic diseases such as asthma, lung disease, and cancer. Despite improvements in vehicle emissions over the years, automobiles are still significant sources of pollutants. According to the Public Health Air Surveillance Evaluation (PHASE), Washington County experienced 32 days in 2010 where air quality was unhealthy for sensitive populations due to fine particulate matter.⁹ This is significantly higher than the overall state average of 12 days. Increasing physical activity through active transportation could reduce the number of miles driven and thus has the potential to improve air quality and chronic disease health outcomes.

Pollutants produced by automobile travel are one of the largest contributors to unhealthy air quality. This is heavily influenced by an increase in vehicle miles

traveled over the years.²⁰ Exposure to these pollutants contributes to asthma, diminished lung function, adverse birth outcomes and cancer²⁵. Research suggests that improving neighborhood design through increasing access to alternative modes of transportation is an important strategy for reducing motor vehicle emissions and improving air quality^{20, 21, 22}

Vulnerable Populations

According to the CDC²³, “A lack of efficient alternatives to automobile travel disproportionately affects vulnerable populations such as the poor, the elderly, people who have disabilities and children by limiting access to jobs, health care, social interaction, and healthy foods.” Households in locations with poor accessibility and no alternatives to driving tend to spend more on transportation, creating a financial burden for those most vulnerable.²⁰

Older Adults

Walking is the most common form of physical activity among older adults²⁴, yet in 2009, 25.6% of older adults in Oregon reported no physical activity in the last month²⁵. The CDC recommends enhancing community environments to support walking as a promising approach to increasing physical activity among this population.

Children

Rising chronic disease rates in the United States are not only affecting our adult population, but also children. Concurrently with the rise in childhood obesity and other diseases, there has been a sharp decline in the numbers of children who walk and bike to school. Encouraging children to walk and bike at a young age produces life long habits and an appreciation for incorporating physical activity into daily routines. In a study conducted by the CDC, distance to school and traffic related danger were the leading reasons why children did not walk and bike more²⁶

A lack of efficient alternatives to automobile travel disproportionately affects such vulnerable populations as the poor, the elderly, people who have disabilities, and children. These groups are more likely to experience limited access to jobs, health care, social interactions, and healthy foods

Evidence-based recommendations for improving health outcomes through transportation projects include promoting active transportation to improve safety for all users and ensure equitable access to transportation networks. Having safe places to walk and bicycle are especially important to older adults and children who cannot or choose not to drive.

Safe and accessible physical activity opportunities for older adults improve cardio-respiratory and muscular fitness, bone health, and reduce the risk of depression and cognitive decline. In addition, children benefit from safe and

accessible walking and biking that reduces the risk of childhood obesity and incorporates physical activity in their daily routines.

Community Engagement

The Washington County HIA workgroup facilitated a number of opportunities for residents to participate in the assessment part of the process. During the months of May and June, staff conducted listening sessions that included contributions from participants at the Forest Grove Farmer's Market; Aloha Reedville Open House held at a local Beaverton area high school; and two Citizen Participation Organization meetings. Bi-lingual staff was available to individuals at the Forest Grove Farmer's Market to ensure the cultural competency and equity of the communication and outreach.

Additionally, key informant interviews were conducted with persons representing community based organizations such as Adelante Mujeres, Willamette Pedestrian Coalition and the local Area Agency on Aging. Lastly, special outreach was directed to families with young children who participate in the Washington County Women, Infants and Children (WIC) program that serve low-income and traditionally underserved members of the community.

Some key findings from this community engagement process include: safety concerns in high traffic areas; cultural perceptions of walking and biking in lower socio-economic communities; distance from transit to preferred destinations; and lack of active transportation opportunities including access to walkways and bike paths.

In addition to the community engagement process, project staff also conducted quantitative data collection to determine key barriers to bicycle and pedestrian activity throughout the county. An online survey was developed to determine if respondents were utilitarian, recreational or non-cyclists as well as their pedestrian habits. A link to the survey was sent to 50,000 randomized addresses in Washington County. Survey links were also shared in Community participation organization newsletters and at a variety of community engagement and public involvement events. The survey was open for participants to respond for 10 weeks. At the survey close, there were over 1400 completed surveys. Additionally, a series of community listening sessions were held to gather qualitative data and ensure equitable inclusion of a broad range of perspectives.

Recommendations

Preliminary results from analysis of the survey in conjunction with community input and research identified in the literature review have clearly identified a variety of similar recommendations that improve access to active transportation opportunities through bike and pedestrian facility design.

Key findings from the community engagement process include: safety concerns in high traffic areas; cultural perceptions of walking and biking in lower socio-

economic communities; distance from transit to preferred destinations; and lack of active transportation opportunities including access to walkways and bike paths.

Survey results are still be analyzed by the data team; however preliminary findings include a preference for bike and pedestrian pathways that are separated from traffic. This was identified as a top recommendation by cyclists who rarely or never ride a bike, cyclists who recreationally ride a bike and pedestrians. Although cyclists who were described as utilitarian or those who ride a bike despite traffic or weather conditions for long and short trips identified the need for more bike lanes in general, it was the previous three groups who specifically identified the need for separation from traffic.

More detailed recommendations will be available upon completion of data analysis.

Conclusion

Lessons Learned

Throughout the HIA process, Washington County Health and Human Services identified specific activities that were very successful as well as areas for improvement. They are:

Successes

- Collaborative community engagement – working with other departments and agencies to collect qualitative data and community input from their existing community groups, meetings and public involvement efforts was an extremely efficient and productive activity
- Development of new interagency partnerships – although Washington County Health and Human Services had collaborated with Land Use and Transportation in the past on smaller or more focused projects, this was the first joint collaboration of this kind. This process has strengthened working relationships and created some protocol for future work together in an effort to address collaboratively address health and the built environment

Improvement

- Realized importance of shared language – it was important to fully understand and appreciate the differences between functionality and organization of the departments and community partners involved in this process. In retrospect, it would have been helpful to spend more time on ensuring that all partners had a shared understanding of goals and were using a common language to communicate project work.

Evaluation – to be completed with finalization of report

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