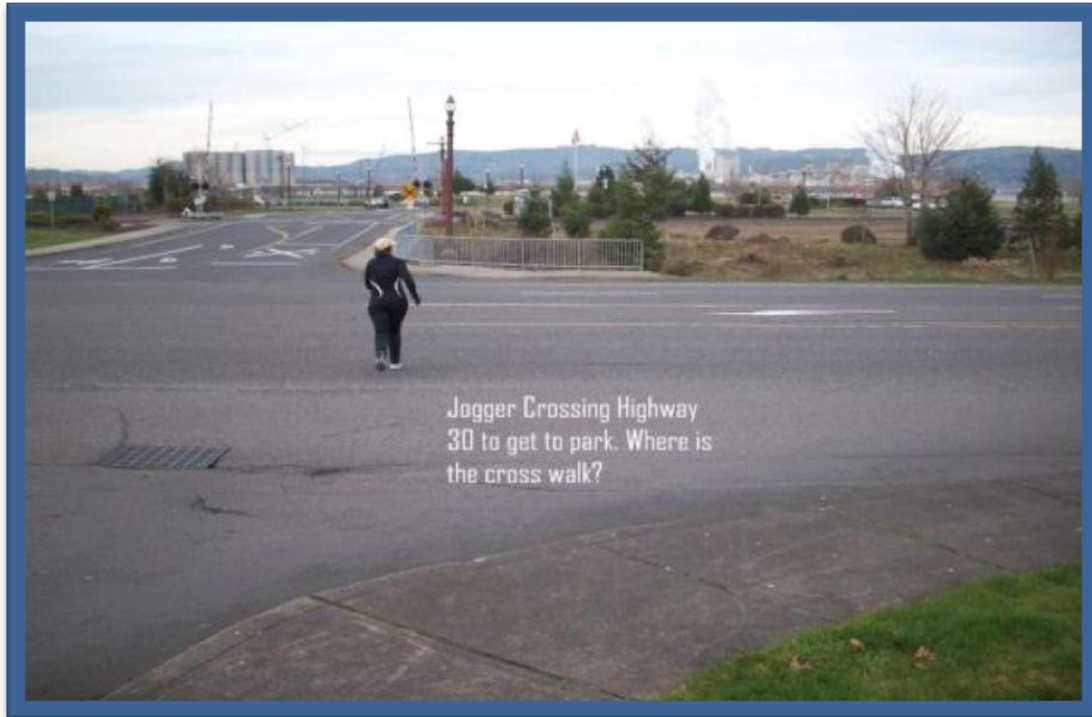


# Connecting Rural Communities: U.S. 30 & Rainier Veterans Way Crossing



## *Health Impact Assessment*

*Prepared By:*

*The Public Health Foundation of Columbia County*

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### ***HIA Core Project Team***

- Ashley Baggett, Project Lead, the Public Health Foundation of Columbia County
- Vickie Huston, Student Intern, the Public Health Foundation of Columbia County
- Sara Caldwell-Kan, Faculty Research Assistant, Oregon State University
- Jenny Rudolph, Assoc. Professor of Practice, Oregon State University Extension Service

### ***HIA Advisory Committee***

- Debra Dudley, City Administrator, City of Rainier
- Greg Hinkelman, City Manager, City of Clatskanie
- Jenny Dimsho, Assistant City Planner, City of St. Helens
- Lonny Welter, Transportation Planner, Columbia County Road Department

### ***Community Partners***

- The Rainier School District
- The Columbia Health Coalition
- Columbia County Board of Commissioners
- Oregon State University Extension Service, GROW Healthy Kids & Communities Project

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### ***For Additional Information***

The Public Health Foundation of Columbia County  
Ashley Baggett, B.S.  
Coordinator, Tobacco Prevention  
abaggett@tphfcc.org  
(503) 397-4651 x2007  
www.tphfcc.org

# TABLE OF CONTENTS

TABLES AND FIGURES..... 4

EXECUTIVE SUMMARY..... 5

INTRODUCTION..... 7

HEALTH IMPACT ASSESSMENT ..... 8

CONNECTING RURAL COMMUNITIES ..... 12

ASSESSMENT ..... 20

RECOMMENDATIONS ..... 32

REFERENCES ..... 34

APPENDIX A: MAPS..... 39

APPENDIX B: RAINIER COMMUNITY SURVEY RESULTS ..... 43

## TABLES AND FIGURES

Table 1. HIA Spectrum .....	9
Table 2. Vulnerable Population .....	13
Table 3. Rainier Commuter Transportation Modes & Commute Times .....	15
Table 4. Vehicle Speeds.....	27
Figure 1. Rainier Riverfront Park - Playground .....	14
Figure 2. Intersection of Veterans Way & U.S. 30. Facing South.....	15
Figure 3. Transportation Development Division Transportation System Monitoring .....	16
Figure 4. Rainier Hudson Park Elementary prevalence of overweight and obesity (GROW HKC, 2013).....	18
Figure 5. Rainier Age-adjusted BMI. DMV Records (2005-2012) .....	19
Figure 6. U.S. 30 & Veterans Way. Facing Rainier Riverfront Park.....	20
Figure 7. Measured physical activity levels of youth Rainier Hudson Park Elementary (GROW HKC, 2013) .....	22
Figure 8. Average walk distance to parks from households without the proposed signal and crosswalk at Veterans Way and U.S. 30.....	23
Figure 9. Average walk distance to parks from households with the proposed signal and crosswalk at Veterans Way and U.S. 30.....	24
Figure 10. Average walk distance to J & R Sales from households without the proposed signal and crosswalk at Veterans Way and U.S. 30.....	25
Figure 11: Average walk distance to J & R Sales from households with the proposed signal and crosswalk at Veterans Way and U.S. 30.....	26
Figure 12. Transportation Mode Rainier Community Survey (2015).....	31
Figure 13. Perception of Safety. Rainier Community Survey (2015).....	31
Figure 14. Projected Park Use. Rainier Community Survey (2015).....	32

# EXECUTIVE SUMMARY

## *What is a Health Impact Assessment?*

A Health Impact Assessment (HIA) is a method of evaluating the possible health consequences of a proposed policy, plan, or project. HIAs inform decision-makers about alternatives and improvements of a proposed project in an effort to actively promote and dynamically improve health and well-being across sectors (Early-Alberts, Hamberg, & Brendon., 2015).

The Public Health Foundation of Columbia County (TPHFCC) carried out an HIA to examine the potential health and safety consequences of a proposed stoplight and signaled crosswalk at U.S. 30 and Veterans Way in the rural town of Rainier, Oregon. The specific health and safety outcomes that were examined in this HIA include: correlation between active transportation and health, access to grocery outlets, access to physical activity resources, potential reduction of pedestrian and bicycle accidents, potential reduction of obesity rates among adults and youth in the study area.

## *Project Background & Significance*

Columbia County is located in the Northwest corner of Oregon in the lower Columbia River region. Rainier is a small community of just over 1,800 residents located approximately 50 miles Northwest of Portland along the Columbia River and U.S. 30. U.S. 30 is the main traffic artery for all motorists coming through Rainier including industrial, recreational, and local resident vehicles.

Beginning in 2012, the Rainier community has been participating in the GROW Healthy Kids & Communities (GROW HKC) project, a multilevel community-based, participatory research study that addresses the environment and behaviors that support or inhibit healthy eating and physical activity. The GROW HKC project engaged community residents in conversations around healthy eating and physical activity. Predominant themes that emerged were challenges related to enacting policies and funding projects related to complete streets and active transportation. Residents discussed safety concerns, particularly for children, along U.S. 30, which bisects the town of Rainier. The heavily-traveled U.S. 30 separates city parks and natural areas from neighborhoods and schools. Community residents have voiced their perceived safety concerns, which impact regular access to food and physical activity resources.

Active transportation impacts the health of a community in a variety of ways. Predominately it can positively impact quality of life and health outcomes. Increased rates of active transportation (walking, biking, and public transportation) are directly related to decreased risk of obesity and chronic diseases including type 2 diabetes, high blood pressure, and cardiovascular disease, and diabetes (Sallis, Floyd, Rodriguez, & Saelens, 2012). Active transportation supports, such as sidewalks, crosswalks, bike lanes, landscaped pedestrian medians, and reduced vehicular traffic speeds have other community benefits as well.

## *Scope & Methods*

The HIA Core Project Team formed an advisory committee to inform the scoping process, research, and community engagement. The HIA Advisory Committee selected the Rainier Veterans Way and U.S. 30 crossing as a focus of the HIA.

The HIA Core Project Team completed a literature review, analyzed primary and secondary data sources, and conducted a community resident survey. Existing conditions and background data were evaluated along with public engagement efforts to assess the health benefits of the proposed project.

## *Findings and Recommendations*

Based on a review of the literature, access data, and resident comments and community groups, the HIA Core Project Team recommends that a stop light and signaled crosswalk be installed at the intersection of Veterans Way and U.S. 30. As a strategy implemented to provide a safer environment for pedestrians, bicyclists, and motorists, this installation will provide positive impacts on public health and overall wellbeing of Rainier community members as well as the motorists travelling within and through the town. Special consideration should be given to improving other features of the area such as an enhanced landscape surrounding the intersection and beautification of the entry ways into town with the goal of increasing motorists awareness of their entry into a residential area.

Residents positively evaluated the usage of improved infrastructures that provide increased accessibility to walkways, parks, natural spaces, and recreational facilities (Brennan, Brownson, & Hovmand, 2012). The Public Health Foundation of Columbia County proposes the following comprehensive recommendations.

**Recommendation 1: The Public Health Foundation of Columbia County recommends the installation of a stoplight and signaled crosswalk at the Veterans Way and U.S. 30 Crossing intersection.**

In addition to the above recommendation, the HIA Core Project Team strongly suggests the following additional strategies to create a comprehensive approach to improving pedestrian safety by slowing traffic speeds in the area to support active transportation.

**Recommendation 2:** Install a traffic calming landscape design to enhance the gateway entrance to Rainier by improving and beautifying the landscape. Relocate the “Welcome to Rainier” sign to the West side of the Veterans Way and U.S. 30 intersection where the speed drops to 45 MPH.

**Recommendation 3:** Install radar speed indicator signs on the West side of town where the speed limit changes from 45mph to 30 mph to alert and remind incoming traffic of their current speed.

# INTRODUCTION

## *Columbia County*

Columbia County is located in the Northwest corner of the state of Oregon in the lower Columbia River region. The county population of 49,344 is dispersed over 688 square miles, which is largely made up of rural communities and unincorporated areas dominated by commercial timber forests. Columbia County is designated a Medically Underserved Population and a Health Professional Shortage Area by the Health Resources and Services Administration (U.S. Department of Health and Human Services, 2014). The 2015 Robert Wood Johnson Foundation County Health Rankings Report names Columbia County 20<sup>th</sup> out of 36 counties in Oregon (Robert Wood Johnson Foundation, 2015). Health behaviors, chronic disease data, substance abuse rates, mental health and emotional wellbeing indicators, injury and other preventable disease incidence, and access to health care services all impact these county health rankings. In Columbia County, 4% of the population has limited access to healthy foods, meaning they are both living in poverty and do not live close to a grocery store (Robert Wood Johnson Foundation, 2015). Columbia County's adult obesity rate increased 121% from 1990 to 2009. Among Columbia County youth, 16% of 8<sup>th</sup> grade students are obese, compared to 10.7% of 8<sup>th</sup> grade students in Oregon (Buelow & Ngo, 2012).

The Lower Columbia River Highway, also known as U.S. Route 30, runs parallel to the Columbia River and bisects the towns of Scappoose, St. Helens, Columbia City, Rainier, and Clatskanie. U.S. 30 is the main route of transportation for commuters traveling to the major urban centers of Portland, Oregon and Longview, Washington. It also serves as the only main route between Portland to Astoria and is heavily used by commercial trucks transporting goods and natural resources to ports along the Columbia River and North Oregon Coast. Large commercial trucks use U.S. 30 to transport timber and gravel to and from nearby mills and gravel pits. The route also sees increased traffic volume during the summer months during the high season for tourism on the Coast. A large number of bicycle enthusiasts also use the route from Portland to connect with Highway 101 on the coast during the summer.

The Public Health Foundation of Columbia County (TPHFCC) is a 501(c)(3) non-profit and serves as the public health authority for Columbia County. Our mission is to *Promote, Prevent, and Protect* the health of all County residents. TPFCC offers a full spectrum of public health services. From 2008-2012, TPFCC led a state-funded, county-wide Healthy Communities Initiative focused on increasing access to good nutrition and physical activity through policy, systems, and environmental change. In 2009, the National Association of County & City Health Officials (NACCHO) named the County an ACHIEVE (Action Communities for Health, Innovation, & EnVironmental change) grantee, and funded it to implement evidence-based strategies for preventing chronic disease.

The Columbia Health Coalition (CHC) was formed by TPFCC in 2009 to move the ACHIEVE effort forward. This multi-sectorial coalition includes representatives from community organizations, business, school districts, public health, and concerned citizens and works to

build a healthy community by increasing opportunities for physical activity, increasing access to nutritious foods, and decreasing tobacco use and exposure. The mission of the CHC is to empower the community to increase opportunities for healthy lifestyles through initiatives for policy, systems, and environmental change.

The CHC supported the efforts of the Columbia Pacific Coordinated Care Organization (CPCCO) Local Advisory Committee, in collaboration with TPHFCC, to complete a Community Health Assessment in 2013. The assessment process helped to identify goals that the Coordinated Care Organization and other health partners should work toward. Those identified goals include:

- Decrease the number of low-income residents who are unable to access healthy foods
- Decrease rates of obesity in the CPCCO service area by:
  - Increasing the number of adults who report being physically active
  - Reducing the number of children diagnosed as obese by their healthcare provider (Columbia Pacific Coordinated Care Organization , 2014).

This Health Impact Assessment process builds upon the existing work of the CPCCO and TPHFCC in conjunction with other community health partners. The Oregon Health Authority Health Impact Assessment Program provides an important opportunity for cross-sector collaboration and relationship building between public health professionals and local and state transportation and land use planning partners. The partnerships developed through this assessment process provide a strong foundation to support positive impacts on the health and well-being of all residents of Columbia County.

## HEALTH IMPACT ASSESSMENT

### *The Health Impact Assessment Approach*

A Health Impact Assessment (HIA) is “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” (Early-Alberts, Hamberg, & Brendon., 2015). Using quantitative, qualitative, and community participatory methods, this HIA provides decision makers with evidence-based information to prevent disease and promote an active and healthy Rainier community.

The HIA process includes the following six steps:

1. **Screening:** Determines if the proposed assessment will affect health; determines if an HIA is feasible and timely, and if the HIA will add value to the decision making process.
2. **Scoping:** Determines which health impacts to evaluate, the methods for analysis, and develops a plan to complete the assessment.
3. **Assessment:** Uses existing literature, data, experience and expertise to judge the magnitude and direction of potential health impacts; involves a two-step process



that first describes the baseline health conditions of the study area and secondly assesses the potential impact.

4. **Recommendations:** Suggests changes to the proposed policy or project to minimize negative and maximize positive health impacts.
5. **Reporting:** Presents results, communicates recommendations to decision makers and stakeholders and prepares a final, comprehensive HIA report.
6. **Monitoring:** Evaluates the successfulness of the HIA and the health impacts of project/policy (Early-Alberts, Hamberg, & Brendon., 2015).

### Community Engagement Process

Local stakeholder participation is an important part of the HIA process. Including the community in the decision-making process helps ensure that values such as equity, democracy, sustainability and ethical standards are met.

The decision to conduct an HIA emerged from the intention of several stakeholders and community representatives who were concerned about the community’s accessibility to physical activity and food resources. Community feedback and key stakeholder input into the HIA process was solicited following a model of a partially engaged or Intermediate HIA.

An Intermediate HIA process was selected for this project with guidance from the Oregon Health Authority. An Intermediate HIA is a six to twelve month process and employs a combination of literature review, secondary data analysis, primary data collection, and a workshop that engages key stakeholders (Early-Alberts, Hamberg, & Brendon., 2015). The table below details the differences between a Rapid, Intermediate, and Comprehensive HIA.

**Table 1. HIA Spectrum**

Rapid	Intermediate	Comprehensive
<ul style="list-style-type: none"> <li>● Short Timeline</li> <li>● Table Top HIA</li> <li>● Literature Review Base</li> <li>● Limited Community Engagement</li> <li>● Primary research: Minimal</li> </ul>	<ul style="list-style-type: none"> <li>● Table Top / Partially Engaged HIA</li> <li>● Literature Review &amp; Primary Data Collection</li> <li>● Moderate Community Engagement</li> <li>● Primary research: Moderate</li> </ul>	<ul style="list-style-type: none"> <li>● Long Timeline</li> <li>● Fully Engaged HIA</li> <li>● Literature Review &amp; Primary Data Collection</li> <li>● Full Community Engagement</li> <li>● Primary research: Extensive</li> </ul>

Source: Health Impact Assessment Oregon Practitioner Toolkit 2<sup>nd</sup> edition, OHA.

### Screening and Scoping Process

The initial screening process was undertaken by the HIA Core Project Team which included Oregon State University Extension Service faculty and staff working on the GROW Healthy Kids and Communities (GROW HKC) project, and the Public Health Foundation of Columbia County. The HIA Core Project Team met with members of the Columbia Health Coalition to

solicit input on a proposed HIA grant proposal. The group determined that pedestrian and bicycle safety along the U.S. 30 corridor in Columbia County should be the focus of the proposal. Letters of support were then solicited and secured from key decision makers including the City of Rainier, Clatskanie School District, and the Oregon State University GROW HKC project. The grant proposal was submitted to the Oregon Health Authority Health Impact Assessment Program and was funded in January of 2015.

The HIA Core Project Team then began work on the scoping phase. The purpose of the scoping phase is to determine the overall direction of the HIA and create a work plan to support the goals of the HIA. On March 4<sup>th</sup>, 2015 the Oregon Health Authority conducted a training for the Columbia County HIA Advisory Committee to review the purpose of the assessment, select a project or decision to focus on, develop project goals, and research questions to answer. The HIA Advisory Committee worked together to develop the following goals and direction for the assessment.

### *HIA Primary Goals*

- Quantify the impact of crosswalks across U.S. 30.
- Raise the awareness of how public health data can support transportation planning.
- Build relationships between local planners, decision makers, and public health professionals.
- Build relationships between local and state agencies.
- Identify local resources and data that can support the HIA and planning decisions.
- Build capacity for future HIAs in Columbia County and assist city planners in better utilizing public health data.
- Raising general awareness and educate the public of the importance of active transportation.
- Research potential cost effective traffic calming features in rural areas.

### *Assessment Focus*

The HIA Advisory Committee determined that the decision or project that would be most relevant for the HIA is the proposed stoplight and signaled crosswalk at the intersection of U.S. 30 and Veterans Way in the town of Rainier. The primary decision makers for this project are the Rainier City Council, Rainier City Administrator, and the Oregon Department of Transportation (ODOT). This HIA provides relevant health data to inform stakeholders and community partners who are determining whether to install a signaled crosswalk at the intersection of U.S. 30 and Veterans Way and what impacts that intersection and the adjacent area will provide residents. The completed assessment will be presented to stakeholders and the findings will inform a [Statewide Transportation Improvement Program](#) (STIP) grant application that the City of Rainier is planning to submit to the Oregon Department of Transportation in the fall of 2015.

## *Boundaries of Analysis*

The HIA Core Project Team selected the Rainier School District boundary as the study area. The district boundary includes all residents in the city limits in addition to those living in unincorporated areas that would still potentially utilize the Rainier Riverfront Park and related nearby businesses adjacent to the Veterans Way intersection.

## *Research Questions Addressed*

The HIA Core Project Team developed research questions based on initial feedback during the scoping meeting, preliminary literature review, and current data sources available for analysis:

- What is the correlation between active transportation and health?
- What can rural communities do to support active transportation? (e.g., sidewalks, crosswalks, visual cues including welcome signs and landscaping)
- What vulnerable populations and potential health disparities are impacted by the proposed change?
- What impact will the proposed change have on access to physical activity and nutrition within the community?
- What environmental cues and types of infrastructure help people feel safe when crossing the road?

## *Data Sources*

The HIA research methods included the following:

- Literature review
- Primary data analysis
- Secondary data analysis
- Community resident survey
- GIS mapping of community resources

The HIA Core Project Team utilized several sources including primary and secondary data to help inform the process. Existing conditions and background data were evaluated with public engagement efforts to assess the health benefits of the proposed project. The following is a list of data sources and their descriptions:

- **Generating Rural Options for Weight-Healthy Kids & Communities (GROW HKC) Project:** The overarching goal of the GROW HKC project is to prevent obesity in rural children. To accomplish this goal, the GROW team, comprised of OSU researchers and Extension Service faculty, has engaged in a collaborative three year study funded by the USDA-NIFA program, to understand how the rural environment may influence childrens' health behaviors. Data sources related to this project include a community assessment and report utilizing a participatory photographic survey tool, known as [\*HEAL MAPPS™\*](#). Additional data sources include the [\*Community Food and Physical Activity Environment Audit\*](#), and school-level health

data including measured physical activity levels and aggregated child weight status for Rainier youth in grades Kindergarten through 6th.

- **Rainier Riverfront Park Survey:** Survey data was collected from community members related to current Riverfront Park usage and perceptions of pedestrian safety using a nine question survey. A total of 73 responses were collected over the assessment period.
- **US Census Data:** American Community Survey 2013.
- **Oregon Healthy Teens Data (OHT):** Comprehensive, school-based, anonymous and voluntary survey delivered to 8<sup>th</sup> and 11<sup>th</sup> graders on odd-numbered years. It provides information on health behaviors related to tobacco and other controlled substance use, physical activity, nutrition, body weight, mental health, injuries, and other risky behaviors.
- **Behavioral Risk Factor Surveillance System (BRFSS):** National health related telephone survey. It provides county-level data on health-related risk behaviors, chronic health conditions, and use of prevention services.
- **Oregon Environmental Public Health Division of the Oregon Health Authority:** Geographic Information Systems (GIS) maps and data on walk distance to physical activity resources and grocery stores and other local demographic and health data.
- **Local and Regional Transportation Plans and Assessments:** Transportation Systems Plans have been developed for each City in Columbia County as well as the County. Many of these include traffic studies and proposals for improving supports for activity transportation and walkability.

## CONNECTING RURAL COMMUNITIES

### *The Rainier Community*

Rainier, Oregon is a small community of just over 1,800 residents in the city limits. Rainier is located approximately 50 miles Northwest of Portland, Oregon along the Columbia River and U.S. 30. U.S. 30 is the main traffic artery for all motorists coming through Rainier including industrial, recreational, and local resident vehicles. Local residents also refer to the stretch of U.S. 30 that runs through the core of Rainier as “B” Street. The posted speed limit through town is 30 miles per hour. U.S. 30 is a two lane highway through the town of Rainier until the intersection of Veterans Way where it widens to four lanes and the speed increases to 45 miles per hour, followed by 55 miles per hour outside of the city limits. Access to Longview, Washington is available from U.S. 30 just west of Rainier via the Lewis and Clark Bridge which spans the Columbia River.

## Vulnerable Populations

TPHFCC identified vulnerable populations in Rainier that may experience a disproportionate number of negative health outcomes as a result of limited access to food and physical activity resources. The data table below shows vulnerable populations identified through this HIA process. The chart below highlights that Rainier has a high percentage of low income children, older adults, individuals living with a disability, and single parent households.

**Table 2. Vulnerable Population**

Vulnerable Population	Indicator	City of Rainier	Columbia County	State of Oregon
Low Income	Population below federal poverty level	12.4%	13.6%	16.2%
	Youth receiving free and reduced price meals. (Oregon Department of Education, 2014-2015)	<b>54.6%</b>	45.8%	53.2%
Youth	Aged 0-14	16.1%	19.1%	18.4%
Disabilities	<b>Civilian non-institutionalized</b>	<b>15.3%</b>	13.9%	13.8%
Older Adults	<b>Age 65+</b>	<b>16.8%</b>	14.7%	13.9%
Other	<b>Single parent female-headed households</b>	<b>17.4%</b>	17.4%	16%

Source: (United States Census Bureau, 2013).

The Oregon Health Authority Environmental Public Health Tracking provided the following maps of Rainier (Main, 2015). See Appendix A:

- Population Over 65
- Population Younger than 14
- Percent of Household with One or Fewer Vehicles
- Percent of Households with Annual Income Below the Poverty Level

## Community Resources

The City of Rainier supports the surrounding rural, unincorporated communities located in the valleys and mountains beyond its city limits. These communities include Lindbergh, Goble, Prescott, Alston, Apiary and Beaver Homes. For its surrounding area residents, Rainier offers one elementary school, a junior-senior high school, and numerous other small businesses, such as restaurants, a convenience store and gas station, churches, a food

pantry and other government services. Rainier does not have a full service grocery store. However there is an independently owned grocery liquidator known as J&R Sales that offers a variety of products ranging from fresh produce, frozen foods, dairy products, canned and package food, pantry staples, housewares, toys and other miscellaneous supplies. There are also three convenience stores and the HOPE of Rainier Food Pantry that serve the greater Rainier area. HOPE of Rainier is located in the downtown core on A Street and is dedicated to providing emergency food resources to people in need. HOPE also has a community garden on site that produces fruits and vegetables for distribution to food bank clients. The Rainier Senior Center is also located on the west side of town which offers breakfast and lunch daily, activities, and community classes. Rainier residents also access additional food and retail stores in the nearest urban center of Longview, Washington which is located just across the Columbia River and accessible in town via the Lewis & Clark Bridge (Rudolph & Harden, 2013).

The Rainier Riverfront Park (pictured to the left) offers a variety of opportunities for physical activity and also serves as a location for many community events. Located at the northwest side of town, Riverfront Park features a river front walking trail, a playground, a skate park, baseball fields, basketball courts, picnic areas, a disc golf course, tennis courts, newly installed sand volleyball courts and water fountains. The Rainier boat launch is also located adjacent to the park on the Columbia River. Riverfront Park also



**Figure 1. Rainier Riverfront Park - Playground**

serves as a location for residents to host gatherings, holiday celebrations, and is connected to the downtown business district via A Street which features sidewalks and a bike lane on the newer stretch of road. The intersection of U.S. 30 and Veterans Way is the primary access point for the Rainier Riverfront Park from U.S. 30.

### ***Transportation Use in the City of Rainier***

Rainier has a high percentage of residents that commute to work by vehicle rather than active transportation. Below is a table from the American Community Survey 2013. It details current transportation use by Rainier residents by mode of transportation: vehicle, public transportation, walking, or cycling. Of the residents in Rainier commuting by vehicle 31.7% have a commute time to work of 30 minutes or more (United States Census Bureau, 2013). These residents spend over an hour each day in their vehicles. Residents who have longer commute times have fewer opportunities to be physically active, which contributes

to higher risk of overweight and obesity. The data illuminates the need for public spaces that promote physical activity through both recreation and active transportation like walking and cycling.

**Table 3. Rainier Commuter Transportation Modes & Commute Times**

Commuter Transportation Modes and Commute Times	Rainier	Columbia County	Oregon
Vehicle	87.1%	91.5%	82%
Public Transit	0.0%	1.0%	4.2%
Walk	2.2%	2.2%	4.1%
Bicycle	0.0%	0.1%	2.3%
Travel time to work: 30 minutes or more	31.7%	53.2%	28.7%

Source: (United States Census Bureau, 2013).

### Identifying the Need for Safe Crossings

The City of Rainier has been investigating the possibility of installing a stoplight and signaled crosswalk at the intersection of Veterans Way and U.S. 30 for more than 15 years. In September of 1997, the City of Rainier finalized its Transportation System Plan. In that document, the intersection of U.S. 30 and Veterans Way (known in that document as West Sixth Street) was identified as an area of concern. That was specifically indicated as an area where traffic accidents occurred and the plan noted “It was also identified that there are insufficient safe locations for cyclists and pedestrians to cross U.S. 30.” (Kettelson & Associates, Inc., 1997). During the Transportation System Plan development, an advisory committee was formed and citizen input was solicited to identify local perspectives related to safety and transportation use. The list of citizen concerns raised at that time included:

- Provide safe pedestrian and bicycle access to schools.
- Provide safe pedestrian access across U.S. 30 (recent pedestrian accidents reported).
- Safety improvements at U.S. 30 and West Sixth Street (Veterans Way) (Kettelson & Associates, Inc., 1997).

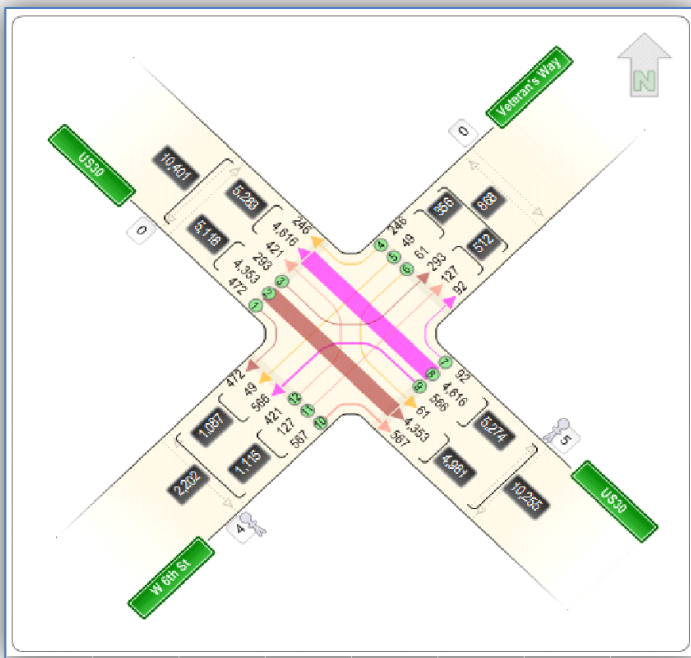


The picture shows the intersection at U.S. 30 and Veterans Way as it appears today. While Veterans Way does have newer sidewalks on both sides of the street, there are no marked crosswalks or other traffic calming features that allow for residents to safely cross U.S. 30. This limits walking access to Riverfront Park and downtown area from the main

**Figure 2. Intersection of Veterans Way & U.S. 30. Facing South.**

neighborhoods on the south side of the highway. In addition to the lack of safe highway crossings, this intersection is where U.S. 30 transitions from a two lane highway to four lanes and traffic speeds increase. The width of U.S. 30 is significant, and poses a dangerous challenge for pedestrians crossing here. There are no vehicle warning systems (e.g., radar speed odometers) for motorists as they approach the highlighted intersection. Therefore, pedestrians are at a greater risk of injury, and may avoid the intersection.

In 2013 the Oregon Department of Transportation (ODOT) conducted a one-day traffic study for the intersection of U.S. 30 and Veterans Way. The study measured the average traffic flow at Veterans Way and U.S. 30 based on data collected on November 6, 2013. The



**Figure 3. Transportation Development Division Transportation System Monitoring Unit Vehicular Volume. ODOT (2013)**

number of cars travelling through the intersection is as follows and is indicated on the map Figure 3. 4,353 vehicles travelled east into town and 4,616 vehicles travelled west out of town. Another 868 vehicles travelled south and 2,202 travelled north at this crossing. A total of four pedestrians were recorded using West Sixth Street on the south side of U.S. 30 and five pedestrians were recorded using the sidewalk on the north side of U.S. 30. These numbers are important because Oregon Department of Transportation uses this information to qualify the area for a stop light and signaled crosswalk (Oregon Department of Transportation, 2013).

They also underscore the challenges that local residents face when crossing U.S. 30 to access

community resources. The relatively large volume of traffic on this main arterial and the increased speeds of traffic on U.S. 30 on the west side of town prohibit local residents from safely walking from their neighborhoods to the downtown area. Without a stoplight and signalized crosswalk at this intersection, pedestrian use will remain very low.

### **GROWing a Healthy Rainier**

The community of Rainier and the Rainier School District participated in a community-based, participatory research study and intervention called *Generating Rural Options for Weight Healthy Kids and Communities* (GROW HKC). GROW HKC investigates the issue of childhood obesity in rural communities in the Western United States. GROW HKC started in 2012 and is led by the College of Public Health and Human Sciences and Oregon State



University Extension Service. It is funded through the USDA National Institute for Food and Agriculture.

In the spring of 2013, GROW HKC and the Rainier community partnered to map features of the local environment and discuss residents' perceptions of community supports and barriers to regularly eating healthy and being physically active, particularly for children and families. Ten Community members were mobilized and trained to use HEAL MAPPS™ (Healthy Eating Active Living: Mapping Attributes using Participatory Photographic Surveys), to assess community resources for and readiness to improve healthy eating and physical activity supports. Volunteers, or “mappers,” took over 140 photographs of existing resources or barriers in the community. The culminating event of the HEAL

*There is no crosswalk or light to get to the park, it's a very dangerous spot.*

Rainier Resident

(Oregon State University, 2013)

MAPPS™ assessment was a community conversation held on April 3rd, 2013 at the Rainier School District where residents came together to discuss the photographs and their perceptions of the local supports and barriers to healthy eating and active living.

During the Rainier Community Conversation, many residents shared their challenges and concerns about crossing U.S. 30. Direct quotations from the residents participating in the community conversation can be found throughout this report. A detailed report on the assessment can be found in the [“Rainier HEAL MAPPS™ Community Report”](#) on TPFCC's website. That report includes “Resident-Informed Recommendations for Community Change” in relation to preventing childhood obesity. Recommendations for the community of Rainier include:

- *Improve communication networks around physical activity and food resources in the community.*
- *Educate kids and families about nutrition and cooking by teaching nutrition and Home Economics at the schools.*
- ***Improve walkability by widening shoulders, building sidewalks, and placing stoplights and crossing signals at various intersections.***

The last recommendation directly supports the City of Rainier's proposal to install a stop light and pedestrian supports at the U.S. 30 and Veterans Way intersection.

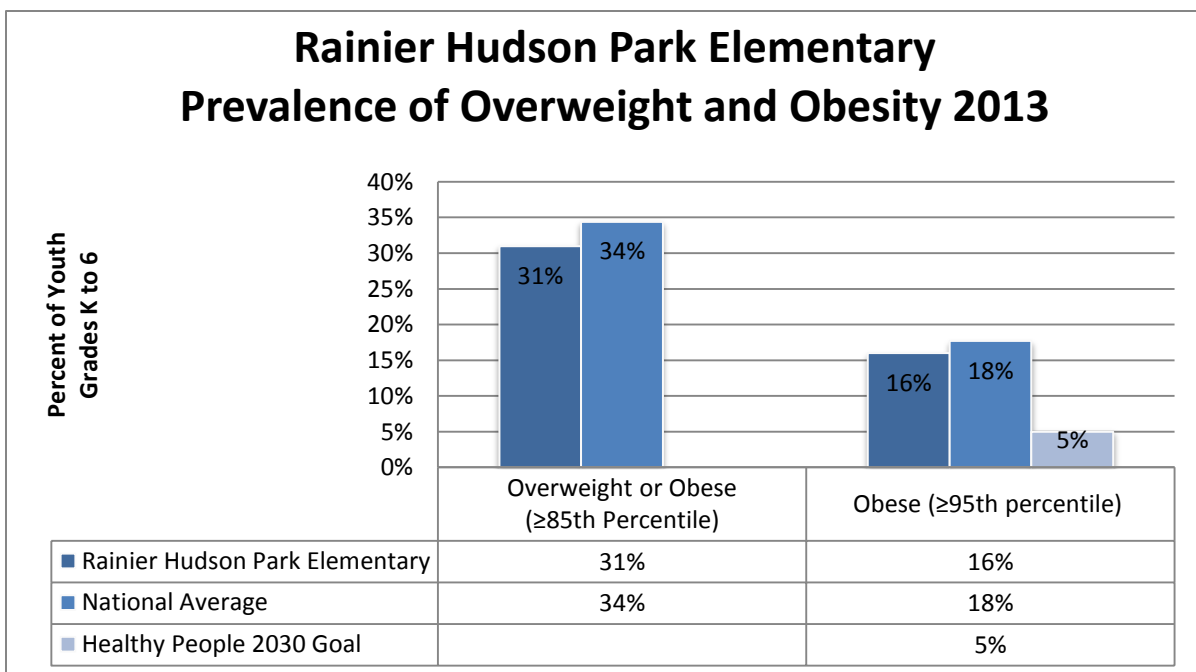
### ***Burden of Chronic Disease***

Physical inactivity, poor nutrition, and tobacco use and exposure increase the risk of a multitude of chronic diseases. Childhood obesity is in the forefront of nationwide research efforts. Physical and mental health outcomes associated with childhood obesity contribute to lifelong chronic health problems which may disproportionately affect people living in rural places (Rudolph & Harden, 2013).

Children living in rural areas in the United States are over 20% more likely to be overweight or obese when compared to those living in metropolitan areas. The prevalence

of childhood overweight and obesity is higher among children living in rural areas (36% vs. 30%) (Davis, Bennett, Befort, & Nollen, 2011). Many factors may be contributing to this increased likelihood such as limited availability and accessibility to healthy foods and physical activity opportunities, and an unfavorable built environment for walking and biking to school. Research presenting rural and urban differences in physical activity among children is somewhat mixed. However, meeting physical activity recommendations can protect kids who live in rural areas against becoming obese (Centers for Disease Control and Prevention, 2014). To date, most evidence-based strategies in combating the childhood obesity epidemic have been developed and tested in urban or suburban settings. The overall goal of the GROW HKC project is to learn more about the factors influencing health behaviors in rural places in order to prevent rural childhood obesity by improving their behavioral environments – at home, in school, and in the community – to make healthy eating and activity options their easy and preferred choice (John & Gunter, 2013).

The OSU GROW HKC project partnered with the Rainier School District to measure the height and weight of students in kindergarten through the sixth grade at Hudson Park Elementary School. The project revealed that 31% of Rainier students were overweight or obese (combined) and 16% is obese. The childhood obesity numbers for the town of Rainier are only slightly lower than the rates of obesity overall in the United States (18% nationally for youth ages 6 to 11). However the local rate still falls well short of the Healthy People 2030 goals of reducing obesity rates to just 5% of the youth population (The White House Task Force on Childhood Obesity, 2010).



**Figure 4. Rainier Hudson Park Elementary prevalence of overweight and obesity (GROW HKC, 2013).**

Adult overweight and obesity rates in Rainier are also high. The map below shows an analysis of the Oregon Department of Motor Vehicle Body Mass Index dataset. This self-reported height and weight data, as recorded by the Department of Motor Vehicles on State-issue drivers' licenses, has been compared to Oregon Behavioral Risk Factor Surveillance System (BRFSS) data and been shown to be significantly correlated to BRFSS estimates (Morris, et al., n.d.). This data reveals that 1.6% of Rainier residents report underweight, 36.1 % of Rainier residents report having a normal weight, 32.5% of the population is considered overweight and 29.8% is obese (Main, 2015)

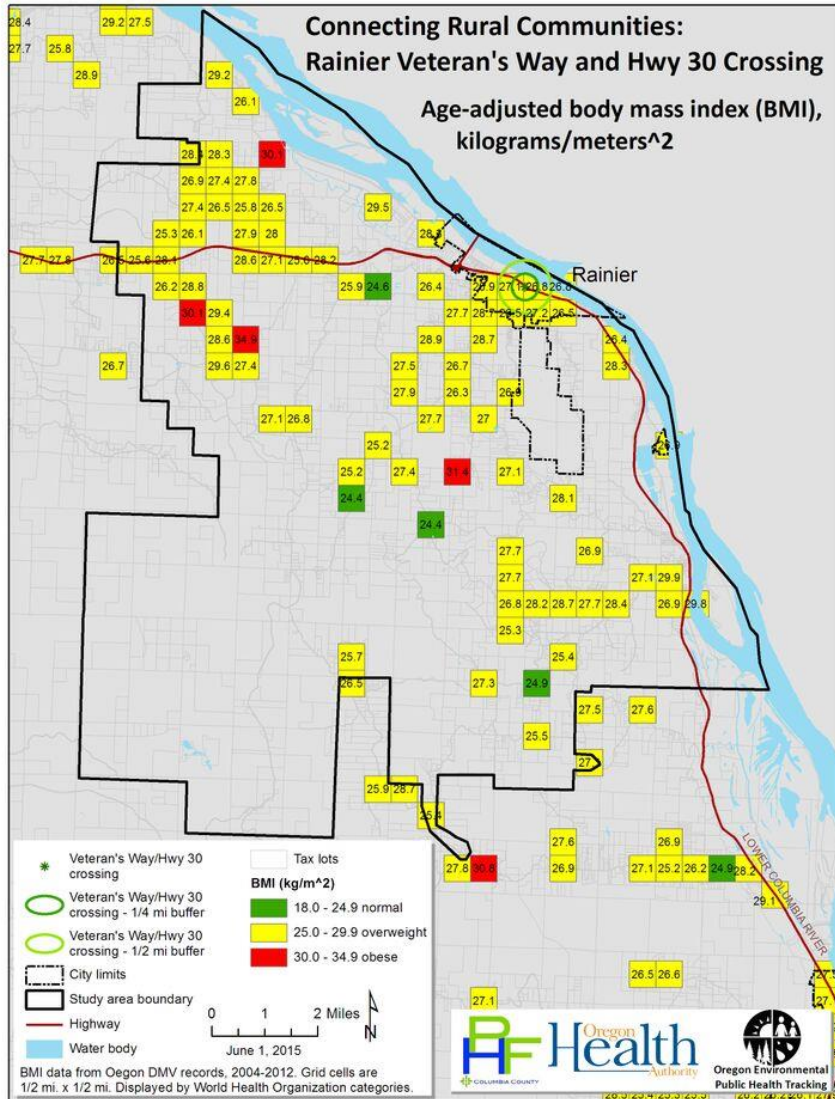


Figure 5. Rainier Age-adjusted BMI. DMV Records (2005-2012)

# ASSESSMENT

## *Active Transportation and Health*

Active Transportation is defined as modes of transportation that promote physical activity, such as walking and biking (Morbidity and Mortality Weekly Report, 2015), which are key components of a healthy, active lifestyle (Partnership for Active Transportation). Considerable research shows the importance of social connection for physical health. Residents positively evaluate the usage of improved infrastructures that provide increased accessibility to walkways, parks, natural spaces and recreational facilities (Burden, 1999). By increasing the number of residents who choose active modes of transportation, overall health and well-being are increased and health disparities among vulnerable populations may decrease. Additional benefits include reduced traffic congestion and decreased road costs (Traffic Calming, 2015).



**Figure 6. U.S. 30 & Veterans Way. Facing Rainier Riverfront Park.**

An individual's risk of chronic disease is influenced by many factors, including lifestyle choices, household income, educational attainment, and health behavior supports, or barriers in the built environment. Access to healthy transportation options include walking, cycling, and improved access to public transportation such as bus and rail lines. Mechanization has reduced exercise in jobs and home life adding to the growing obesity epidemic. Therefore it is imperative for people to find new ways to build

exercise into their lives. For shorter journeys, roads should support opportunities for cycling and walking, especially in town. Improved public transportation is recommended for longer journeys with frequent connections in rural areas (World Health Organization, 2003).

The correlation between access to active transportation and health is well documented. Kaczynski et al., found, "Ensuring direct and safe access to parks through street network design and traffic calming strategies may facilitate park visitation and active park use that can lead to greater individual and community health (Kaczynski, Koohsari, Wilhelm Stanis, & Bergstrom, 2014). In addition, a positive relationship was found between the presence of sidewalks and transportation-related walking, increasing the potential of meeting 150 and 60 min/week of exercise (Active Living by Design, 2002).

Individuals who have increased access to facilities where they can engage in physical activity such as walking and biking have a lower prevalence of overweight, obesity and associated chronic diseases (Pabayo, Spence, Vander Ploeg, Wu, & Veugelers, 2012). In

one study, cardiovascular risk was decreased by 11% when community residents increased active walking and cycling behaviors (Murtagh, Murphy, & Boone-Heinonen, 2010).

Data consistently shows that best practices for promoting active transportation are determined by the quality of streets and accessibility to the desired destination. The creation of a pedestrian-friendly transportation network means looking at the characteristics of street connectivity giving people choices when traveling between home, medical offices, schools, shops, and workplaces (Litman, 2014).

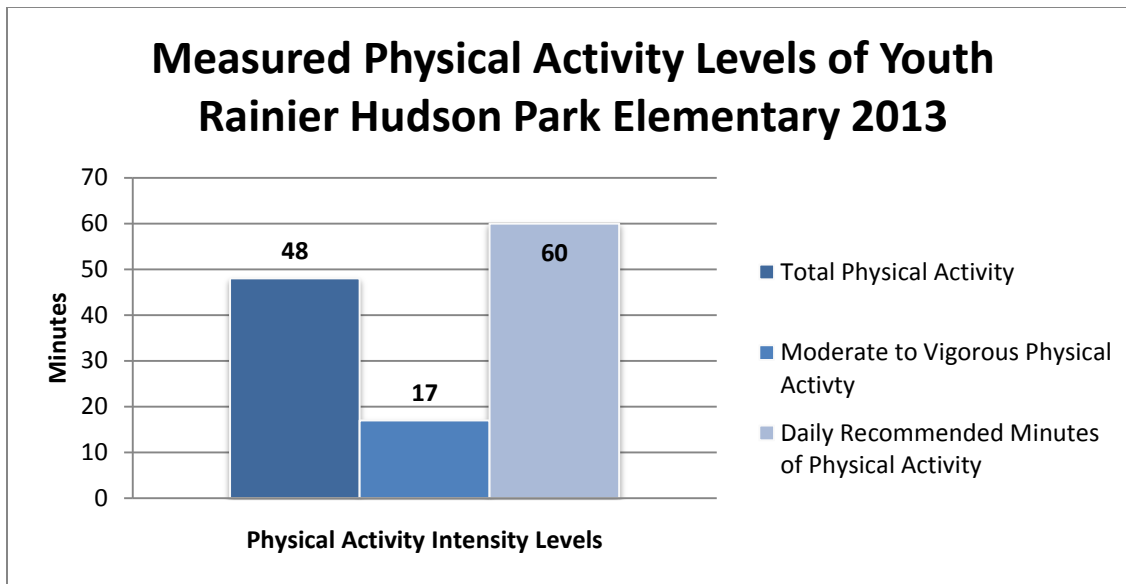
### *Youth Physical Activity Levels*

The OSU GROW HKC project partnered with the Rainier School District to measure the number of minutes and intensity level of physical activity for youth in grades 1st through 6th during the school day. Youth wore research-validated pedometers for four consecutive school days for an average of 6 hours each day. The graph below shows the average minutes of physical activity and the intensity levels for youth in Rainier Elementary School. You will see that youth only engage in an average of 16 minutes of moderate to vigorous physical activity during the school day (Hudson Park Elementary). Moderate and vigorous physical activities are more highly associated with positive health outcomes. The Center for Disease Control and Prevention (CDC) recommends that youth are physically active at least 60 minutes per day, including aerobic muscle strengthening and bone strengthening activities (Centers for Disease Control and Prevention, 2014).

*In our rural area there are not a lot of places to exercise. You either have to drive someplace to exercise or exercise on your own property. A lot of kids don't have that option.*

Rainier Resident  
(Oregon State University, GROW)

This data underscores the importance of physical activity during school and outside of school hours. Without a concerted effort on the part of both schools and communities to address this lack of physical activity among youth, obesity rates may continue to remain higher than the national childhood obesity rate goal of 5% (The White House Task Force on Childhood Obesity, 2010).



**Figure 7. Measured physical activity levels of youth Rainier Hudson Park Elementary (GROW HKC, 2013)**

### *Access to Physical Activity Resources*

Communities with lots of places nearby to walk and bike to are designed to be friendlier to pedestrians and has a range of destinations for pedestrians. People who live in walkable neighborhoods are at reduced risk of being obese or overweight. Those who are residents of a walkable neighborhood weigh 6-10 pounds less than those who live within a sprawling suburb. Residents who commute by car is less likely to spend time getting involved in neighborhood activities, including physical activity (Smith, et al., 2008).

*If you're a kid you have to cross highway 30 to get to the park, to get to some of the food places. It makes it more difficult.*

Rainier Resident  
(Oregon State University, 2013)

Obesity, high blood pressure, Type 2 Diabetes, cardiovascular disease and stroke are a few of the chronic diseases and conditions related to a lack of access to physical exercise and fresh and healthy foods. Regular exercise also improves muscle and bone strength, elevates mental health and mood and enhances a person's chance of living a longer, healthier life (U.S. Department of Health and Human Services, 2008).

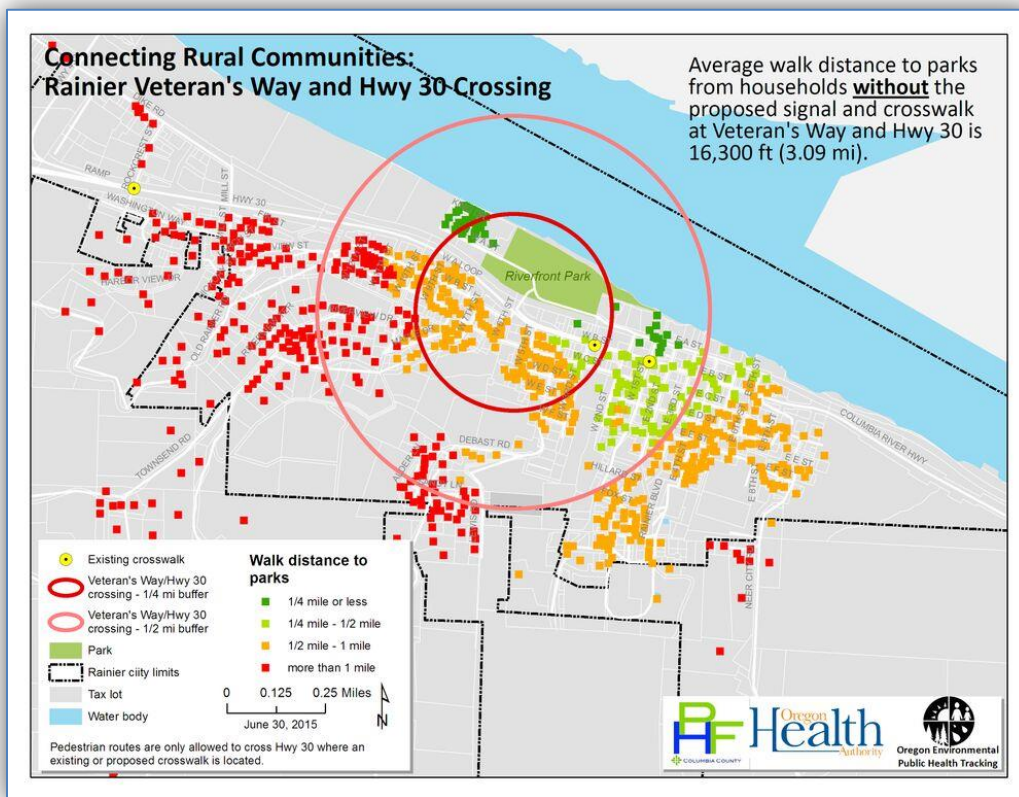
The following two maps produced by Oregon Health Authority Office of Environmental Public Health Tracking illustrate how the installation of a signalized crosswalk at U.S. 30 and Veterans Way would impact local residents' access to Riverfront Park, a primary resource for physical activity in Rainier.

In the map, households are colored according to their categorized walk distance via identified walkways and crosswalks to Rainier's Riverfront Park. The colors represent

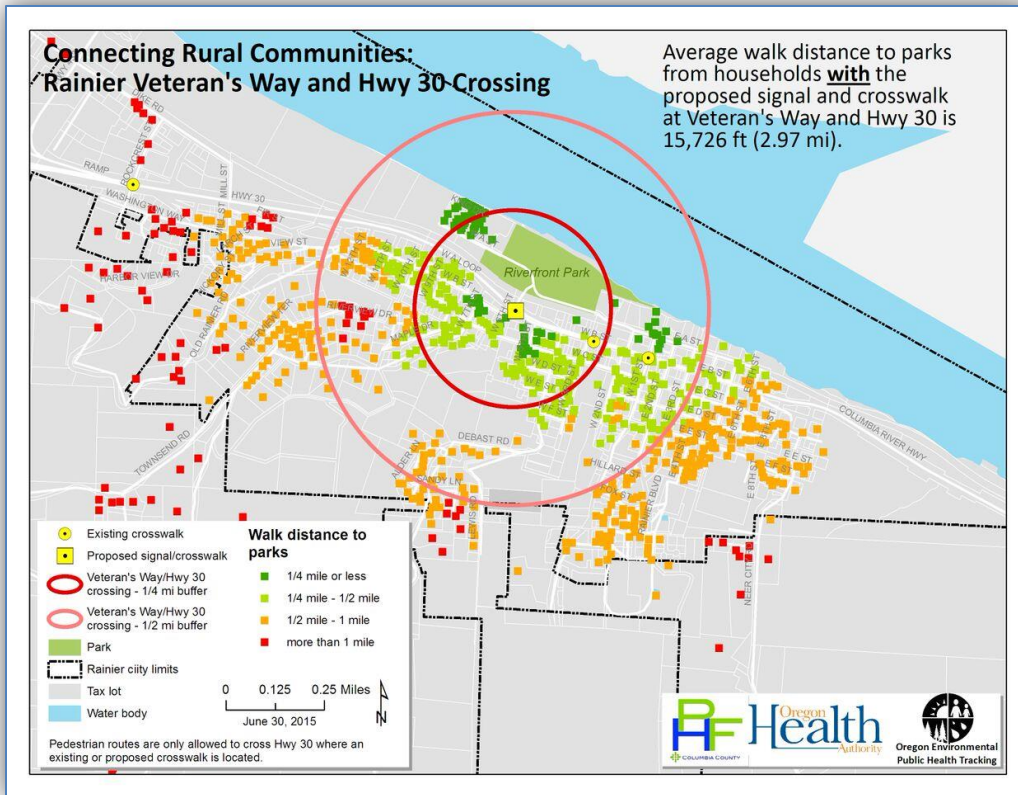
quarter and half mile distances, which are walkability measures, used by transportation and land use planners (Frumkin, 2010).

- Green: ¼ mile or less,
- Lime Green: ¼ mile to ½ mile,
- Orange: ½ mile to 1 mile, and
- Red: more than 1 mile.

Figure 8 displays the study area without a crosswalk and Figure 9 displays the study area with the proposed crosswalk. With the installation of a signalized crosswalk the buffer zone of access for residents changes significantly. The addition of the crosswalk decreases walk distances an average of 3.5% for all residents in the study area. For residents living within half mile of the proposed crosswalk, the walk distance decreases by 39.5%. The addition of this safer pedestrian crossing increases residents’ park access and corresponding opportunities for physical activities.



**Figure 8. Average walk distance to parks from households without the proposed signal and crosswalk at Veterans Way and U.S. 30.**



**Figure 9. Average walk distance to parks from households with the proposed signal and crosswalk at Veterans Way and U.S. 30.**

### *Access to Food Resources*

Barriers to healthy eating include limited access to healthy foods, especially fresh fruits and vegetables. Rural and remote communities face unique challenges that impact obesity preventing behaviors differently from those found in urban communities. Rural residents are more likely to be obese due to cultural diet with the tendency to eat meals that are higher in fat and because of locality tend to be more isolated from accessibility to gyms and medical care (Befort, Nazir, & Perri, 2012).

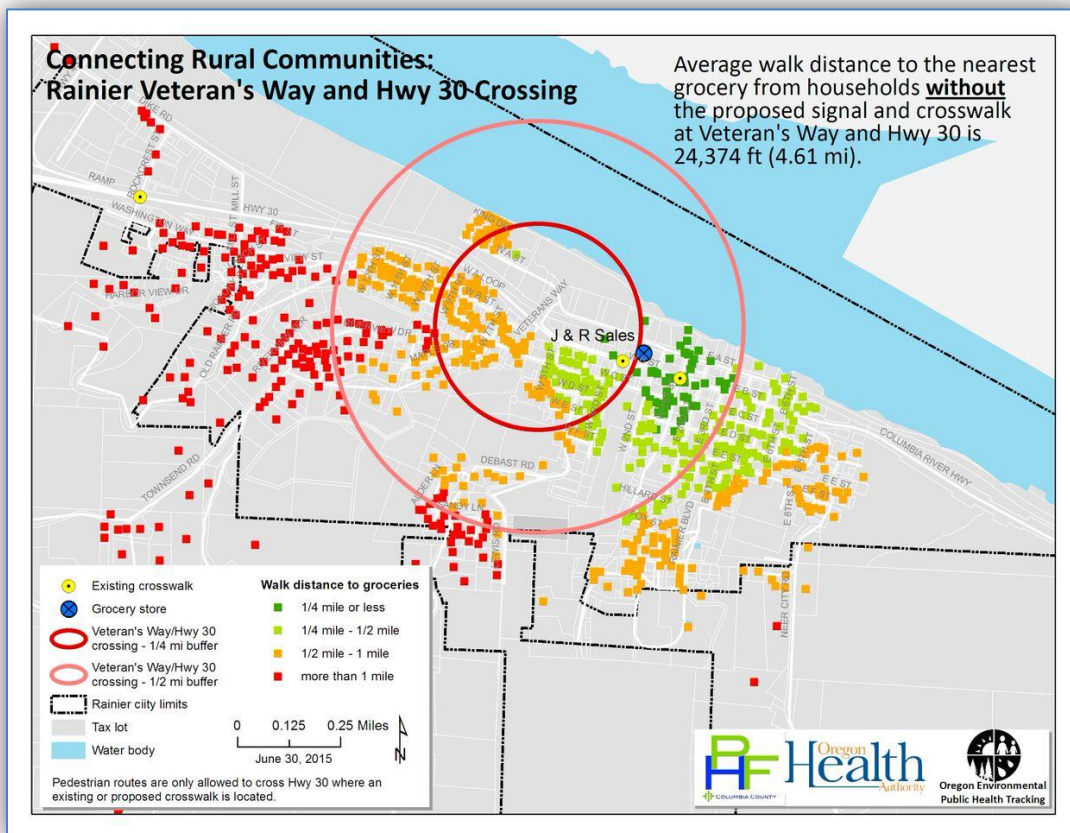
There are very few fresh food resources in the town of Rainier. There is no full service grocery store in town, and only one grocery liquidator and one convenience store located within the city limits. The majority of residents must travel to the neighboring urban center of Longview, Washington to access grocery retailers (Rudolph & Harden, 2013). Vulnerable populations, including individuals living in poverty, older adults, and individuals with disabilities, are less likely to have the resources or transportation to access those healthy food resources outside of the county. Better access to existing resources including the local grocery liquidator and the HOPE of Rainier Food Pantry in downtown Rainier are important to assuring nutritional supports for local residents.



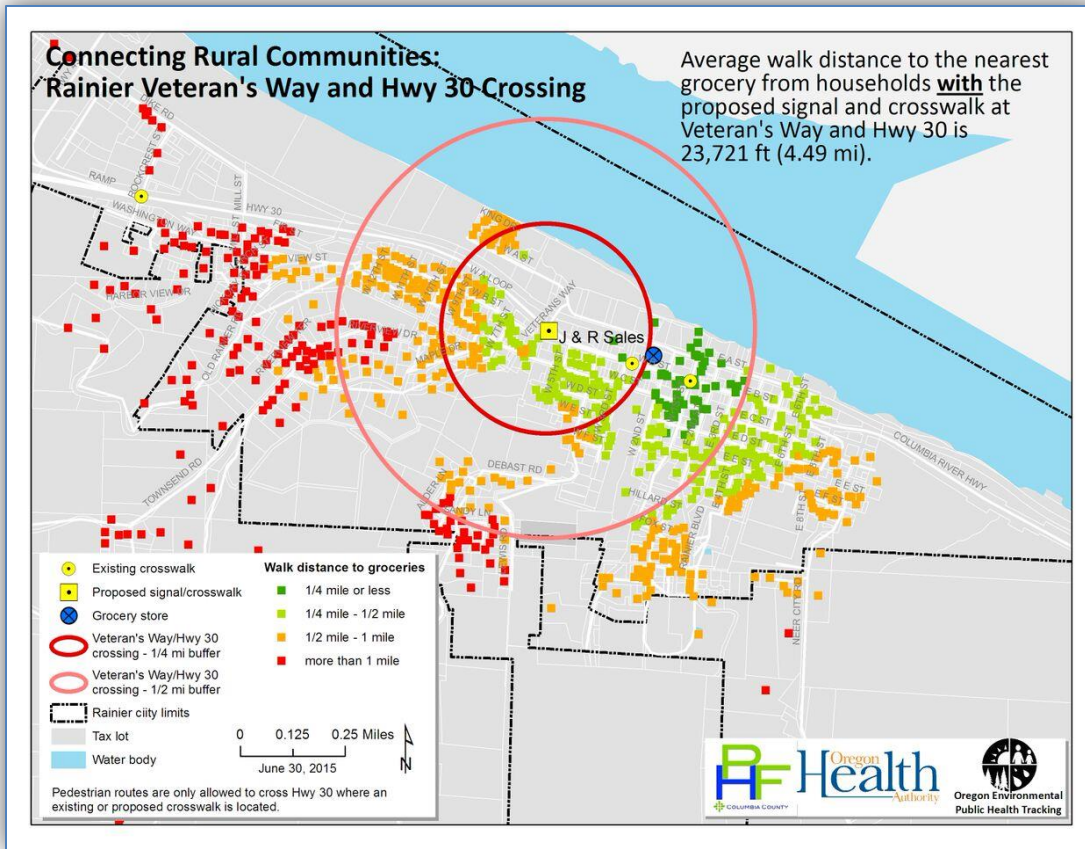
The maps below (Figure 10 and 11) show households that are colored according to their categorized walk distance via identified walkways and crosswalks to the nearest grocery store. Colors represent quarter and half mile distances, which are walkability measures, used by transportation and land use planners (Frumkin, 2010).

- Green: ¼ mile or less,
- Lime Green: ¼ mile to ½ mile,
- Orange: ½ mile to 1 mile, and
- Red: more than 1 mile.

Figure 10 displays the average walk distance to the nearest grocery store without a crosswalk at the intersection of Veterans Way and U.S. 30. Figure 11 displays the average walk distance to the nearest grocery store with the proposed crosswalk at the same intersection. The addition of the crosswalk decreases walk distances to J & R sales an average of 2.7% for all residents in the study area. For residents living within half mile of the proposed crosswalk, the walk distance decreases by 13.1%. The addition of this safer pedestrian crossing increases the number of residents who are able to safely walk to a grocery store.



**Figure 10. Average walk distance to J & R Sales from households without the proposed signal and crosswalk at Veterans Way and U.S. 30.**



**Figure 11: Average walk distance to J & R Sales from households with the proposed signal and crosswalk at Veterans Way and U.S. 30.**

### *Traffic Speeds Matter*

According to the United States Department of Transportation, there is a strong relationship between vehicle travel speeds and pedestrian injury. Increased vehicle speed reduces drivers' ability to process what's in their field of view, decreases reaction time, and increases the risk of severe pedestrian and cyclist injuries and fatalities (Iowa Highway Research Board; IDOT, 2007). The table below demonstrates probabilities of various vehicle impact speeds.

**Table 4. Vehicle Speeds**

Vehicle speed (mph)	Probability of pedestrian fatality (%) *	Probability of pedestrian fatality age ≤ 14 (%) **	Probability of pedestrian fatality age 15 to 59 (%) **	Probability of pedestrian fatality age ≥ 60 (%) **
20	5	1	1	3
30	45	5	7	62
40	85	16	22	92

The National Highway Traffic Safety Administration (NHTSA) estimates that the probability of death, disfigurement, or debilitating injury doubles for every 10 mph over 50 mph (US Department of Transportation Federal Highway Administration, 2009).

*The speed is marked as 30 mph (on Highway 30) but I haven't seen any police patrol that for years and the people just fly by there. They really should put in a stoplight. They should put lights so it gets the driver's attention, so if people want to cross they feel safe.*

Rainier Resident  
(Oregon State University, 2013)

"When done properly, traffic calming balances the needs of all users of a street: drivers, bicyclists, pedestrians, and others, helping to restore the safety and peace in neighborhoods that have been overwhelmed with speeding and/or cut-through traffic. Many traffic-calming enhancements have the added benefit of providing attractive landscaping for the street, establishing a greater sense of place, which entices residents to spend more time outside enjoying their neighborhood." (US Department of Transportation, 2002). Signaled

pedestrian crossings and effective community gateways are strategically located to communicate to motorists that they are making a transition from a highway roadway and are entering an urban area and can expect people to be present (Oregon Department of Transportation, 1999).

### **Traffic Calming Measures**

The greatest potential for improved health outcomes occurs when comprehensive environmental interventions are implemented, such as improved infrastructures creating walking and cycling friendly environments. Traffic calming treatments are typically intended to reduce speed, control traffic volumes, improve transit access, encourage the use of bicycles, and to reclaim the street as a multi-use public space (Sarkar, Nederveen, & Pols, 1997). Options to improve traffic calming environments can be a single technique or a mix of several treatments as an intervention (World Health Organization, 2003). Traffic calming measures researched for an intersection such as this crossing include these possible treatments:

**Center islands:** Usually raised islands (medians) within the roadway centerline that narrows the travel lane at that location and separate opposing traffic movements. When landscaped, they can improve the aesthetics of the corridor and act as a gateway when placed at endpoints of a town. They are feasible without major roadway changes when the right of way is in excess of the minimum required street width. Center islands may also be painted areas, but may be less effective than center islands with raised curbs and landscaping, since vehicles can still traverse a painted island.

**Gateways:** A traffic-calming technique used and cited in many European studies on traffic calming in rural communities. Community gateways are a measure or set of measures tactically located as motorists enter a community announcing that they are entering a community and are no longer on an open, high-speed roadway and need to begin making a transition from a rural roadway to a city street. The Federal Highway Administration (FHWA) defined a gateway as a “combination of traditional and nontraditional traffic control treatments, such as enhanced signing, lane reduction, colored pavements, pavement markings, experimental striping, gateway structures, and traditional traffic-calming techniques or other identifiable features” (Zegeer, et al., 2002).

**Hardscaping:** Hard-surfaced complements to landscaping. The complete cross section of the roadway includes parking, sidewalks, and the facades of the adjacent buildings. Hardscaping is usually combined with landscaping, such as tree planting, to create a comprehensive “streetscaping” project. Streetscaping and hardscaping are thought to encourage calmer traffic in two main ways: 1) By placing design elements, such as building facades, sidewalks, on-street parking, and street fixtures, close to the through lanes of road or street in such a way that the roadway appears narrower to the driver and 2) By clearly communicating a change in the character of the roadway from “rural” to “urban” or “residential.” A relatively dense and urban hardscaping environment provides a visual cue to drivers that they should slow down. Hardscaping or streetscaping can part of a comprehensive traffic calming plan to reduce speeds and maintain traffic flow along an arterial roadway.

**Landscaping:** Is often used in combination with other traffic-calming treatments, such as raised medians or islands, chokers, roundabouts, traffic circles, and chicanes. This has two purposes: to make the traffic-calming treatment more attractive and to further communicate to the motorist that a slower speed is coming up. By planting alongside the road or street in such a way that the roadway appears narrower to the driver the “optical width” of the road is narrowed as opposed to the “physical width.” A “tunnel effect” is created and the driver’s field of view is narrowed. This, in turn, encourages drivers to slow down by communicating a change in the character of the roadway from “rural” to “urban.”

**Median treatments:** Can be continuous or placed in short sections. Some of the advantages of median treatments are that the center islands provide physical separation between travel lanes and create refuge areas for pedestrians. In addition, landscaping may increase the aesthetic appeal as well as reducing the risk of head on collisions. Median treatments can also have disadvantages including increased vehicle speeds. Additionally, center islands reduce access to businesses, require maintenance needs and may impact

drainage. Median treatments may be more effective when they provide a short interruption of traffic flow.

**Pedestrian signal:** Signal when and where pedestrians are crossing in a walked crosswalk. WALK/DON'T WALK pedestrian signals increase pedestrian visibility when vehicle signals are not visible to pedestrians, when signal timing is complex (e.g., there is a dedicated left-turn signal for motorists), at established school zone crossings, when an exclusive pedestrian interval is provided, and on wide streets (U.S. Department of Transportation Federal Highway Administration, 2003).

**Radar Speed signs:** Devices used to reduce traffic speeds by making drivers aware of how fast they are moving relative to the speed limit and prompting them to adjust their speed accordingly. This is a very effective way of allowing individuals to measure their performance against a benchmark by displaying performance, and adjust their behavior accordingly.

**Rural Main Streets Transverse pavement markings:** Appropriate for rural traffic calming, especially in transition zones, where the driver is reminded of a change in roadway character. They are low cost and do not present safety hazards associated with horizontal or vertical deflections. They can accommodate all types of vehicles without interfering with vehicle operation and do not physically change the characteristic of the roadway.

**Signals and Signs:** Used to create gaps in the traffic flow, allowing pedestrians to cross the street. Signals are particularly important at high-use, mid-block crossings on higher speed roads, multi-lane roads, or at highly congested intersections. National warrants from the Manual on Uniform Traffic Control Devices are based on the number of pedestrians and vehicles crossing the intersection, among other factors (U.S. Department of Transportation Federal Highway Administration, 2003).

**Words (SLOW) and MPH Markings:** On the pavement surface is more dramatic than just using signing, which can get lost in the clutter of a streetscape.

Each of these treatments impact motor vehicles speed; encourage walking by improving the aesthetics, safety and, security; improve compliance with traffic law; and eliminate behaviors that lead to crashes. Most treatments are most effective when used at multiple locations and in combination with other treatments (Zegeer, et al., 2002).

### *Perception of Safety*

The built environment influences pedestrian's feelings of comfort, safety and security when determining what mode of transportation to utilize (Granié, Brenac, Montel, Millot, M., & Coquelet, 2014). Environmental and visual cues are key determinants in helping pedestrians decide whether or not to cross at a certain intersection (Sahlqvist, 2012). The lack of sidewalks and clearly marked crossings are potential barriers for feelings of safety at a particular intersection. An improved and visually enhanced intersection would give pedestrians the perception that the crossing is safer and will support their likeliness to utilize the crossing. The construction of traffic calming measures would allow for safer and

more accessible crossing to parks, specifically the amenities and downtown area such as Rainier Riverfront Park, restaurants and grocery stores, and post office. Traffic calming measures are physical designs put in place with the intention of slowing vehicle traffic as well as improve safety for pedestrians and cyclists.

The design and arrangement of the environment also impacts the motorist's perceptions of speed and awareness when travelling. Traffic calming measures and landscape design play an important role in influencing driving behaviors (Cho, Rodríguez, & Khattak, 2009).

*There's nowhere to get out of the way - where's the sidewalk? Maybe that's not realistic, but even just a little wide spot. There isn't a shoulder to move to for safety.*

Rainier Resident  
(Oregon State University, 2013)

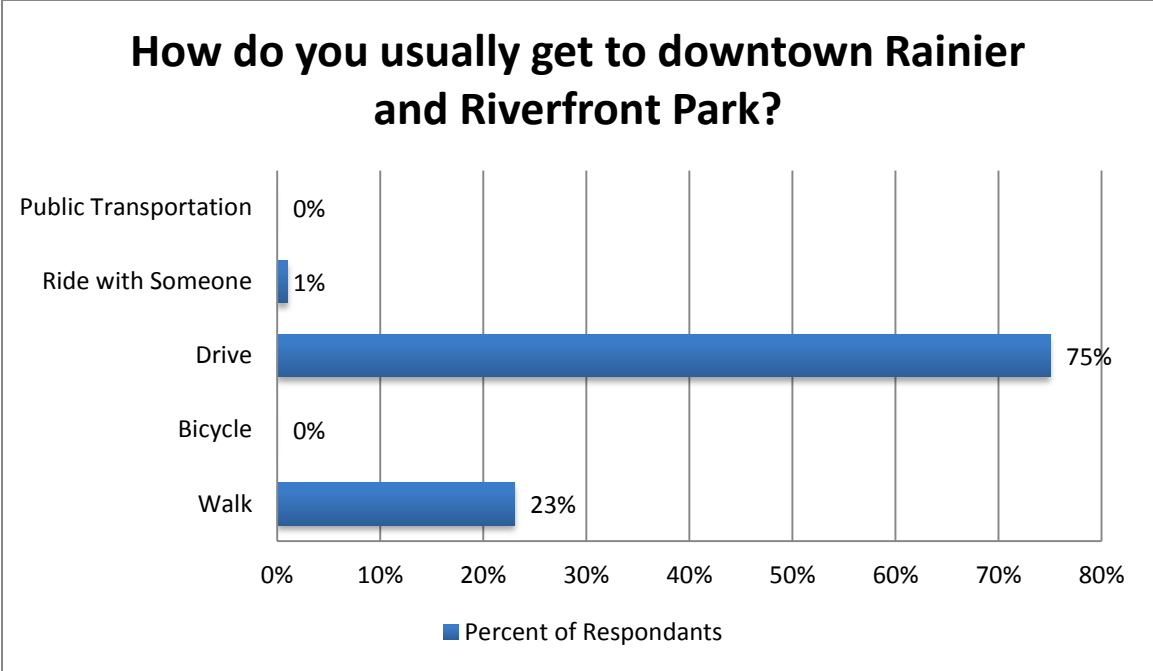
The Active Living Research Health Impact Assessment reviewed the impact of a signalized crosswalk in Columbia, MO and concluded:

*"An at-grade signalized pedestrian crosswalk and landscaped median significantly impacted both pedestrian crossing behaviors and vehicular traffic behaviors. Specifically, the installation of the pedestrian crosswalk yielded reduced proportions of illegal crossings (especially among children), and reduced the percentage of vehicles speeding on the highway through the neighborhood at the Intervention site."* (Active Living Research, 2012).

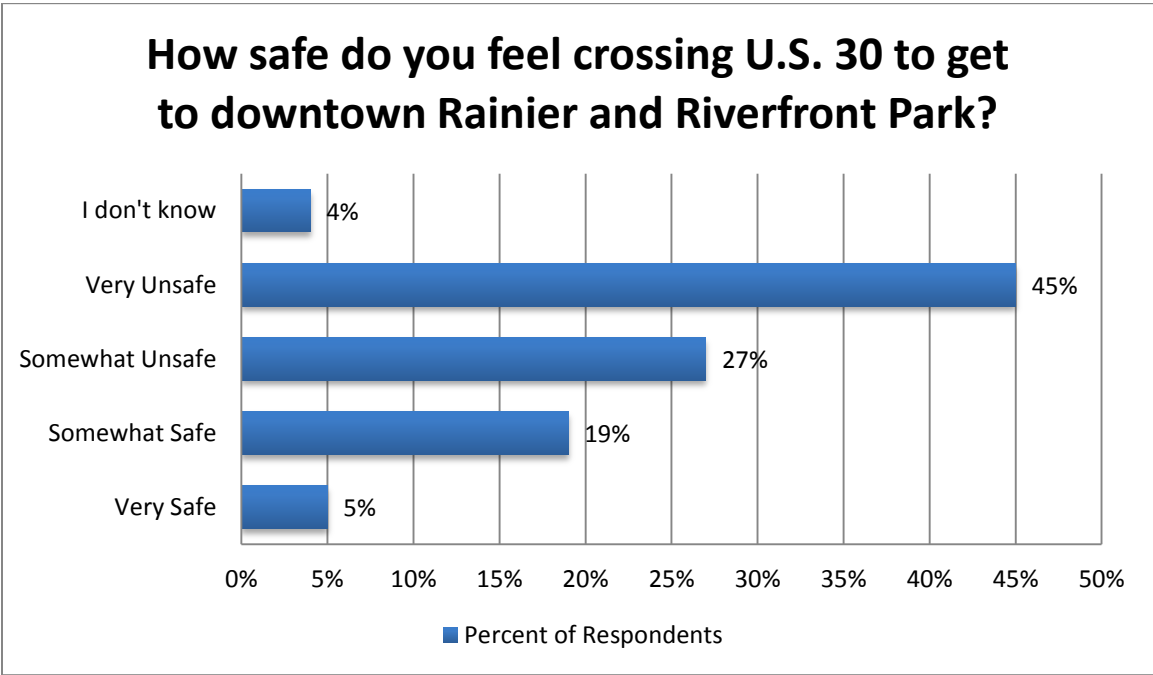
### ***Rainier Residents' Perception of Safety***

The HIA Core Project Team developed a nine question survey to gather additional information about Rainier Riverfront Park usage and perceptions of safety while crossing U.S. 30. The survey was distributed at local events around Rainier including a Health Fair at the Rainier School Commons, the Goble Community Market, and the Rainier Senior Center between April and July of 2015. The survey was also distributed online to community partners such as the Rainier Chamber of Commerce, City of Rainier, and staff of the Rainier School District. A snowball sampling method was used, as stakeholders were asked to share the online survey with other community members in their networks. A total of 74 surveys were completed.

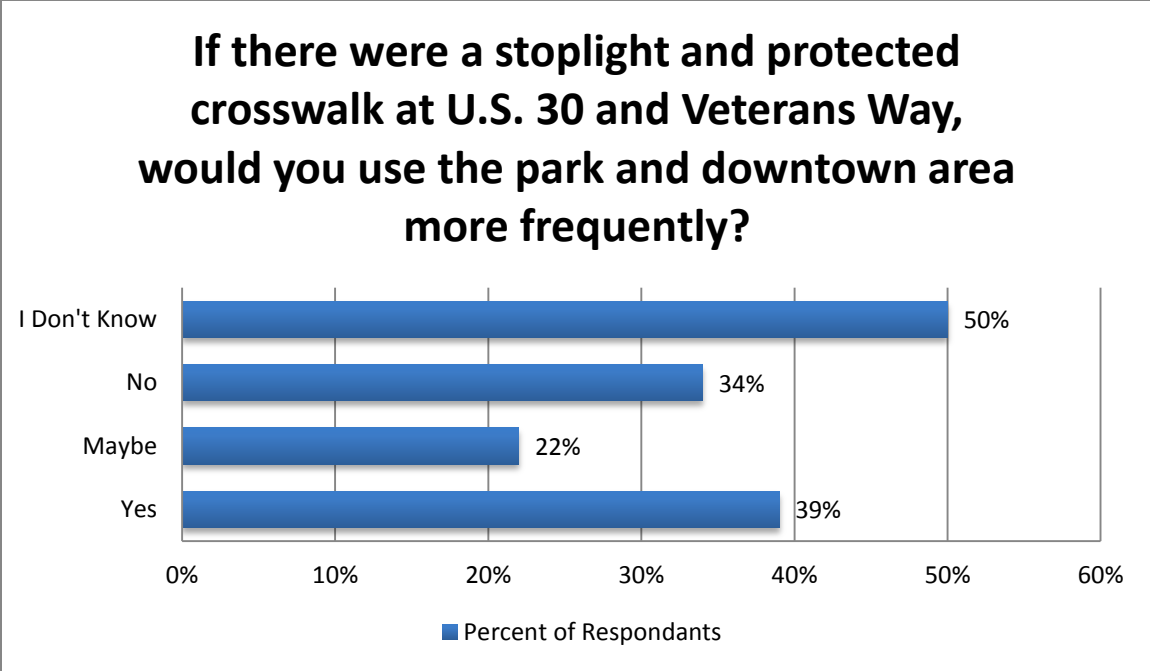
The survey revealed that the majority of respondents, 75%, drive to downtown Rainier. 23% indicated that they walked. 32% of respondents indicated that they live less than 1 mile from the downtown Rainier and Riverfront Park area. When asked how safe they feel crossing U.S. 30 to get to downtown Rainier and the Riverfront Park area, 72% indicated that they feel somewhat or very unsafe crossing the highway. In addition, 39% of respondents indicated that they would use the park more often and 22% indicated that they might use the park more often if there were a stoplight and signaled crosswalk at the intersection of Veterans Way and U.S. 30.



**Figure 12. Transportation Mode Rainier Community Survey (2015).**



**Figure 13. Perception of Safety. Rainier Community Survey (2015)**



**Figure 14. Projected Park Use. Rainier Community Survey (2015).**

## RECOMMENDATIONS

Based on a review of the literature, access data, and resident comments and community groups, the HIA Core Project Team recommends that a stop light and signaled crosswalk be installed at the intersection of Veterans Way and U.S. 30. As a strategy implemented to provide a safer environment for pedestrians, bicyclists and motorists this installation will provide positive impacts on public health and overall wellbeing of Rainier community members as well as the motorists travelling within and through the town. Special consideration should be given to improving other features of the area such as an enhanced landscape surrounding the intersection and beautification of the entry ways into town with the goal of increasing motorists awareness of their entry into a residential area.

Residents positively evaluated the usage of improved infrastructures that provide increased accessibility to walkways, parks, natural spaces, and recreational facilities (Brennan, Brownson, & Hovmand, 2012). The Public Health Foundation of Columbia County proposes the following comprehensive recommendations.

**Recommendation 1: The Public Health Foundation of Columbia County recommends the installation of a stoplight and signaled crosswalk at the Veterans Way and U.S. 30 Crossing intersection.**

In addition to the above recommendation, the HIA Core Project Team strongly suggests the following additional strategies to create a comprehensive approach to improving pedestrian safety by slowing traffic speeds in the area to support active transportation.



**Recommendation 2:** Install a traffic calming landscape design to enhance the gateway entrance to Rainier by improving and beautifying the landscape. Relocate the “Welcome to Rainier” sign to the West side of the Veterans Way and U.S. 30 intersection where the speed drops to 45 MPH.

**Recommendation 3:** Install radar speed indicator signs on the West side of town where the speed limit changes from 45mph to 30 mph to alert and remind incoming traffic of their current speed.

### *Solutions for Rural Communities*

When communities work and plan together there is a greater chance of a program or project to be successful. With public involvement, a sense of ownership is created and residents are more likely to participate and stay involved. The *Guide to Community Preventive Services* recommends “creating or enhancing access to places for physical activity, combined with informational outreach activities, as evidence-based interventions.” (Prevention, Centers for Disease Control and, 2013). It is through these combined efforts of community-based participation that there will be a greater chance of success in increasing physical activity by improving the surrounding built environment.

The Public Health Foundation of Columbia County is committed to being an active participant and strong supporter of local government agencies tasked with implementing transportation plans, safety improvements, and increased opportunities for healthy rural living. Public health organizations are uniquely positioned to be strong advocates for funding and collaborations that would support alternative modes of transportation and bring additional resources into the county to implement these plans by providing local data analysis and letters of support. TPHFCC looks forward to continuing to support the City of Rainier in all of its efforts to improve the physical activity and food resources for its residents, in addition to protecting public safety.

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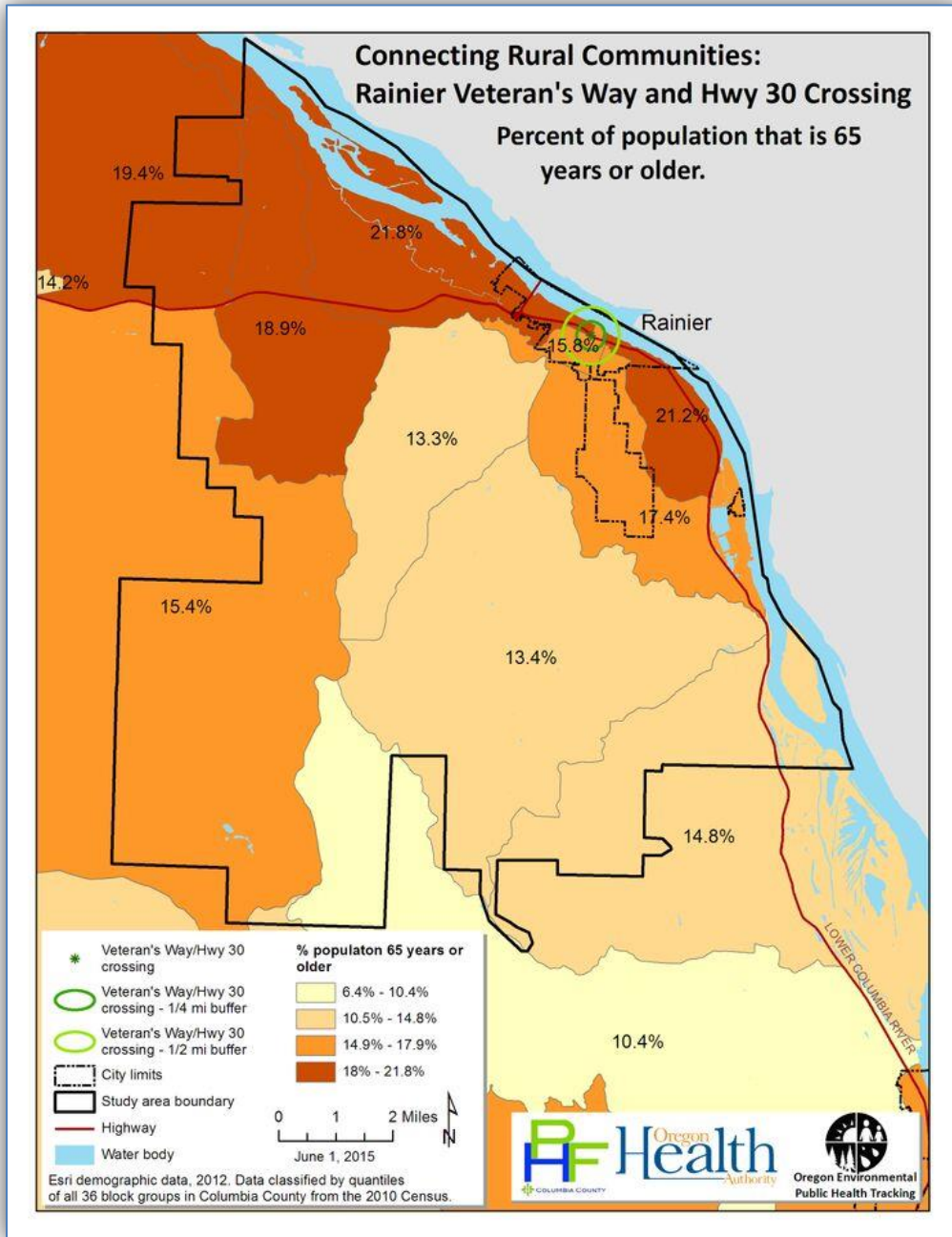
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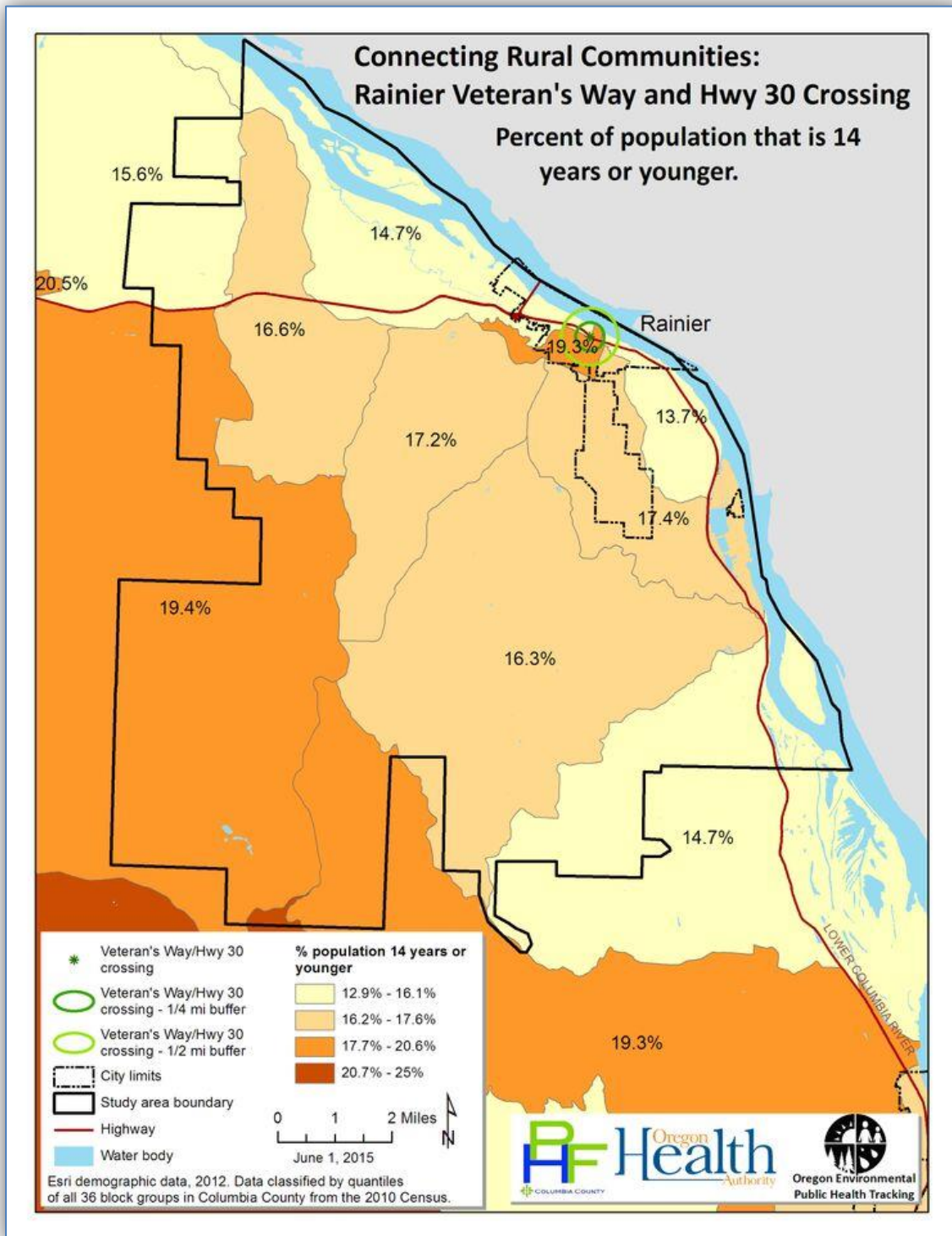
This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2011-68001-30020. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

# APPENDIX A: MAPS

## Population Over 65

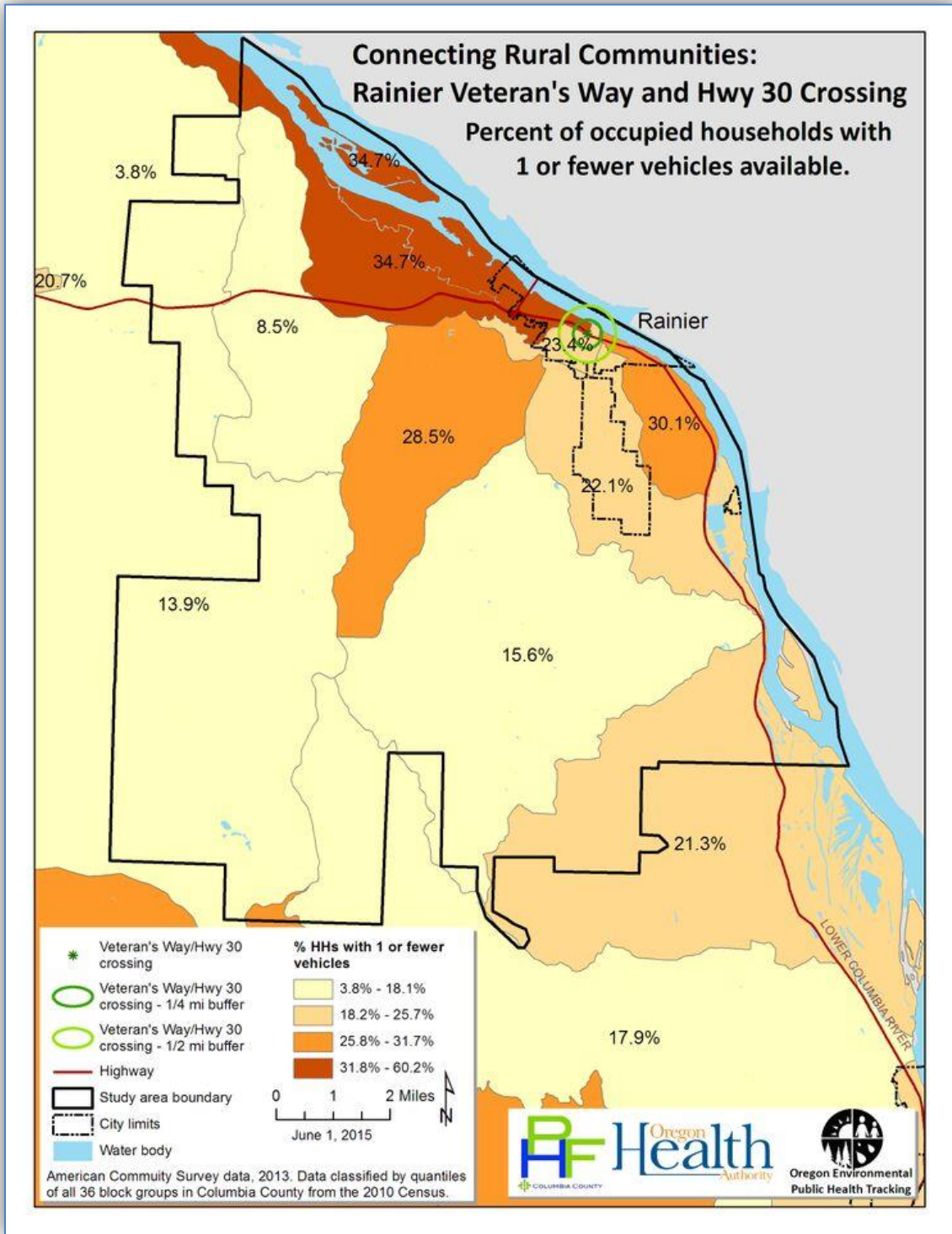


## Population Younger than 14

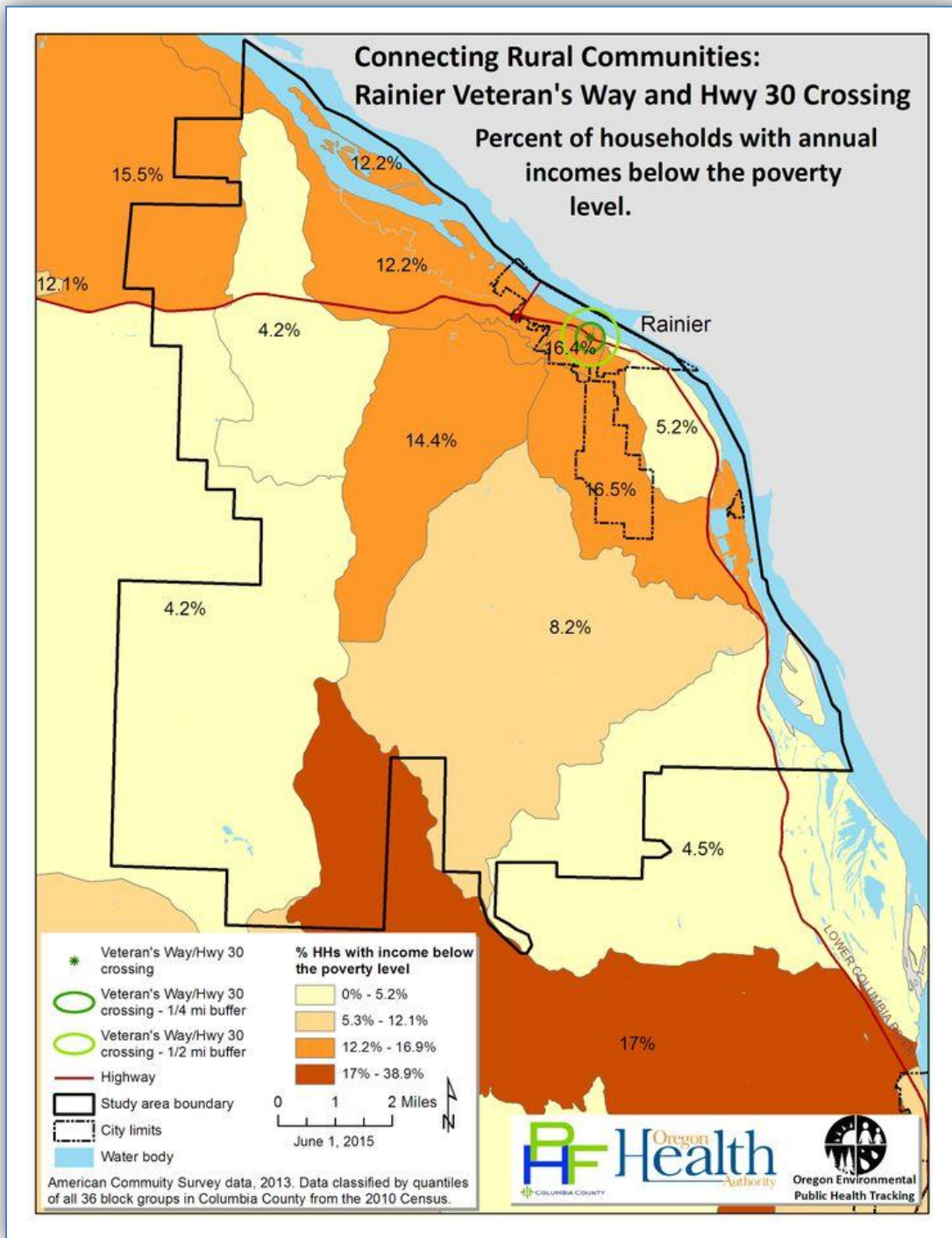




# Percent of Household with One or Fewer Vehicles



## Percent of Households with Annual Income below the Poverty Level



# APPENDIX B: RAINIER COMMUNITY SURVEY RESULTS

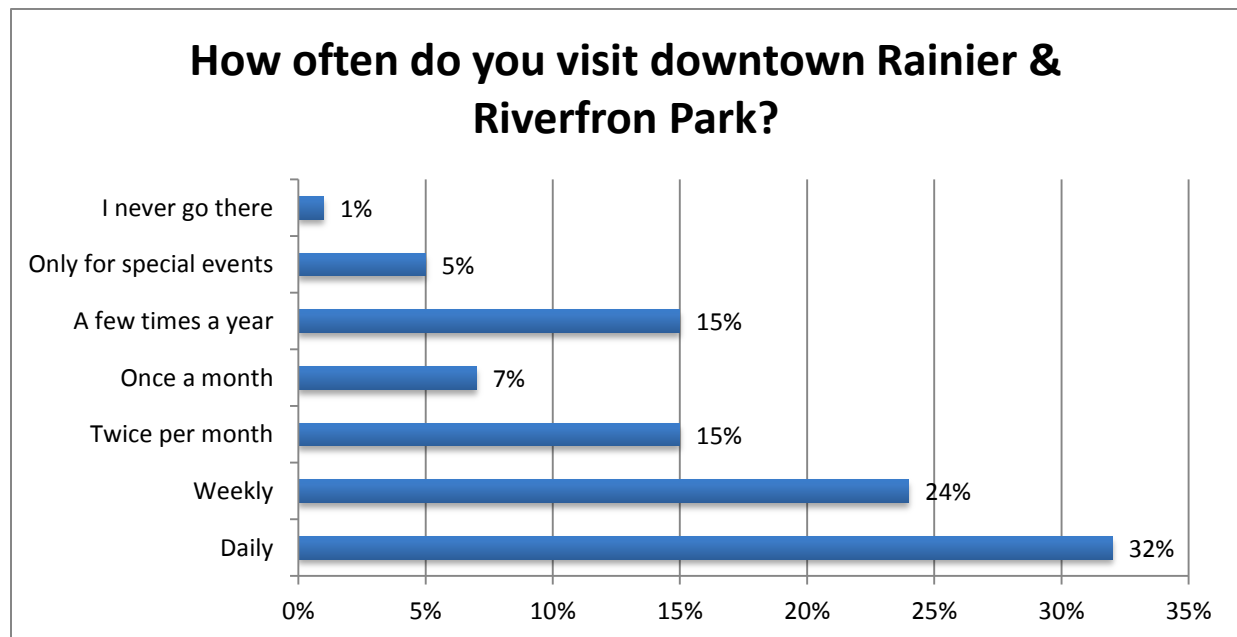
## Summary of Results /Rainier Community Survey

Seventy-three residents participated in the community survey. Of the respondents a majority of them visited Rainier Riverfront Park more than twice a month. The respondent who did go the Riverfront Park 75% of them reported driving. However almost a quarter responded that they did walk to the park. Over half of the respondent traveled less than five miles to Rainier Riverfront Park.

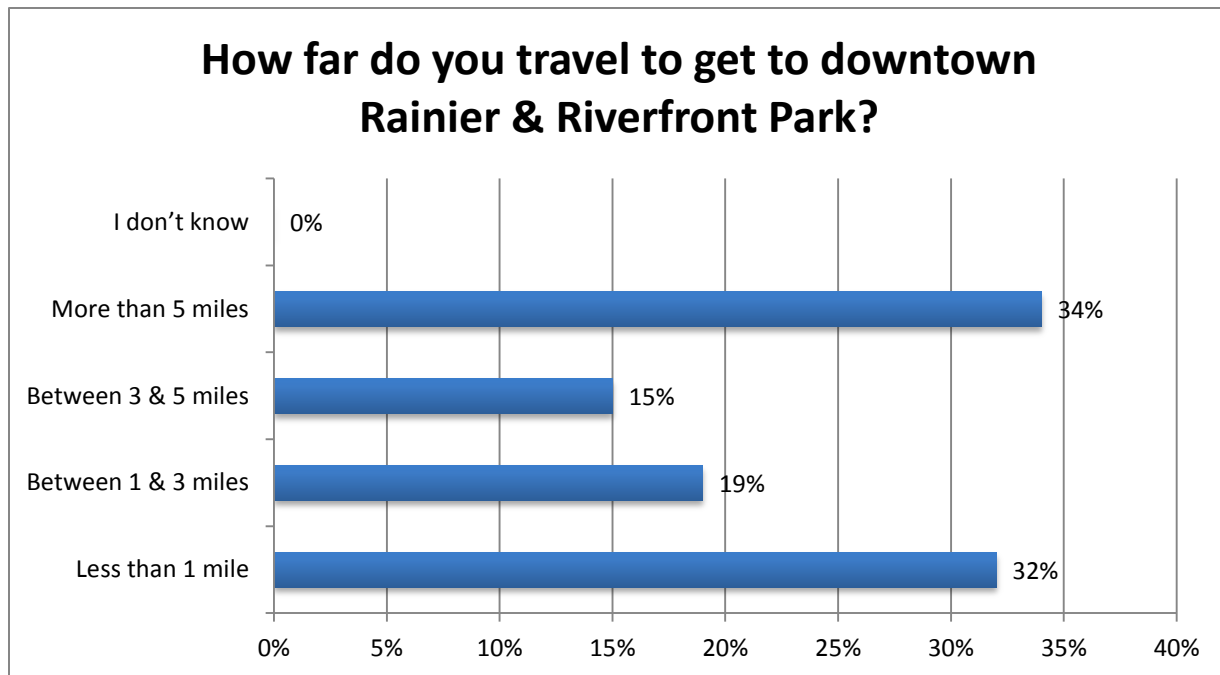
When respondents were asked how safe they felt crossing U.S. 30 at Veterans way 72% reported feeling somewhat unsafe or very unsafe. Interestingly when respondents were asked if there was a signalized crosswalk at U.S. 30 and Veterans Way would they use it, there were mixed response, but slightly higher among the yes responses.

Among the amenities that receive the most uses downtown Rainier are the Restaurants, Post Office, and Rainier Riverfront walking path, Basketball courts, and playground.

What is your age	Response
Under 18	0%
18 - 64	82%
65 and Over	18%



How do you get to the Park?	Response
Walk	23%
Bicycle	0%
Drive	75%
Ride with someone	1%
Public transit	0%



How safe do you feel crossing U.S. 30 to get to downtown Rainier and Riverfront Park?	Responses
Very safe	5%
Somewhat safe	19%
Somewhat unsafe	27%
Very unsafe	45%
I don't know	4%

If there were a stoplight with a protected crosswalk at U.S. 30 and Veterans Way, would you use the park and downtown area more frequently?	Responses
Yes	39%
No	34%
Maybe	22%
I don't know	5%

**What features of downtown Rainier and Riverfront Park do you use most often? Check all that apply.**

