



Walk Bike Clackamas Plan

April 2024

N NELSON
NYGAARD



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The contents of this document do not necessarily reflect views or policies of the State of Oregon.





Land Acknowledgements

What we now call Clackamas County is the traditional lands and waterways of the Clackamas, Chinook Bands, Kalapuya, Kathlamet, Molalla, Multnomah, Tualatin, Tumwater, Wasco and many other tribes of the Willamette Valley and Western Oregon.

We honor the Native American people of Clackamas County as a vibrant, foundational, and integral part of our community here today. We respectfully acknowledge Wy'east, also known as Mount Hood, and Hyas Tyee Tumwater, also known as Willamette Falls, as sacred sites for many Native Americans.

We thank those who have connection to this land and serve as stewards, working to ensure our ecosystem stays balanced and healthy.

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Executive Summary

Plan Process

Walk Bike Clackamas (WBC) is Clackamas County’s first combined pedestrian and bicycle plan. Building on existing adopted plans, it recommends future projects and programs to meet the county’s transportation needs and updates policy priorities to guide decision-making for active transportation investments in unincorporated Clackamas County.

WBC began in summer 2022 and extended through mid-2024. The project team included an 18-member Project Advisory Committee, a Project Management Team led by county staff, and a consultant team including representatives from Nelson\Nygaard, Toole Design, and Thuy Tu Consulting.

Walk Bike Clackamas Goals

The six WBC goals shown below are the basis for establishing the objectives, policies and performance measures to guide county implementation of this plan.

- Safety**
through safe street design and supportive programs
- Sustainability**
expand and promote travel options that benefit - the environment, economy, and community
- Accessibility**
to ensure people of all ages, abilities, and incomes can walk, bike, and roll
- Equity**
ensure safe alternatives to driving are available to everyone regardless of age, race, income, gender, and ability
- Connectivity**
provide convenient and clear links with schools, parks, shopping, and other important community destinations
- Health**
plan and provide infrastructure that allows people to safely walk, run, or bicycle, ensuring better health outcomes for all

Plan Topic Areas

- **Health Equity Framework and Existing Conditions:** Key population, demographic trends, existing transportation system, adopted transportation plans, policies, health and equity indicators impacted by transportation infrastructure.
- **Summary of Public Engagement Themes:** Walk Bike Advisory Committee (WBAC) meetings, along with virtual and in-person public events demonstrate the critical need for WBC implementation as the County faces transportation safety concerns.
- **Policies priorities and performance measures:** Key policies to guide future decision-making and metrics to track the plan implementation.
- **Recommended supportive programs:** To encourage people in Clackamas County to walk, roll, or bike more, and help understand available transportation options.
- **Project identification and prioritization process:** WBC identifies over 400 projects to fill gaps and deficiencies in the County’s networks, but our prioritization process narrows the number down to 224 projects that are most likely to meet the County’s goals.
- **Priority Projects:** The prioritization process identifies key linear and spot improvement projects that are critical to each planning area.
- **Shared Streets:** High-use streets for people walking and bicycling in Clackamas County with speeds reduced to 20 mph to enhance public health, equity, and safety, particularly on streets connecting neighborhoods, shopping areas, and parks.
- **Facility Design Toolkit:** Provides a framework for County staff to design and construct walking and biking improvements.
- **Funding strategies:** To implement active transportation projects, WBC describes creative funding solutions stemming from County/local, regional and state, and federal opportunities.

Engagement Process

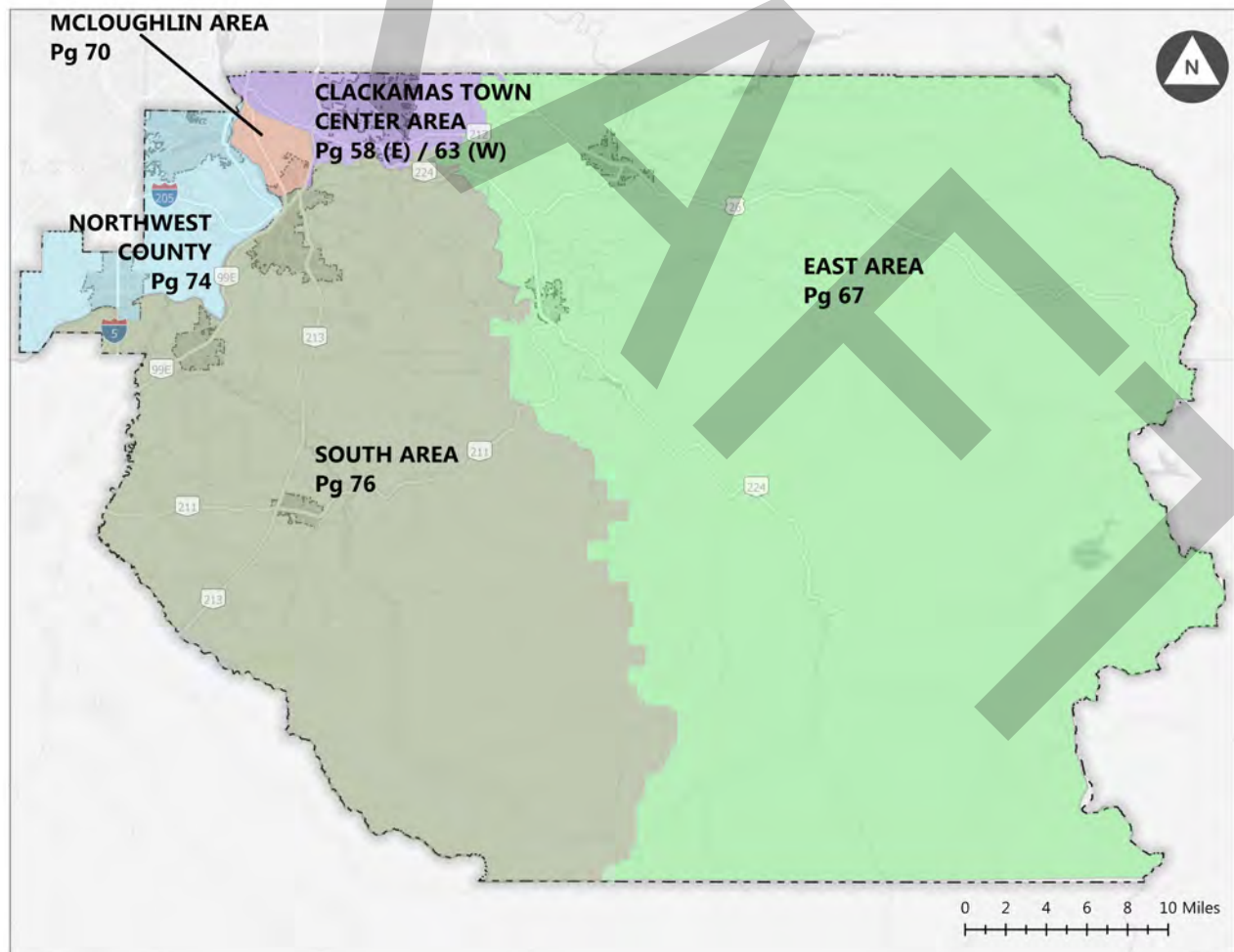
Stakeholder engagement was a critical aspect of the planning process. A combined resident and technical Walk Bike Advisory Committee (WBAC) guided project development and provided diverse perspectives. The WBAC met four times, with each meeting immediately preceding a public outreach event or survey.



Project Priorities

Public and WBAC input on prioritization criteria resulted in a goal-based scheme for ranking potential projects. Each identified goal had its own set of criteria. The projects are divided into tiers to increase the potential for implementation.

Area	Tier 1 High Priority	Tier 2 Medium Priority	Tier 3 Low Priority	Total Projects
Clackamas Town Center Area	32	34	30	96
East County Area	10	7	11	28
McLoughlin Area	14	12	12	38
Northwest County Area	6	6	6	18
South County Area	14	15	15	44
Total	76	74	74	224



Top Priority Projects

Project ID	Name	Description
CC - 169	Scouters Mountain / Mt Scott Loop Trail	Construct multi-use path in accordance with the Active Transportation Plan
CC - 173	SE Sunnyside Rd pedestrian facilities and bikeway	Add pedestrian facilities and bikeways in accordance with the Active Transportation Plan
CC - 60	SE Oatfield Rd pedestrian facilities and bikeways	Fill gaps in pedestrian facilities and bikeways
CC - 144	SE Evelyn St pedestrian facilities and bikeway	Fill gaps in bikeways and pedestrian facilities
CC - 119	SE Johnson Rd / SE McKinley Rd pedestrian facilities and bikeways	Fill in gaps in pedestrian facilities and bikeways
CC - 155	SE 122nd Avenue / SE Mather Rd crosswalk	Install new crosswalk
CC - 125	SE 85th Ave pedestrian facilities and bikeways	Add sidewalks and bikeways and consider crosswalk improvements
CC - 129	SE 82nd Dr pedestrian facilities and bikeways	Fill in bikeways and pedestrian facilities gaps
CC - 172	SE 142nd Ave pedestrian facilities and bikeways	Add bikeways and pedestrian facilities
CC - 70	OR 99E (McLoughlin Blvd) / SE Jennings Ave bike crossing	Construct bike signal at SE Jennings / OR 99E / Trolley Trail intersection

Program Priorities

WBC also identifies supportive programs to help make walking and biking safer and more comfortable and help build awareness and use of these investments. Clackamas County already has programs that support walking and bicycling, but several new programs could help address community desires and complement infrastructure investments. Potential WBC programs categorized into three groups: events, campaigns, and mode shift.

Events	Open Streets	Events that close a portion of a road to cars to allow people to walk, bike, skateboard, scoot, and have fun with friends, family, and neighbors
	School Zone Safety	Promote safe driving behaviors for parents and other adults, and safe walking and bicycling access to schools for students
Campaigns	Bicycle-Friendly Drivers	Build driver awareness of how to safely drive on roads with bike lane and other facilities, and rights and responsibilities of people bicycling and driving
	No Parking in Bike Lane	Target illegal car/truck parking in bike lanes to ensure lanes remain open and usable to people bicycling
Mode Shift	Micromobility	Offered shared services -- such as short-term bike, electric bike, or electric scooter rentals -- to give people travel options for short trips
	Bicycle and Pedestrian Counts	Gather data about the number of people walking and biking at key locations to learn what's working and what needs to be done
	Street Painting Program	Develop street painting program to allow for neighborhood groups to install street murals to foster lower speeds and solidify shared streets



1. Introduction

1.1 Plan Purpose

Walk Bike Clackamas (WBC) is Clackamas County's first combined pedestrian and bicycle plan. It recommends future projects and programs to meet the county's transportation needs and updates policy priorities to guide decision-making for active transportation investments.

Since the Bicycle Master Plan and Pedestrian Master Plan were last updated in 2003, the county's transportation system has drastically changed. WBC accounts for the changing physical, demographic, and political landscape, and responds to the state requirement to develop balanced transportation systems and regularly update bicycle and pedestrian plans to be eligible for funding opportunities.

The study area includes all of unincorporated Clackamas County.

Why now?

The time is right for a new county plan for walking and biking. Clackamas County has:

1

AMBITIOUS CLIMATE GOALS

The Board of County Commissioners had set a goal for the county to be [carbon neutral by 2050](#), which means balancing greenhouse gas emissions to capture as much as is emitted. Safe and convenient options to reduce reliance on single-occupancy vehicle trips can help.

2

NEW MOBILITY OPTIONS

Planning for active transportation opportunities such as bike share, protected bike lanes, and other advancements were not included in past plans.

3

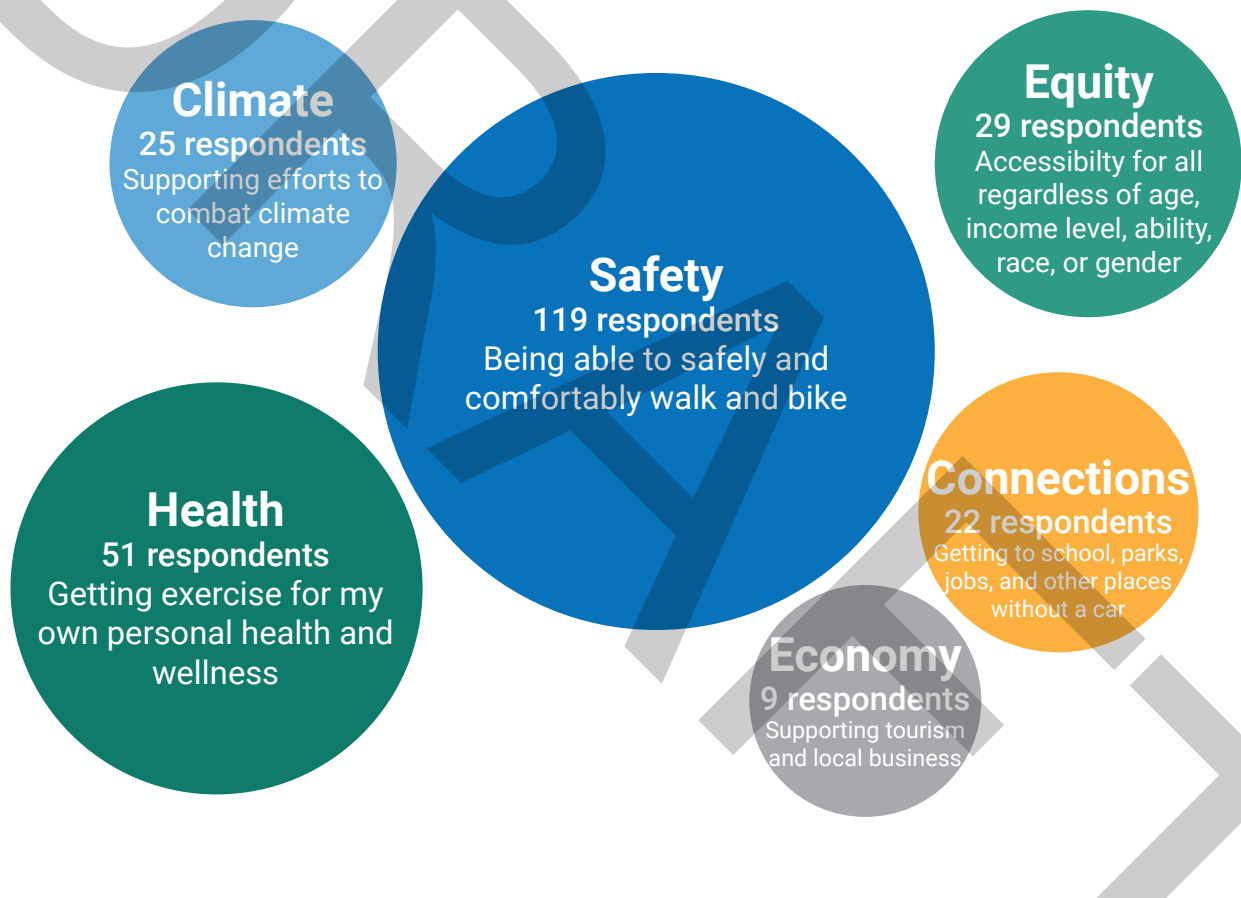
NEW POLICY DIRECTION

The county has prioritized transportation options that consider health outcomes and equity, with the goal that 100% of residents have access to safe and affordable multimodal infrastructure. County Planning and Public Health staff jointly crafted the approach to WBC to ensure this is reflected in the planning process and outcomes.

Guiding Principles

To initiate the Walk Bike Clackamas project and develop a framework to guide the planning work, the project team asked community members at the 2021 Clackamas County Fair what was most important to them in terms of walking and biking. As shown in Figure 1, the top three responses were safety, health and equity. These three priorities helped shape the plan vision and served as guiding principles during the two-year planning process.

Figure 1 Public Priorities



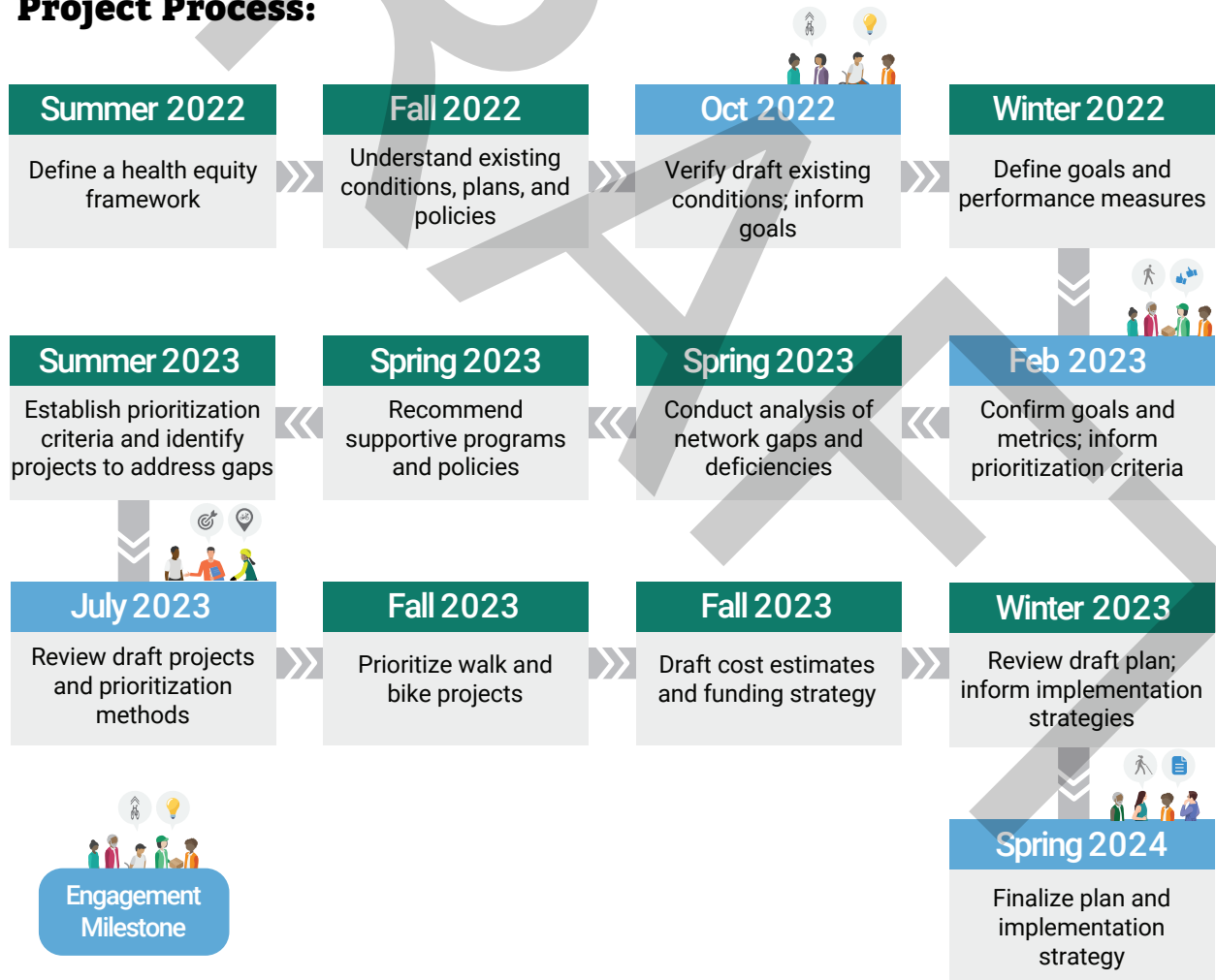
1.2 Plan Development

WBC began in summer 2022 and extended through mid-2024.

The project team included an advisory committee, Project Management Team led by county staff, and a consultant team including representatives from Nelson\Nygaard, Toole Design, and Thuy Tu Consulting. Stakeholder engagement was a critical aspect of the planning process. The Walk Bike Advisory Committee (WBAC) met four times to guide project direction. Each meeting immediately preceded a public outreach event or survey.

Clackamas County's Planning, Traffic Engineering, and Public Health divisions recognize that healthier built environments allow everyone an opportunity to thrive in Clackamas County, and the collaboration of these agencies throughout the planning process is anticipated through plan implementation.

Project Process:

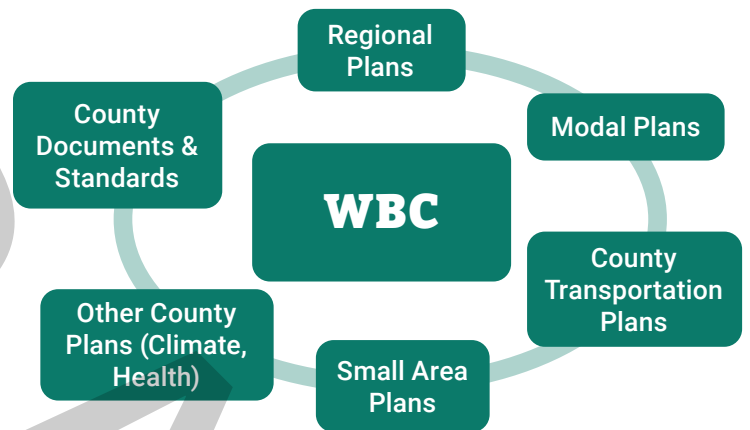


1.3 Building off Other Plans

WBC builds on previous County and regional planning efforts. Plans and policies relevant to the creation of WBC were reviewed to identify key themes moving forward, which helped lay the project foundation. Relevant plans area summarized in detail in **Appendix E: Technical Memorandum 3: Plan Review**.

Examples of each plan type include:

- Regional Plans: Metro Regional Transportation Plan
- Modal Plans: Clackamas County Transit Development Plan
- County Transportation Plans: Clackamas County Transportation System Plan
- Small Area Plans: Park Avenue Community Project
- Other County Plans (Climate, Health): Community Health Improvement Plan
- County Documents & Standards: Roadway Standards



The plan review identified opportunities to better align with current best practices:

	Theme/Opportunity	Detail
	Strive for Safe Systems approach in all transportation plans and projects to eliminate traffic fatalities and injuries
	Better integrate equity...	... into engagement, technical analysis, design and implementation guidance
	Include clear design guidance...	... that is evidence-based and increases safety for the most vulnerable road users
	Document County program priorities...	...to clarify the County's goals and roles in supporting active transportation through program delivery
	Identify new funding sources...	...to leverage new federal, state, and regional funding available for active transportation projects
	Describe actions for implementation...	...that specify the role of the County and jurisdictional partners in implementing active transportation projects



2. Existing Conditions

An initial assessment of active transportation conditions countywide identified locations where potential projects could make the biggest impact in meeting transportation needs. The existing conditions analysis also included an assessment of community health and the creation of a Transportation Equity Index.

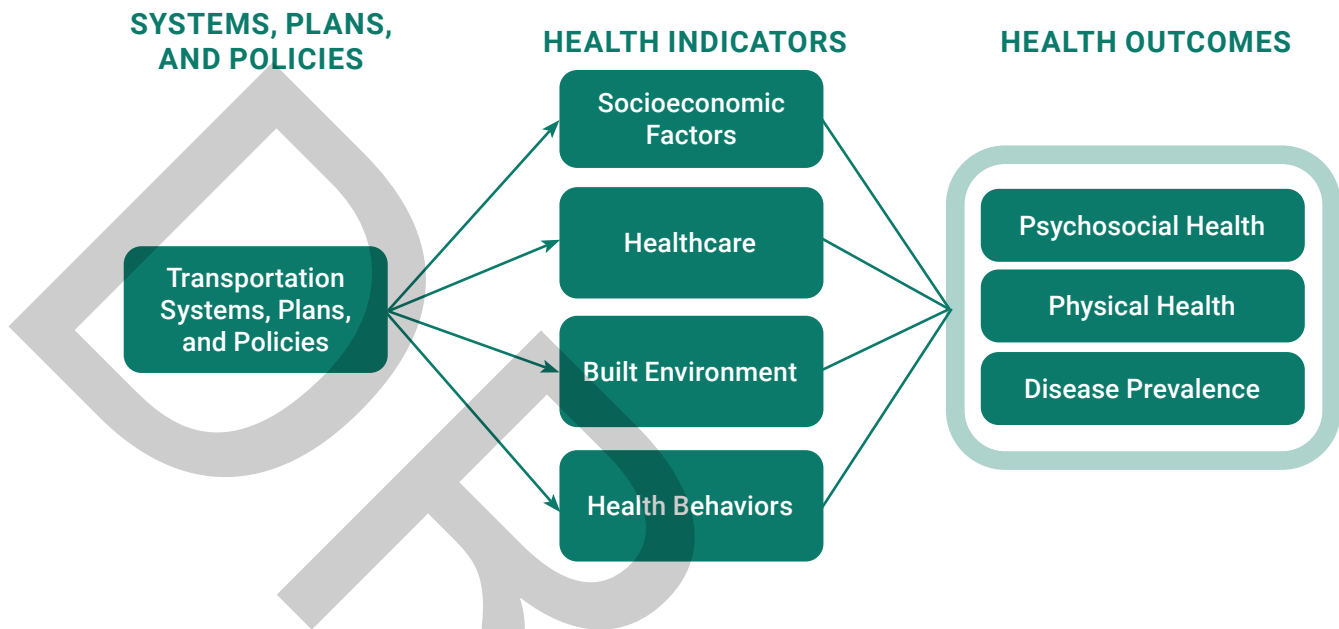
2.1 Active Transportation and Health

Safe opportunities for physical activity can have a positive impact on an individual's physical and mental health. Presence of safe and complete infrastructure, like sidewalks, bike lanes and safe crossings, help to reduce barriers to walking and biking and create access to goods, services, jobs, and transit for people who depend on alternative transportation modes. Studies show that people who live near (within 1/2 mile or 15 minutes walking) safe, high-quality biking and walking infrastructure tend to get more exercise than people who don't, particularly among participants without a car.*

The health and active transportation connection can also be illustrated in the Health Pathway Diagram (Figure 1). Someone's health is dependent, in large part, on a number of social determinants, or conditions in the physical, social, and economic environment, such as education, economic, housing, and transportation opportunities, that contribute to personal health outcomes.

*American Journal of Public Health, "New Walking and Cycling Routes and Increased Physical Activity", 2014, <https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2014.302059>

Figure 2 Health Pathway Diagram



Transportation Plans and Policies

Transportation plans and policies are considered the upstream components of the health pathway. They determine how transportation investments are made and can help shape how community members reach important destinations such as schools, work, and health services. For example, more investments in multimodal transportation systems may give people the opportunity to choose different travel options, including walking, biking or using transit.

Health Indicators

Indicators that impact personal health of county residents include socioeconomic factors (education, race, place of birth, employment, income), healthcare access (can those without a vehicle access the care they need?) and quality of built environment (sidewalks, bike paths, safe crossings, lighting and parks for recreation). Personal behaviors such as participating in physical activity such as walking or biking are also a factor. If people perceive pedestrian or biking infrastructure as unsafe, they will not use it. All these health indicators work with both upstream components and downstream outcomes to create the health pathway.

Health outcomes

Health outcomes are the psychosocial and physical conditions resulting from the various health indicators and transportation plans and policies. They include conditions such as diabetes, obesity and cardiovascular disease. To better understand Clackamas County community health and how health considerations could be incorporated into

the planning process for Walk Bike Clackamas, the team conducted a Baseline Health Conditions analysis. The analysis included both local and federal data sources.

Significant findings and trends from the analysis include:

- Eighty-five percent of adults are in “good” health, and 25% met Center for Disease Control (CDC) guidelines for physical activity.* However, chronic disease rates are on the rise, including psychosocial health and chronic conditions like asthma, cancer, cardiovascular disease, and obesity.
- People with chronic conditions are largely concentrated near urban areas or within city limits.
- Rates for psychosocial health outcomes such as mental distress and poor mental health days are increasing.
- The percentage of adults engaging in physical activity in the county is decreasing.
- People in the county have lower rates of walking and biking to work than compared to the state of Oregon. Encouraging walking and biking through infrastructure and built environment improvements helps the population reach their daily physical activity requirements, and ultimately improves health outcomes.

To inform the WBC process and help guide where active transportation investments could be allocated to improve community health, criteria that focused on health-related considerations were used in the project prioritization process. In addition, specific health considerations were included in WBC performance measures, which will be used to track plan progress related to various targets and health outcomes.

See **Appendix D: Technical Memorandum 2: Baseline Health Conditions** for a more detailed description of the health indicators and outcomes and how Clackamas County compares to the state of Oregon as a whole.

*CDC Behavioral Risk Factors Surveillance System (BRFSS), 2016-2019 age-adjusted percent.

Equity and Communities of Interest

While data demonstrates that a safe, connected active transportation network benefits community health, we also know that transportation investments have not been made equally in the past. Communities of Interest* tend to live in places that lack robust safe walking and biking infrastructure and therefore often face greater barriers to walking and biking and tend to experience worse health outcomes compared to county averages. In response to these disparities, WBC developed a Transportation Equity Index to help us understand where Communities of Interest are living across Clackamas County and where to prioritize future transportation investments, to reduce the possibility that where people live and what their socio-economic conditions are predict their health outcomes.**

The Transportation Equity Index uses the following inputs to identify Communities of Interest:

- Black people, Indigenous people, and People of Color (BIPOC)
- Immigrants
- People with limited English proficiency
- Low-income and low-wealth community members
- Low- and moderate-income renters and homeowners
- People with disabilities
- Youth and seniors

Census block groups with a **Transportation Equity Index score** above the county average across are called **Equity Focus Areas**. They receive high consideration for new projects.***

Applying Equity

1 Valuing Community Expertise

Clackamas County recognizes the lived experiences and time of our Walk Bike Advisory Committee members are valuable. The project team worked with the Oregon Department of Transportation to ensure WBAC members were offered stipends to compensate them for their contributions.

*Communities of Interest: Black people, Indigenous people, and People of Color (BIPOC); immigrants; people with limited English proficiency; low-income and low-wealth community members; low- and moderate-income renters and homeowners; people with disabilities; youth and seniors. For more detail, see the Walk Bike Clackamas Title VI and Equity Assessment Memo.

** Technical Memorandum 1: Health Equity Framework describes how health factors are influenced by systems, environments, and individual factors.

*** For more information on the Equity Index Methodology, see Technical Memorandum #4: Existing Conditions Analysis.

2 Meeting People Where They Are and When They Can

Community Conversations and Public Engagement Events were located at events and destinations where County residents, employees, and visitors already congregate or travel to reach people where they are. The website, on-line survey, and digital campaigns provided the opportunity for people to weigh in whenever they had availability.

3 Leading with a Health Equity Framework

Health and equity are foundational elements of this planning process. The project team consulted the County's Health and Human Services Department on available data to assess baseline health conditions and crafted a Health Equity Framework to understand this project's potential and responsibility to advance equity and improve health outcomes.

WBC's Health Equity Framework acknowledges three important components that affect health outcomes and whether those are achievable for everyone:

- **Systems:** Structural policies and practices
- **Environment:** Physical and social factors
- **Individual:** Personal behaviors and attitudes

Active transportation investments have the potential to influence each of these dimensions:

- **Systems:** Dedicate funding for active transportation investments in areas with the greatest need and history of underinvestment
- **Environment:** Create safe places for people to walk or bike to access key destinations to integrate physical activity into their daily living
- **Individual:** Provide alternatives to driving so people without access to a vehicle have attractive options

4 Integration with Plan Goals

This ensures that equity is embedded into plan objectives and performance measures and establishes equity as a key criterion for project prioritization and ongoing decision-making.

5 Prioritizing Projects in Places with the Greatest Need

The transportation equity index measure identified the distribution of these demographic factors: race, ethnicity, linguistic isolation, low income, limited transportation resources, older adults, youth, and disability. By including a quantitative measure reflecting the concentration of these groups, locations with higher concentrations scored higher during project prioritization. Figure 3 illustrates the areas with the highest scores on the equity index in red.

6 Supportive Programs for Walking and Biking

Programs that support the choice to walk and bike can have positive impacts on expanding transportation options for Communities of Interest based on how programs are implemented and where programs are focused. Program delivery can build community partnerships and provide extra support, such as translations and language interpretations.

7 Securing and Directing Funding

Certain funding sources, such as Safe Streets and Roads for All (SS4A), Reconnecting Communities and Neighborhoods, are dedicated to improving transportation access within Communities of Interest. Securing this funding not only increases the transportation options of these communities, but the broader population as well.

2.2 Subarea Demographics

Figure 4 illustrates WBC's five planning subareas, which allow for a more nuanced analysis of conditions and investments in different parts of the county. These areas follow development patterns, as well as natural features such as the Willamette and Clackamas rivers and the general topography. This section describes existing conditions related to population, employment, and demographic trends within each subarea.

Figure 4 Clackamas County planning subareas

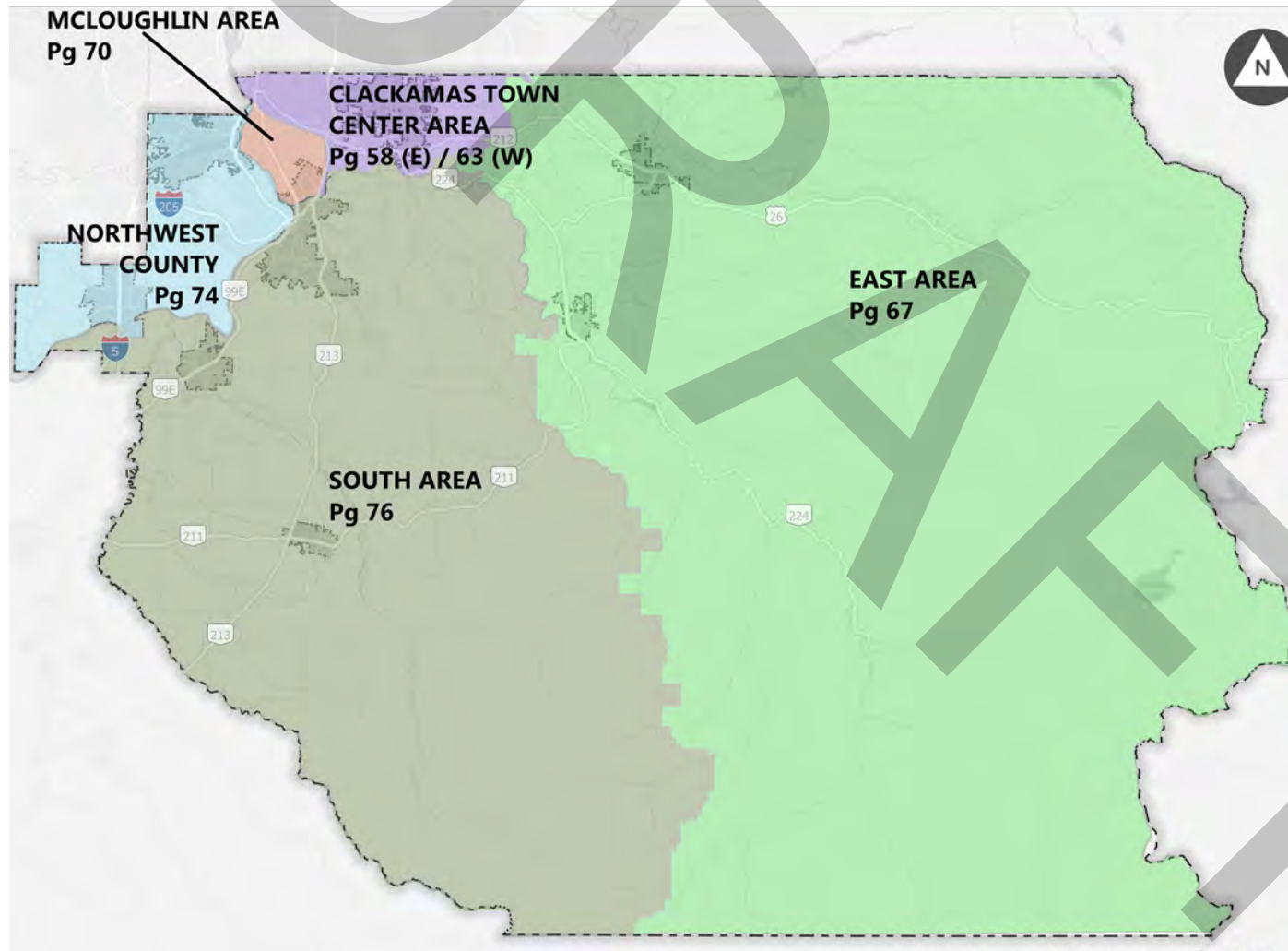


Figure 5 Land and population by County planning subarea

Area	Countywide			Unincorporated County		
	Population	Acreage	Median Residential Density (people/acre)	Population	Acreage	Median Residential Density (people/acre)
Northwest County	104,336	43,124	2.42	19,876	26,978	0.74
Greater McLoughlin Area	49,615	6,820	7.28	36,351	5,217	6.97
Clackamas Regional Center Area	101,780	27,255	3.73	53,889	16,469	3.27
South County*	113,285	400,164	0.28	66,463	389,153	0.17
East County**	45,917	716,737	0.06	38,869	712,998	0.05
Countywide	414,933	1,194,099	0.35	215,448	1,150,815	0.19

*83.0 square miles, or 13.2%, of Southwest County is Federal land.

** 578.6 square miles, or 51.4%, of East County is Federal land.

2.3 Pedestrian and Cyclist-involved Crashes

Clackamas County has a goal to eliminate fatal and serious injury crashes on its roads by 2035.

Between 2016 and 2022, 93 people were killed or seriously injured in pedestrian or bicyclist-involved crashes in Clackamas County, with the most crashes involving pedestrians. The areas of the county with the highest and lowest population densities (Greater McLoughlin Area and East County, respectively) had the highest proportions of fatal or serious pedestrian-involved crashes.

Figure 6 Crashes between 2016-2020 by transportation planning subareas

Area	Pedestrian involved crashes			Bicyclist involved crashes		
	All crashes	Fatal or Serious Injury Crashes	Percentage Fatal or Serious Injury Crashes	All crashes	Fatal or Serious Injury Crashes	Percentage Fatal or Serious Injury Crashes
Northwest County	50	10	20%	39	0	0%
Greater McLoughlin Area	21	16	76%	35	1	3%
Clackamas Regional Center Area	90	25	28%	75	11	15%
South County	68	16	24%	52	5	10%
East County	19	9	47%	8	0	0%
Countywide	278	76	-	199	17	-

Data Source: ODOT Crash Data Viewer

2.4 Active Transportation Conditions

Existing pedestrian network snapshot

Sidewalks are key to increasing walking as a mode of transportation, but most roads in unincorporated Clackamas County do not have any sidewalks.

In unincorporated Clackamas County, streets without sidewalks account for nearly 93% of the total roadway centerline mileage. This is in large part because sidewalks are required in urban areas, but not in rural areas. Sidewalk availability is highest in Clackamas Regional Center area and least common in Southwest County.

Figure 7 Sidewalks in Clackamas Regional Center Area



PEDESTRIAN NETWORK FACTS

Major Streets

- Four percent of major and five percent of minor arterials have sidewalks on at least one side
- Eight percent of principal arterials have sidewalks on both sides

Local Streets

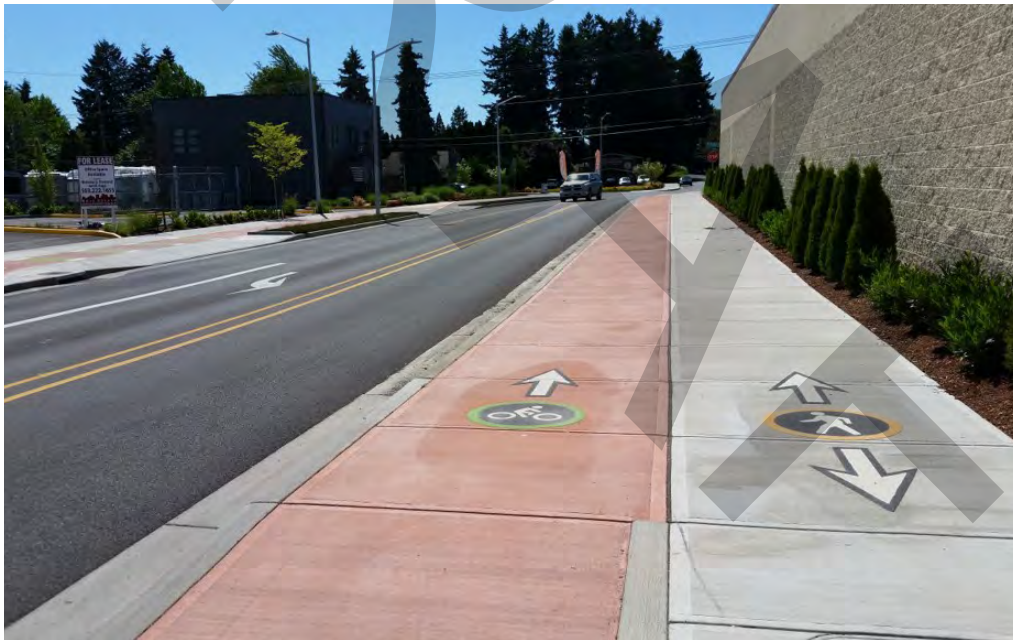
- Eight percent of local streets have sidewalks on both sides

Existing bicycle network snapshot

Clackamas County has over 100 miles of bikeways in unincorporated areas, yet much of the network has gaps and inconsistencies.

There are 102 miles of bikeways on unincorporated Clackamas County roads and 29 miles of multi-use paths. (County planning documents include plans for an additional 801 miles of bikeways and 40.4 miles of multi-use paths.) While most current county bikeways are traditional bike lanes, the planned bikeways include protected bike lanes, cycle tracks, shoulder bikeways, shared roadways such as neighborhood greenways, and off-street facilities such as hard surface multi-use paths. (County data on existing bikeways data does not distinguish between striped bike lanes, buffered bike lanes, and separated bike lanes.)

Figure 8 Hard Surface Trail on SE Monroe St between SE Fuller Rd and SE 82nd Ave



BICYCLE NETWORK FACTS

- Most of the on-street bikeways in the County are in the Clackamas Regional Center Area and the Southwest County
- Nearly two-thirds of the existing multi-use paths are in East County, or in the Clackamas Regional Center Area

Figure 9 Transportation summary of planning subareas

Area	Number of Centerline miles	On-street bikeway facility mileage		Multi-use path* mileage		Sidewalk Mileage		
		Existing	Planned	Existing	Planned	Both sides of street	One side of street	One side of street
Northwest County	138.4	2.0	63.1	3.8	1.4	2.5	4.4	131.6
Greater McLoughlin Area	130.1	23.8	15.8	5.4	-	15.5	15.2	99.4
Clackamas Regional Center Area	226.5	33.5	52.3	9.3	8.5	62.7	28.5	135.3
South County	770.7	33.1	400.8	0.8	20.9	0.9	2.3	767.5
East County	554.7	9.3	268.7	9.5	9.6	0.9	1.1	552.7
Countywide	1820.3	101.7	800.7	28.9	40.4	82.4	51.5	1,686.4

*Sometimes referred to as off-street bikeway facility.

2.5 Current Walking and Bicycling Levels

The percentage of workers who walk and bike to work in Clackamas County is less than the percentage in Oregon overall.

Figure 10 Workers Who Bike and Walk to Work*

	Clackamas County	State of Oregon
Bike mode share to work	1%	2%
Walk mode share to work	2%	3%

Data Source: American Community Survey (ACS) 5-year percentage data for 2015-2019

3. Public Engagement

Stakeholder engagement was a critical element of the Walk Bike Clackamas process and recommendations.

This project had four key engagement periods for touchpoints with an advisory committee, traditional and non-traditional open house events and public surveys. The engagement milestones were timed to inform each of the following elements of the plan:

- Existing conditions
- Goals and objectives
- Needs and potential projects and programs to satisfy them
- Moving to implementation

Figure 11 Clackamas County staff at a pop-up outreach event in December 2022



3.1 Walk Bike Advisory Committee

The Walk Bike Advisory Committee (WBAC) guided the plan by advising the county at key milestones and providing input on project deliverables at four productive meetings.

The 18 WBAC members represented a wide range of community values and interests including community and professional representatives. WBAC membership consisted of a balance of geographic and special interests, races/ethnicities, gender, age, and ability to ensure representation among groups historically under-represented.

Figure 12 WBAC summary of activity

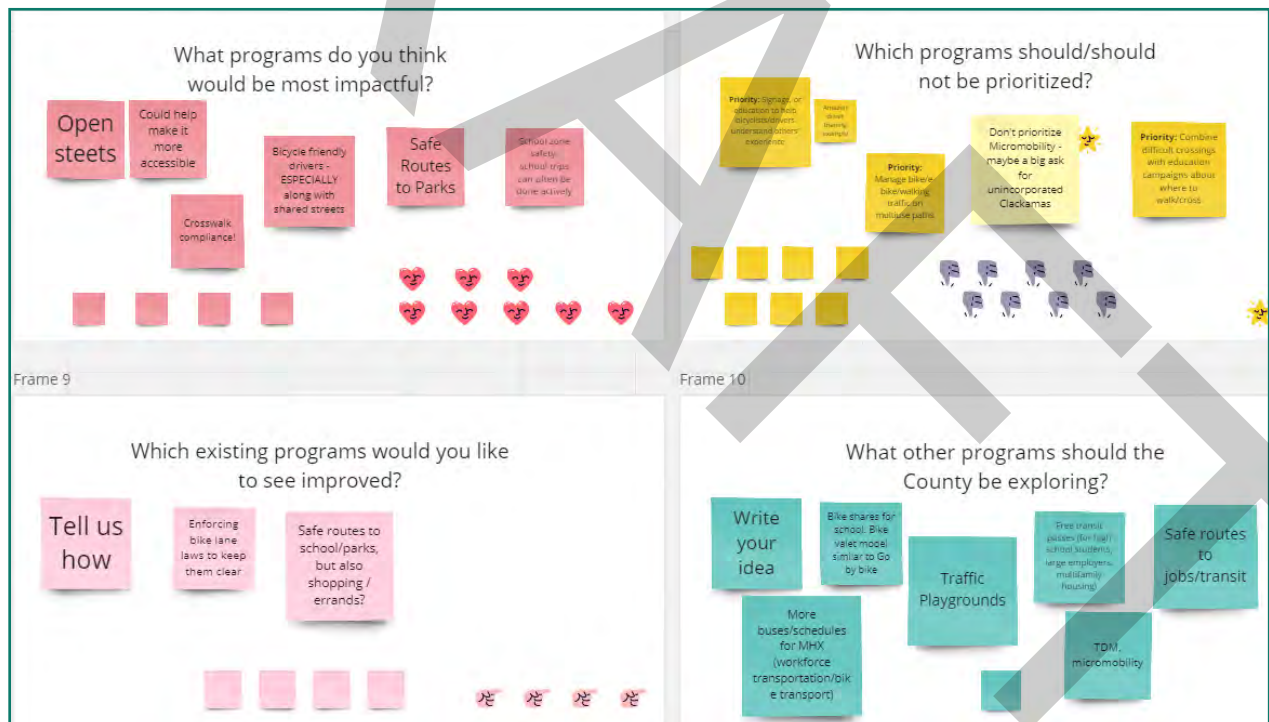
	WBAC #1	WBAC #2	WBAC #3	WBAC #4
Date	10/26/22	2/8/23	7/26/23	Anticipated in 2024
# of WBAC Attendees	14	13	16	TBD
Topics Covered	<ul style="list-style-type: none"> Project purpose and need WBAC member expectations 	<ul style="list-style-type: none"> Existing conditions summary Process and outcomes from Public Engagement #1 Defining project success Shared Streets Supportive bike and pedestrian programs 	<ul style="list-style-type: none"> Agency Partner Workshop Recap Gap and Deficiencies Analysis highlights Project identification and prioritization framework 	<ul style="list-style-type: none"> Draft plan and recommendations Funding and implementation strategy
Key Decisions and Outcomes	<ul style="list-style-type: none"> What affects one's experience walking, rolling, and biking in Clackamas County; how to improve on this experience 	<ul style="list-style-type: none"> Metrics for successful project goals Possible locations for Shared Streets New programs that would be most impactful in the county and existing programs that should be improved 	<ul style="list-style-type: none"> Prioritization criteria adjustments Project identification confirmation 	<ul style="list-style-type: none"> TBD

What we heard

The WBAC identified the following key elements that were incorporated in the final plan:

- Personal safety and comfort accessing transit stops, sidewalks, and bicycle networks.
- Collaboration between the county and cities.
- A focus on public engagement.
- Use of Shared Streets to connect with the larger active transportation network.
- Installation of infrastructure to expand Safe Routes to School and connections to other everyday destinations.
- Explicit descriptions of how equity will be integrated in project identification and scoring.
- Including facility maintenance into project recommendations.
- Safety as an important overarching goal.
- Equitable distribution of projects among all five planning subareas.

Figure 13 Miro Board from WBAC Meeting #2 with input on programs



3.2 Public Events Summary

Public engagement included pop-up events, a virtual interactive map, three public surveys, presentations to community groups and in-person and virtual open houses.

By the Numbers:

Milestone #1	Milestone #2	Milestone #3	Milestone #4
Late Fall 2022	February 2023	August 2023	2024
Community Conversations	Virtual interactive map and survey	Open House event & survey	Public input on draft report and virtual open house
110 Participants	~800 Participants	416 Participants	### attendees ### survey respondents

Milestone #1: Community Conversations: Project Kick-off

The first round of public engagement in late fall 2022 included four in-person Community Conversations and a corresponding online survey, with over 110 total participants. Engagement Milestone #1 was designed to build awareness and support for WBC, including:

- Understand what people like and dislike about walking, rolling, and biking in Clackamas County.
- Begin to identify gaps and deficiencies in the walking, rolling, and biking networks.
- Understand community priorities to inform project goals and objectives.



What we heard

- Clackamas County needs more active transportation and multimodal infrastructure improvements.
- People want to use Active Transportation in all parts of Clackamas County but don't, because they are concerned about safety due to lack of infrastructure and proximity to vehicle traffic.



Milestone #2: Interactive Map Survey: Issues and Opportunities

The second round of public engagement, in February 2023, consisted of a virtual open house and interactive map based survey.

Engagement Milestone #2 was designed to:

- Explain the project to members of the public.
- Share and request feedback on draft goals.
- Solicit feedback on challenges and barriers to walking and bicycling.
- Gather suggestions on needed bikeway, sidewalk and crosswalk locations.
- Introduce the concept of Shared Streets and gather suggestions on potential locations.

The Virtual Open House webpage received more than 900 page views, more than 200 people responded to the surveys and shared nearly 800 written comments, and participants shared 270 submissions to the online map tool highlighting barriers and opportunities for active transportation. Feedback in the interactive map survey was concentrated in urbanized areas in the northwest area of the county.



What we heard

- Survey respondents:
 - Supported the draft goals and the Shared Streets concept.
 - More than 70% indicated strong support for all six goals; safety had the most support, while equity had the least.

Walk Bike Clackamas Virtual Open House

This Virtual Open House will be available for the next several months, but the survey opportunities have been closed. Thanks for your input!

We want to hear from you! Learn about the project and tell us where improvements are needed.

Milestone #3: Open House and Survey: Project Priorities

Public Engagement Milestone #3 consisted of an in-person open house at North Clackamas Parks & Recreation District's (NCPRD) Movies in the Park at North Clackamas Park, multi-day tabling at the Clackamas County Fair, and an online survey. The purpose was to:

- Share findings from the gaps and deficiencies analysis.
- Present and gather reactions to recommended program priorities.
- Obtain feedback on network recommendations, pedestrian and bicycle projects, and priority improvements.

The two in-person events attracted 416 visitors. The online survey received 202 responses, with each planning subarea receiving 40 to 100 comments.



What we heard

Themes from this engagement milestone reinforced the WBC goals, and suggested key projects and preferences for types of investments:

- Safety for active transportation remains a concern.
- Participants at in-person events voiced the need for separated pedestrian and bicycle facilities, and/or paved shoulders in rural areas, and at other specific locations.
- There are network gaps between destinations. There are many destinations, but walking and biking connections between them are inadequate and feel unsafe.
- Survey respondents emphasized the importance of maintenance on county roadways.

Among the recommended programs, people expressed the most support for School Zone Safety campaigns, Open Streets events, Bicycle-Friendly Drivers campaign, and a No Parking in the Bike Lane campaign.



Milestone #4: Recommendations

Public Engagement Milestone #4



What we heard

- XX

3.3 Other Engagement Tools

The following tools were used to solicit public and stakeholder input throughout the course of WBC.

- **Project website:** to make it easy for people to learn more about the project and access meetings and material.
- **Fact sheet:** to summarize the project purpose, desired outcomes, schedule, and opportunities on a single page.
- **Interested parties list:** for anyone who signed-up online or at in-person events to receive project updates and notifications by email.
- **Briefings at PBAC meetings:** to inform the Pedestrian and Bicycle Advisory Committee about the study process and key decisions.
- **Agency Partner Workshop:** to coordinate pedestrian, bicycle, and other transportation efforts between Clackamas County and cities in the county. In the Workshop, we:
 - Introduced WBC
 - Learned about projects being planned by other agencies
 - Identified places where Clackamas projects would extend connectivity between unincorporated and incorporated areas
- **News releases and social media:** to share information about project outreach opportunities and meetings with the general public.
- **Community Planning Organizations (CPO) meetings:** to inform residents of project and obtain feedback.

Appendix B: Public Involvement Plan describes the tactics in more detail.

Figure 14 WBC Website

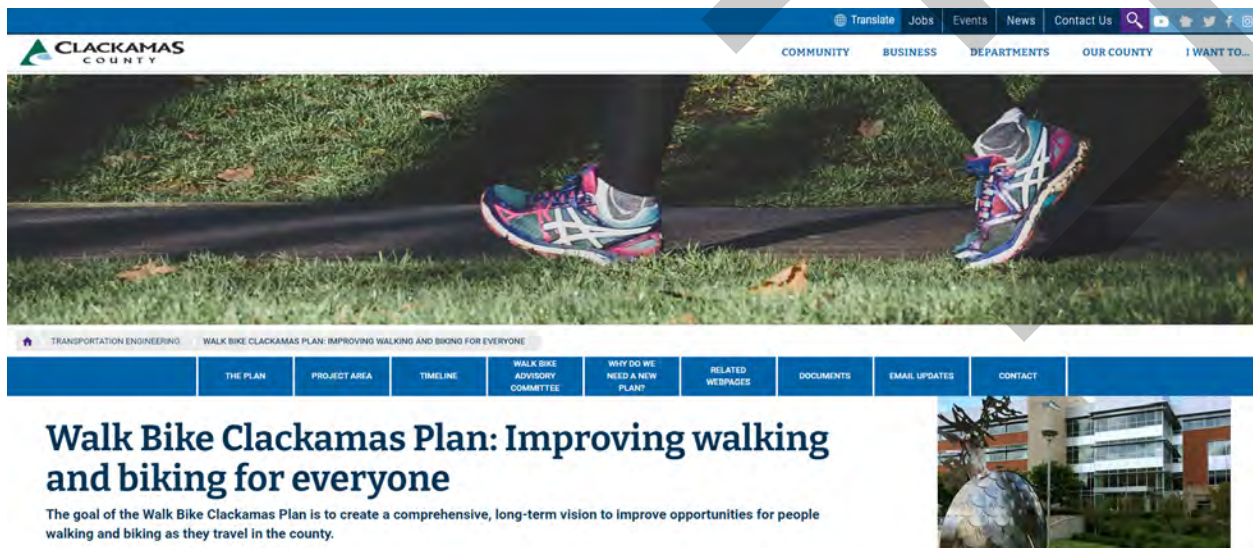


Figure 15 Fact Sheet

Walk Bike Clackamas

Making it easier and safer for people to walk, bike, and roll in Clackamas County

Clackamas County is updating its pedestrian and bicycle master plans to create a comprehensive, long-term vision and to identify ways to improve walking, bicycling, and rolling for all people who live, work, and recreate throughout unincorporated areas of the county. The plan will be developed with extensive and ongoing community engagement, along with technical analysis and expertise.

Why this project?

People are increasingly interested in using "active transportation" – walking, bicycling, and rolling (roller skates, wheelchairs, strollers, etc.) – for a variety of reasons. Some people don't have access to motorized transportation; some need to get to bus or light rail connections; and many people just want to enjoy the health benefits of traveling by foot or on wheels.

Since the county's last bicycle and pedestrian plan update in 2003, our transportation system has changed. Many of the projects identified in that plan were built and new policies have been established to meet today's travel needs.

In addition, the deadline for our goal to be carbon neutral countywide by 2050 is less than 30 years away. Since motorized transportation is a major source of greenhouse gas emissions, we need to make it easier and safer for more people to walk, bicycle, and roll to get where they need to go.

What will the WBC plan do?

This plan will:

- Establish a community-backed vision to meet active transportation (walking, biking, and rolling) needs for county travelers.
- Develop priorities for where to build additional infrastructure such as bike lanes and sidewalks.
- Update active transportation policies and adopt performance measures to track progress on achieving our goals.
- Provide a framework for making transportation decisions that includes everyone and advances health equity.

The final plan will be incorporated into our Transportation System Plan, which will be updated in the next two years.

What areas in Clackamas County are included in the plan?

Walk Bike Clackamas (WBC) will cover all urban and rural unincorporated areas of the county. We will coordinate recommended projects, programs, policies, funding, and construction opportunities with cities in the County.

How will public input be used to create the plan?

Walk Bike Clackamas will keep community voices in the center of the process in every step of plan development.

- The Walk Bike Advisory Committee (WBAC):** Community members and technical experts will review project work and advise the project team.
- Public engagement:** A variety of activities and processes will make sure the project team hears from county residents at community events, libraries, senior centers, and other places people visit every day. The team will seek your questions, concerns, and ideas about walking, biking, and rolling in Clackamas County, and work to provide the information you need to help create a meaningful, workable plan. The plan will also prioritize in-person outreach in areas with concentrations of communities of interest.
- Community survey and web map:** A virtual mapping tool and survey will be used to invite public input to identify walking and biking needs, and project ideas; comparable materials will be used to invite input from people with limited access to technology.

A health equity lens will be used in the project

A person's health is strongly influenced by their race, income, and home zip code. Investing in active transportation infrastructure and programs in areas with the greatest need can help reduce disparities in physical activity, related health indicators, and exposure to air and noise pollution.

What's the schedule?

This project began in August 2022 and is expected to be completed in early 2024. There are several key milestones for public input:

Fall 2022	Winter-Summer 2023	Fall-Winter 2023-24
Setting the stage: Existing conditions, goals, and objectives	Developing strategies: Needs assessment and recommended projects	Moving to implementation: Draft and final plans, and regulatory amendments.

WBAC #1 Public Engagement Milestone #1

WBAC #2 Online Survey Milestone #2

WBAC #3 Public Engagement Milestone #3

WBAC #4 Public Engagement Milestone #4

Have questions? Want to follow our progress?

Visit the project website to learn more and sign up for updates:
clackamas.us/government/walkbikeweb

Contact Scott Hoelcher, Project Manager
 503-742-4333 | ScottHoel@clackamas.us

Figure 16 Agency Partner Workshop and Miro Board

The Miro board displays a map of Wilsonville with several project locations highlighted in yellow and blue callouts:

- Ice Age Tongue Regional Trail
- Walden Park Ped/Bike Path
- Boeckman Creek Regional Trail
- IS Pedestrian Bridge
- French Prairie Bridge
- Boeckman Road Setback Sidewalks
- Boeckman Road Protected Bike Lanes
- Stofford Road Protected Bike Lanes
- Stofford Road Setback Sidewalks
- Advance Road Setback Sidewalks
- Advance Road Protected Bike Lanes



4. Goals and Objectives

4.1 Overall Plan Vision

Walk Bike Clackamas is a comprehensive, long-term roadmap to improve opportunities for people walking and biking as they travel in the county.

4.2 Goals and Objectives

Goals are general statements of desired outcomes of the community.

Objectives help document steps needed to realize goals, or what Clackamas County will need to do to meet its goals.

Actions are concrete steps county can take to meet goals..

Performance measures are specific outcomes that can be monitored and measured to track progress towards WBC goals.

The following goals, objectives, actions, and performance measures build upon relevant adopted Clackamas County plans, and reflect a more recent emphasis on priorities such as health and equity. They are based upon TSP active transportation policies, best practices, survey results, and WBAC input.

See **Technical Memorandum 5: Pedestrian and Bicycle Goals and Objectives** for a list and description of previous plans that informed the vision.

Figure 17 Goals and Objectives

Goal	Objective
 <p>Safety</p> <p>Improve the safety of people walking and bicycling through safe street design and supportive programs.</p>	<p>Keep people walking and bicycling safe by:</p> <ul style="list-style-type: none"> • Separating people walking, rolling, and bicycling from cars and trucks. • Improving street crossings. • Adding lighting to high-volume pedestrian areas and trails. • Providing dedicated space for people moving at different speeds, especially on shared paths with both people walking and using electric devices. • Promote and sustain Safe Routes to School programs in all Clackamas County school districts.

Goal	Objective
 <p>Accessibility</p> <p>Ensure walkways and bikeways are accessible for people of all ages, abilities, and incomes.</p>	<ul style="list-style-type: none"> • Repair and maintain existing sidewalks, trails, bikeways, ramps and wayfinding signs. • Define an all-ages and universally designed routes for walking and biking through places with a concentration of community destinations. • Create comfortable walking and biking connections to public transit. • Provide end-of-trip and streetscape amenities to support people walking and bicycling.
 <p>Connectivity</p> <p>Develop and maintain walking and biking routes that provide convenient and clear connections to important community destinations in Clackamas County.</p>	<ul style="list-style-type: none"> • Form connected networks of trails, sidewalks, and bikeways, including street crossings near places with concentrations of community destinations such as parks, natural areas, schools, commercial districts, and other destinations. • Coordinate with and connect to existing and planned active transportation projects in incorporated areas within the county. • Recognize the different facility design that may be needed in rural areas.
 <p>Sustainability</p> <p>Expand and promote active travel (walking and biking) options that optimize the environment, the economy, and community benefits.</p>	<ul style="list-style-type: none"> • Encourage and support active transportation mode shift with educational campaigns, incentive programs, or community events. • Include Complete Streets elements in street design and project delivery. • Increase tree canopy and native, climate adapted and low impact development plantings along walkways and bikeways.* • Develop a travel options program to focus on strategies to manage transportation choices and increase the appeal of walking, bicycling, and other non-single occupancy vehicle modes.
 <p>Equity</p> <p>Focus investments to ensure safe transportation alternatives regardless of age, race, income, gender, and ability.</p>	<ul style="list-style-type: none"> • Provide equitable access to active transportation facilities for all communities, especially Communities of Interest. • Improve access to job opportunities, medical care, local commercial services, and neighborhoods within Communities of Interest. • Integrate equity into all aspects of the development, financing, and implementation of projects and programs.
 <p>Health</p> <p>Plan and provide infrastructure that allows people to safely walk, run or cycle for improved health.</p>	<ul style="list-style-type: none"> • Prioritize active transportation networks and corridors that connect residents to medical care facilities, schools, parks and recreation facilities, and transit facilities to encourage an active lifestyle that will improve residents' physical and mental health. • Encourage physical activity through active transportation for recreation, commutes, and other trips.

*U.S. Environmental Protection Agency. Urban Runoff: Low Impact Development: <https://www.epa.gov/nps/urban-runoff-low-impact-development>

4.3 Supportive Actions

The following actions are concrete steps the county can take to meet plan goals.

Safety

- Provide safe and convenient crossings by coordinating with pedestrian, bicycle, and trail master plans, as well as special transportation plans of the county, Oregon Department of Transportation, the United States Forest Service, Metro, and parks providers. Ensure coordinated connections between off-road multi-use path and trail systems and on-road pedestrian facilities and bikeway networks.
- Create multimodal, shared streets to enhance safety and connectivity, and to supplement the existing bikeway network.
- Pilot new and innovative pedestrian and bicycle treatments that allow for cost-effective solutions, such as advisory bike lanes.
- Optimize crossing times for pedestrians at signals.
- Reduce turning movement conflicts at intersections.
- Develop street painting program guidelines to foster lower speeds through neighborhood intersections.

Accessibility

- Direct transportation investment to adequately maintain walking and biking facilities.
- Pair infrastructure changes with enforcement activities and messaging to communicate the importance of safety and access to all travelers.
- Install/pilot new public e-Bike charging and parking stations.

Connectivity

- Coordinate the development of pedestrian facilities and bikeways with neighboring jurisdictions and jurisdictions within the county.
- Install bikeways and informal walkways as part of the ongoing pavement maintenance program.
- Support bicycle and pedestrian projects that improve access to public transit stops and to significant local destinations.
- Identify primary connections in rural areas for bikeways.

Sustainability

- Improve connection between plans for multi-use paths and county Zoning and Development Ordinance (ZDO) requirements for construction.
- Collect bicycle and pedestrian travel counts to gather data on active transportation usage over time. Develop and pilot new methods and technologies for these travel counts to do so more cost-effectively.

Equity

- Define data-based equity focus areas/geographic zones in which projects should be prioritized.
- Develop equitable engagement protocol that includes people of all races, incomes, ages, and abilities; consider an equity task force for active transportation projects.

Health

- Identify objectives and policies to improve air quality and reduce unique or compounded health risks in Communities of Interest by investing in public facilities and promoting physical activity.

4.4 Performance Measures

Figure 18 WBC Performance Measures

Performance Measures	Safety	Accessibility	Connectivity	Sustainability	Equity	Health
Number of traffic crashes resulting in serious injuries and fatalities to people walking and biking, both inside and outside of areas with concentrations of Communities of Interest	✓				✓	
Number of projects supporting Safe Routes to School plans	✓		✓	✓	✓	✓
Number of miles of designated walkways and bikeways, by facility type	✓	✓	✓	✓	✓	✓
Number/proportion of public transit stops and stations with walkway, bikeway, and crossing connections	✓	✓	✓	✓	✓	✓
Increase in active transportation trips as a proportion of all trips in accordance with the draft Climate Action Plan targets (see mode share callout below)				✓	✓	✓
Destinations within a 5 minute walk or bike ride			✓	✓	✓	

Performance Measures	Safety	Accessibility	Connectivity	Sustainability	Equity	Health
Number of short- and long-term secure bike parking spaces at significant local destinations	✓		✓	✓		✓
Percentage of population living within ¼-mile of All Ages and Abilities (AAA) bike network*		✓			✓	
Number of Safe Routes to School action plans completed	✓	✓	✓	✓	✓	✓
Proportion of priority projects in areas with Communities of Interest above county average			✓		✓	
Number of schools with a bike education program			✓		✓	✓
Rates for psychosocial health indicators, e.g., poor mental health days		✓			✓	✓
Rates of adults engaging in regular physical activity						✓
Activity at local trail counters		✓		✓		✓
Number of priority projects in poor health outcome areas based on Health Outcomes Index (Figure 10, Tech Memo 2).						✓

*Contextual Guidance for Selecting All Ages & Abilities Bikeways: <https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/choosing-ages-abilities-bicycle-facility/>

Active Transportation Mode Share in the Climate Action Plan

The Clackamas County Climate Action Plan describes the goal to shift transportation from vehicles to transit, active transportation and carpooling by 2040.

The Climate Action Plan Draft Final Report includes six categories of strategies for implementation:

- Advocate for transit expansion and employer-run commute options programs.
- Educate people on travel options and their benefits, and how they are supported by the County (e.g., Safe Routes to School program, events, and giveaways).
- Implement recommended infrastructure improvements from the county's Active Transportation Plan, Bicycle Master Plan, and Pedestrian Plan.
- Incentivize mode shift through safe and connected trails, development requirements, and regulated rideshare destinations.
- Adjust policy to eventually eliminate minimum parking requirements for new and existing developments.
- Use programs such as park and ride at county and public facilities for rideshare, carpooling, or shared micromobility services.



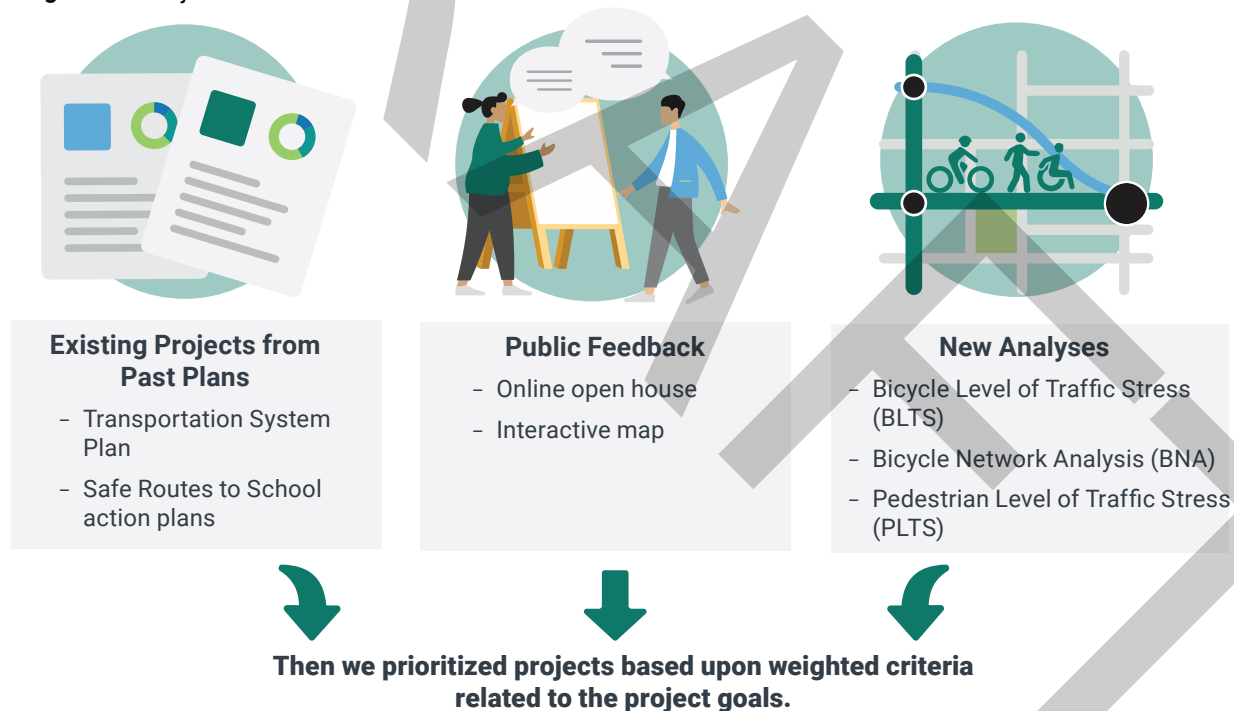
5. Approach

Walk Bike Clackamas capital projects help address the gaps and deficiencies in the County's active transportation network.

5.1 Project Identification

Projects were identified from past plans, public feedback, planned networks and new analyses.

Figure 19 Project Identification



Previously identified projects

Many projects were pulled from the Transportation System Plan and Safe Routes to School action plans. Additional project ideas were generated from public input on an interactive map during engagement milestone #2. Priority Active Transportation Routes and newly proposed Shared Street candidates also informed the project list.

Below is a breakdown of the projects by source and by road ownership. The process for prioritizing these projects is described in Chapter 6.

Figure 20 Source and number of identified projects

Source	Projects on Clackamas County Roads	Projects on ODOT Facilities	Total
Transportation System Plan (2013)	146	25	171
Safe Routes to Schools Action Plans (2016-2022)	23	0	23
Newly identified projects	22	8	30
Total	191	33	224

Analysis

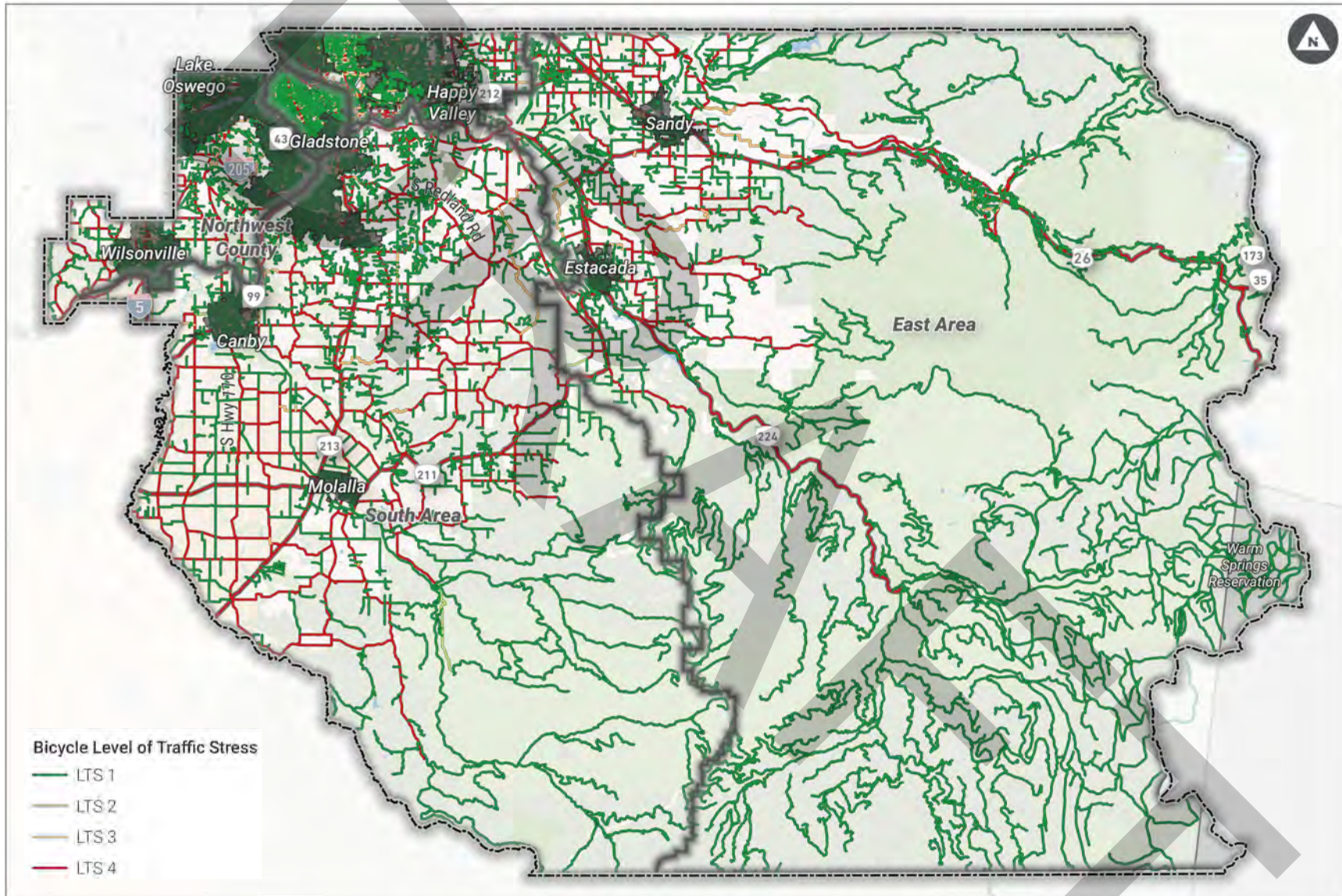
We focused on three key aspects of analysis:

- 1 Bicycle Level of Traffic Stress (BLTS):** measures roadway characteristics and stress of bicycling based on separation from traffic and traffic speeds. The spectrum below illustrates the range of BLTS from low stress (BLTS 1) to high stress (BLTS 4). New projects (to fill gaps) and improved bikeway projects (to improve the user experience) will create low stress conditions that will be suitable for the general population, not simply people who are very comfortable riding with traffic.

Figure 21 BLTS Low Stress to High Stress



Figure 22 Bicycle Level of Traffic Stress

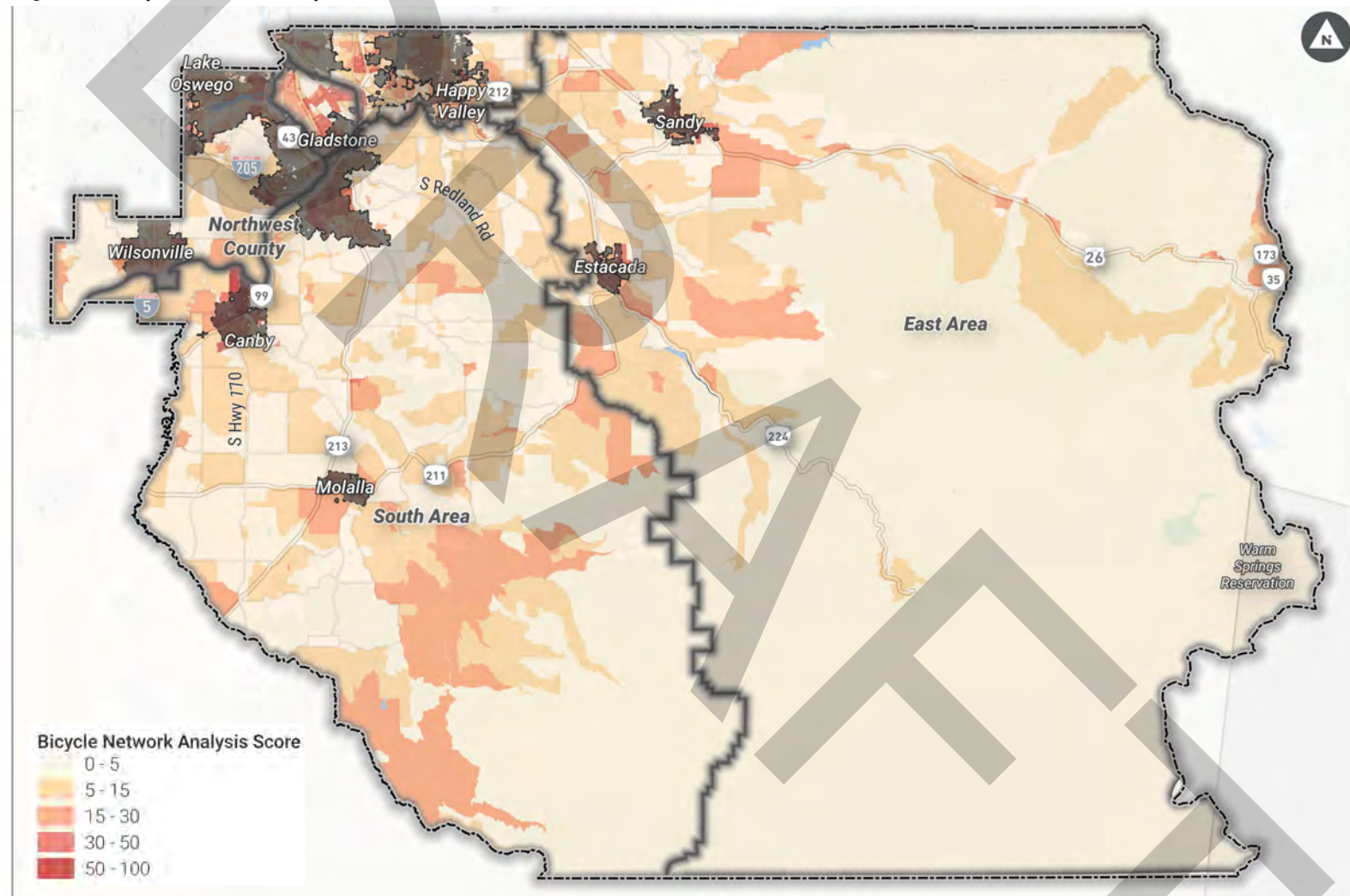


Generally, roads throughout Clackamas County were identified as either BLTS 1 (low stress) or BLTS 4 (high stress); very few were BLTS 2-3. Most higher classification and higher volume roads are BLTS 4. Rural roads outside of incorporated areas that connect incorporated cities or activity areas were majority BLTS 4, leaving few convenient and direct low stress connections across the County.

2

Bicycle Network Analysis (BNA): measures the connectivity to destinations on low-stress roads on the Census block level. This informed potential locations to connect the existing network of bikeways.

Figure 23 Bicycle Network Analysis Score

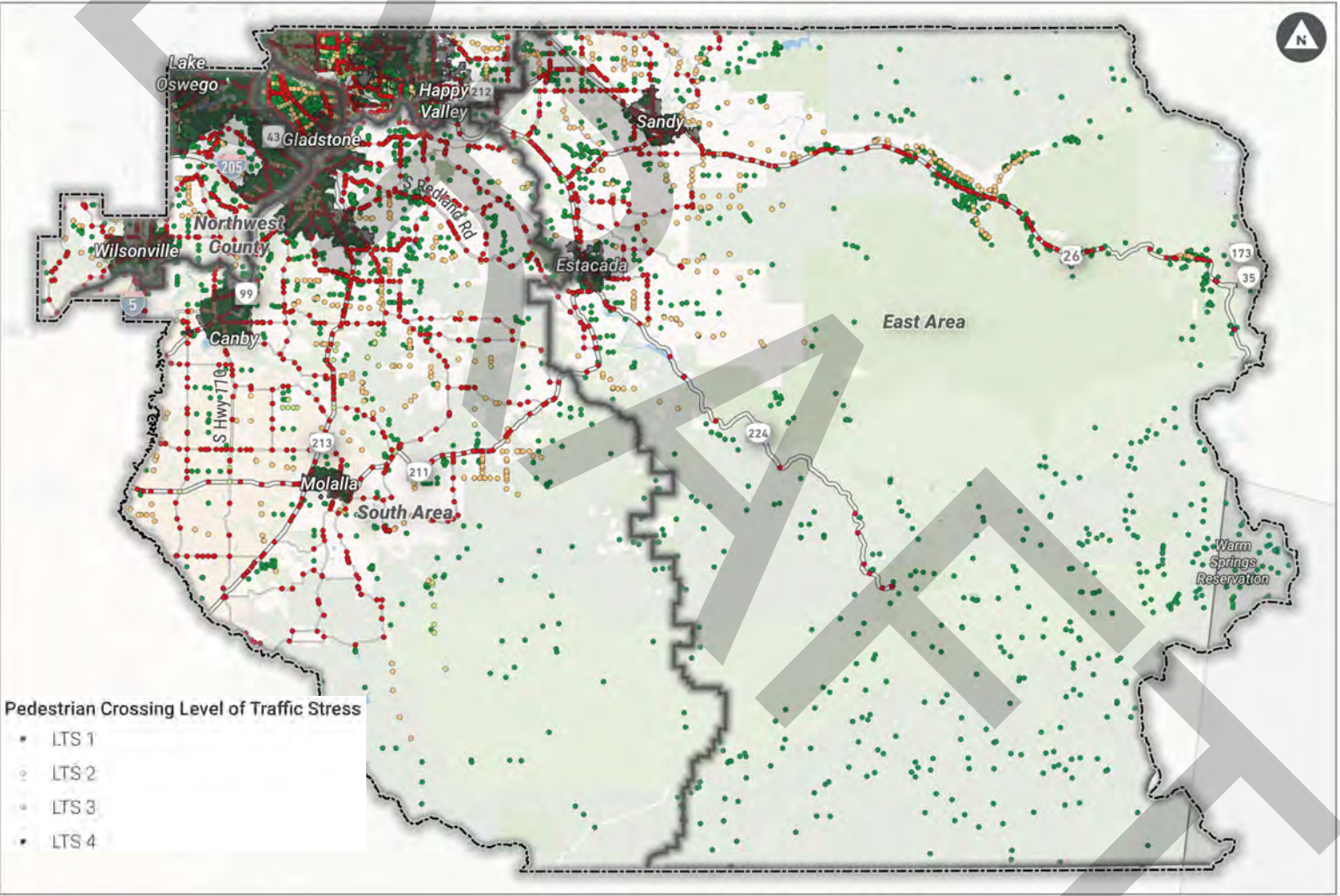


Much of Clackamas County is not well connected via low-stress routes, and relies on high stress routes to connect between destinations. Higher density low-stress connections are present on the outskirts of incorporated areas in the Northwest, McLoughlin, and Clackamas Town Center Areas. In the Southwest Area, there is a higher concentration of low-stress connections southeast and south of Molalla.

3

Pedestrian Level of Traffic Stress (PLTS): measures stress based on roadway characteristics when pedestrians cross at roadway intersections and where trails and multi-use paths intersect streets. PLTS informed opportunities to improve walking infrastructure along and across roadways. A PLTS of 1 represents little to no traffic stress and requires little attention to the traffic situation. A PLTS of 4 represents high traffic stress. Only able-bodied adults with limited route choices would use this facility.

Figure 24 Pedestrian Level of Crossing Stress Score



Crossing stress scores are generally high on higher classification and higher volume roads throughout the county. Even where adjacent lower classification streets may offer lower-stress alternatives, the high stress crossings on the county’s major corridors represents a barrier to encouraging walking and active travel.

Defining Gaps and Deficiencies

The three analyses of BLTS, BNA, and PLTS are tools to identify gaps and deficiencies. In these analyses, gaps are defined as a break in continuity. A deficiency speaks to the level of quality of the facility. The following table breakdown the connection between the analyses and how they reveal gaps and deficiencies.

Figure 25 Analyses to inform gaps and deficiencies

	Output Scores	Gap	Deficiency
Bicycle Level of Traffic Stress	BLTS 1-4; 4 is higher stress	BLTS 4 conditions reveals high-stress bicycling conditions with no bicycle facility, or a poor quality facility.	BLTS 3 or 4 reveals high stress bicycling conditions due to poor quality bikeway facilities
Bicycle Network Analysis	0-100; lower scores mean poorer connectivity	Lower BNA scores reveal a geographic area with insufficient low-stress bikeway connections. Since the output of this analysis is based on Census tracts, it informs both gaps and deficiencies at a different scale of detail compared to BLTS and PLTS.	
Pedestrian Level of Traffic Stress	PLTS 1-4; 4 is higher stress	PLTS 4 reveals high stress crossing conditions due to the lack of crossing infrastructure or the roadway conditions	PLTS 3 or 4 reveals poor quality crossing conditions due to the lack of crossing infrastructure

5.2 Opportunities and Constraints

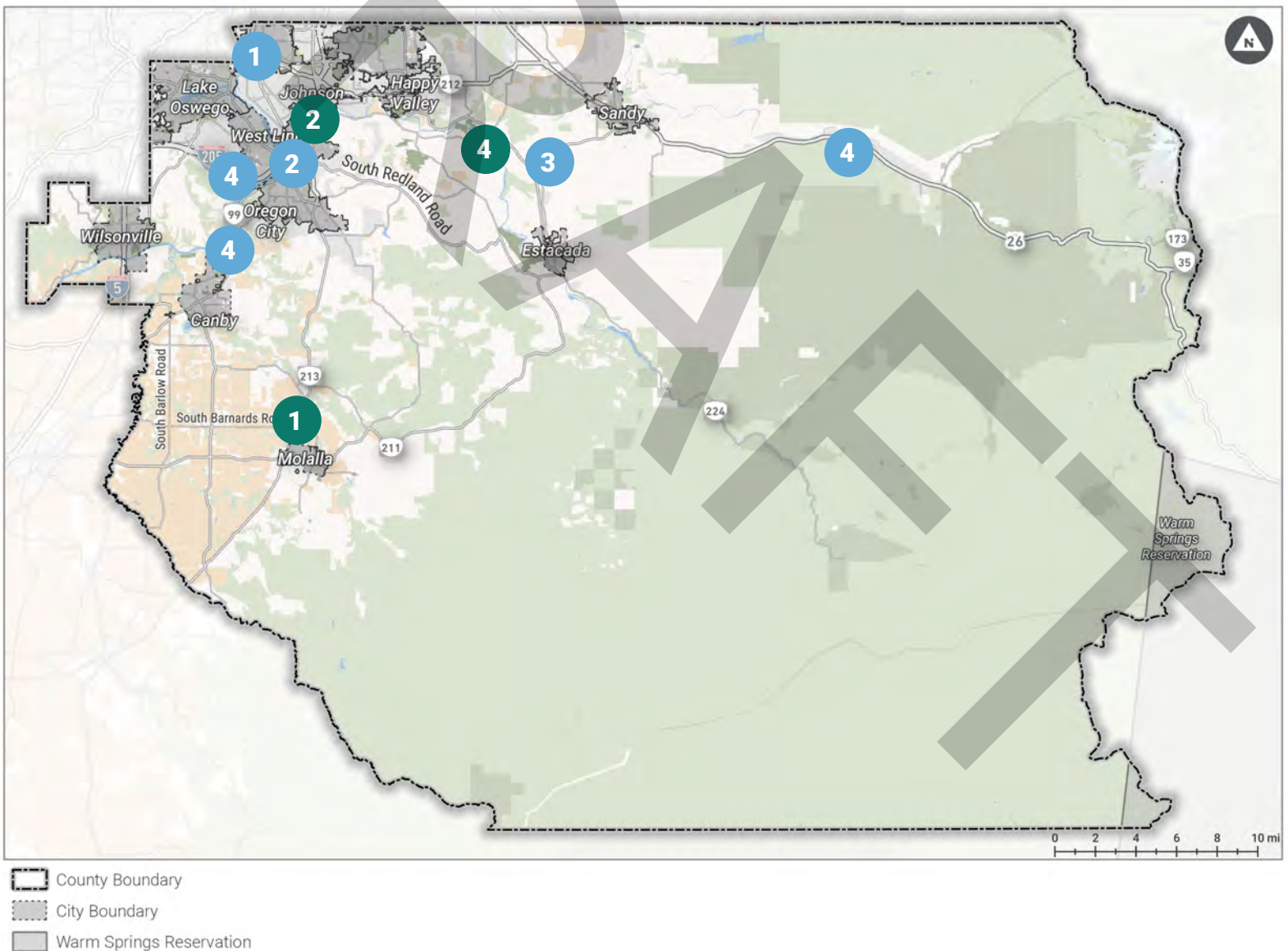
This analysis revealed several key opportunities to improve walking and biking connections or crossings:

- 1 Along and cross arterials east of Milwaukie, 82nd Ave, and SE Sunnyside Rd, River Rd
- 2 Along streets that connect/funnel to I-205 connections
- 3 Between Sandy and Estacada
- 4 Across state-owned roads and highways including I-205, US-26, and SR-99

There are several constraints or challenges to planning and designing a network for walking and biking in Clackamas County:

- 1 Large swaths of agricultural land (north/northwest of Molalla) can cause out-of-direction travel
- 2 I-205 is a major interstate that is difficult to cross easily
- 3 Topography, such as hills and steep grades can make it challenging to walk or bike
- 4 Natural waterways such as the Clackamas River can require out-of-direction travel or specialized bridge infrastructure to accommodate people walking or biking

Figure 26 Opportunities and Constraints





6. Projects

Given limited resources, we prioritized projects with the most potential to meet WBC goals.

The prioritization criterion and methods described in this chapter illustrate how projects were organized into priority tiers and across planning areas.

6.1 Prioritization Methodology

Public and WBAC input on prioritization criteria resulted in a goal-based scheme for ranking potential projects. Proposed projects were scored based on weighted criteria to create a list of high, medium, and low priority pedestrian and bicycle projects. The criteria are based on the WBC plan goals, with higher consideration given to goals as identified as key project values, indicated in the table below.

Figure 27 Key Project Values

Walk Bike Clackamas Plan Goals	Key Project Value
Safety	✓
Accessibility	
Connectivity	✓
Sustainability	
Equity	✓
Health	✓

Figure 28 Prioritization Criterion by Goal*

Goal	Criterion
Safety	<ul style="list-style-type: none"> • Proximity to historic pedestrian or bicyclist-involved crashes • Crossing improvements • Safe Routes to School Plan project • Responsive to community concern
Accessibility	<ul style="list-style-type: none"> • Walkway improvement within ½ mile of one or more destinations • Bikeway or walkway improvement within 1 mile of one or more destinations • Bikeway or walkway improvement within ½ mile of bus stop • Bikeway or walkway improvement within 1 mile of MAX light rail stop • Bikeway or walkway improvement within the Clackamas Regional Center Area or within a Rural Community • Addresses concern expressed through public comment
Connectivity	<ul style="list-style-type: none"> • Fills a missing bikeway segment along a high level-of-stress road • Expands miles of bikeways along a road that scored as highly stressful • Overlaps the Essential Pedestrian Network • Completely or partially fills a missing sidewalk gap on one or both sides of an arterial or collector • Responsive to community concern
Equity	<ul style="list-style-type: none"> • 50% or more of the project is in census block group(s) with “above average” or “well above average” equity index score
Health	<ul style="list-style-type: none"> • Improvement within a ½ mile radius of a park, hospital or medical clinic, long-term care facility, pharmacy, grocery store, public elementary or middle school, or a daycare • Responsive to community concern

*Sustainability was not included as a criterion given the goal focuses on expanding and promoting active travel options rather than adding or improving infrastructure.

6.2 Prioritization Results

There were 224 projects identified countywide, including 76 high priority projects. Projects by planning subarea are quantified in Figure 28.

Figure 29 Projects by Planning Subarea by Tier

Area	Tier 1 High Priority	Tier 2 Medium Priority	Tier 3 Low Priority	Total Projects
Clackamas Town Center Area	32	34	30	96
East County Area	10	7	11	28
McLoughlin Area	14	12	12	38
Northwest County Area	6	6	6	18
South County Area	14	15	15	44
Total	76	74	74	224

6.3 Prioritized Projects by Planning Subarea

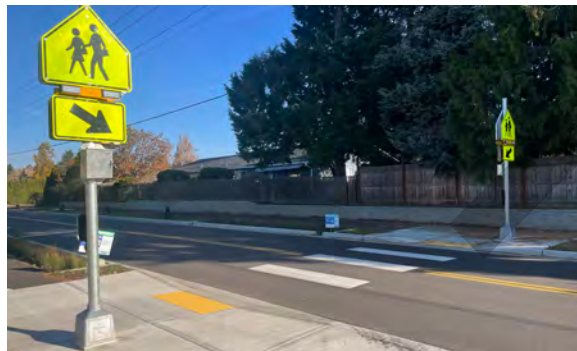
Projects include **linear projects** that are proposed along a length of roadway or trail and **spot improvement projects** that are proposed at individual locations. The following maps illustrate each of the projects by subarea by tier, and as either linear or spot improvement projects.

Linear projects



Examples include new bike lanes or new sidewalks.

Spot improvement projects



Examples include crosswalk improvements, intersection upgrades, and new curb ramps.

Figure 31 Projects in Clackamas Town Center Area East

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 84	Point	New	SE Overland St/SE Bell Ave crosswalk	SE Bell Ave	SE Overland St	Install new crosswalk		1
CC - 213	Linear	TSP	SE Foster Rd shoulder widening	Happy Valley city limits	OR 212	Widen shoulder based on operational and safety analysis during project development	0.38	1
CC - 214	Linear	TSP	SE Sunshine Valley Rd shoulder widening	SE 242nd Ave	SE 250th Place	Widen shoulder based on operational and safety analysis during project development	0.36	1
CC - 215	Linear	TSP	SE Tillstrom Rd shoulder widening	SE Foster Road	SE 242nd Avenue	Widen shoulder based on operational and safety analysis during project development	3.61	1
CC - 225	Point	New	SE Hubbard Rd / SE 130th Dr crosswalk	SE Hubbard Rd	SE 130th Dr	Install new crosswalk		1
CC - 106	Point	New	SE King Rd / SE 77th Ave crosswalk	SE King Rd	SE 77th Ave	Install new high visibility crosswalk and ADA compliant curb ramps, with potential RRFB or HAWK signal and green crossbike.		1
CC - 129	Linear	TSP	SE 82nd Dr pedestrian facilities and bikeways	OR 212	I-205 Multi-Use Path	Fill in bikeways and pedestrian facilities gaps	0.8	1
CC - 144	Linear	TSP	SE Evelyn St pedestrian facilities and bikeway	OR 224	Jennifer St	Fill gaps in bikeways and pedestrian facilities	0.39	1
CC - 155	Point	SRTS	SE 122nd Avenue / SE Mather Rd crosswalk	SE Mather Rd	SE 122nd Ave	Install new crosswalk		1
CC - 156	Linear	TSP	SE 122nd Ave pedestrian facilities	SE Sunnyside Rd	SE Hubbard Rd	Fill gaps in pedestrian facilities, consider turn lanes at SE Mather Rd	1.03	1
CC - 159	Linear	SRTS	SE Huron Street sidewalk	30 ft east of SE 122nd Ave	SE 126th Ave	Install sidewalk	0.22	1
CC - 162	Linear	SRTS	SE Opal Way pedestrian facilities	SE 125th Ave	SE 128th Ave	Add pedestrian facilities	0.17	1
CC - 166	Point	SRTS	SE 132nd Ave / SE Normandy Dr crosswalk	SE 132nd Ave	SE Normandy Dr	Install crosswalk at Normandy Dr		1
CC - 167	Linear	SRTS	SE 132nd Ave / SE 135th Ave sidewalk and bikeways	OR 212	SE Woodland Circle	Fill sidewalk gaps and bikeways and explore turn lanes at major intersections	1.55	1
CC - 172	Linear	TSP	SE 142nd Ave pedestrian facilities and bikeways	SE Sunnyside Rd	OR 212	Add bikeways and pedestrian facilities	1.03	1
CC - 175	Point	SRTS	SE 152nd Dr / SE Pioneer Dr crosswalk	SE 152nd Dr	SE Pioneer Dr	Construct new crosswalk with pedestrian median, RRFB and advance warning signs at intersection with SE 152nd Ave.		1
CC - 176	Linear	TSP	SE 152nd Ave pedestrian facilities and bikeway	Sunnyside Rd	OR 212	Fill in gaps in pedestrian facilities and bikeway	1.14	1

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 98	Point	SRTS	SE Thompson Rd / SE 74th Ave crosswalk	SE Thompson Rd	SE 74th Ave	Install School Zone Flashing Beacon		1
ODOT - 11	Linear	TSP	Sunrise Multi-Use Path	SE 122nd Ave	OR 224	Construct multi-use path from 122nd to Rock Creek Junction parallel to the Sunrise project consistent with FEIS.	4.01	1
ODOT - 12	Linear	TSP	OR 224 bikeways	OR 212	SE Midway St	Add bikeways	1.22	1
CC - 216	Linear	TSP	SE 190th Dr shoulder widening	County line	SE Tillstrom Road	Widen shoulder based on operational and safety analysis during project development	0.64	2
CC - 217	Linear	TSP	SE 232nd Dr shoulder widening	OR 212	OR 224	Widen shoulder based on operational and safety analysis during project development	1.9	2
CC - 218	Linear	TSP	SE 242nd Ave shoulder widening	County line	OR 212	Widen shoulder based on operational and safety analysis during project development	3.02	2
CC - 104	Point	SRTS	SE Thompson Road traffic calming	SE Thompson Rd	SE 74th Ave	Install traffic calming (speed cushions)		2
CC - 111	Point	SRTS	SE Thompson Rd / SE Fuller Rd crosswalk	SE Fuller Rd	SE Thompson Rd	Install new crosswalk		2
CC - 134	Linear	TSP	SE Stevens Rd / SE Stevens Way pedestrian facilities and bikeways	SE Causey Ave	SE Idleman Rd	Fill in pedestrian facility gaps and bikeway	0.7	2
CC - 139	Point	SRTS	SE Stevens Road crosswalk	SE Stevens Rd	Mount Scott Elementary School	Add a raised median pedestrian refuge at the mid-block crossing in front of the school		2
CC - 140	Linear	TSP	SE Idleman Rd pedestrian facilities and bikeways	SE 92nd Ave	SE Westview Ct	Fill gaps in bikeways and pedestrian facilities	0.53	2
CC - 141	Point	New	Sunnyside Hospital / SE Sunnyside Rd / SE Stevens Rd intersection	SE Sunnyside Rd	SE Stevens Road	Install protected bikeway intersection, consider leading pedestrian interval (LPI) for walking signal and signage to allow bicyclists to cross with LPI		2
CC - 149	Linear	TSP	SE Jennifer St pedestrian facilities and bikeways	SE 82nd Dr	SE 135th Ave	Fill in pedestrian facility gaps and bikeway	2.38	2
CC - 164	Linear	TSP	SE Hubbard Rd pedestrian facilities	SE 122nd Ave	SE 132nd Ave	Fill gaps in pedestrian facilities	0.53	2
CC - 173	Linear	TSP	SE Sunnyside Rd pedestrian facilities and bikeway	SE Stevens Rd	OR 212	Add pedestrian facilities and bikeways in accordance with the Active Transportation Plan	5.87	2
CC - 95	Point	New	SE King Rd/SE Cook Ct crosswalk	SE King Rd	SE Cook Ct	Install new high visibility crosswalk and ADA compliant curb ramps, with potential RRFB or HAWK signal and green crossbike.		2

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
O - 15	Linear	New	Pfeifer Park Multi-Use Path	SE Territory Dr and SE 142nd Ave	Pfeifer Park	Construct multi-use path from SE 142nd Ave and SE Territory Dr to Pfeifer Park, with crosswalk and signage at intersection.	0.13	2
O - 3	Point	New	SE King Rd/SE Stanley Ave crosswalk	SE Stanley Ave	SE King Rd	Install new crosswalk		2
O - 4	Point	New	SE Linwood Ave/SE Harmony Rd/SE Railroad Ave	SE Harmony Rd	SE Harmony Rd/ SE Linwood Rd	Paint high visibility crosswalk on all four legs of intersection. Upgrade curb ramps to be ADA compliant and directional. Install sidewalk to access bus stop on east corner of intersection. Install lead pedestrian intervals for cross signal. Install green crossbike markings through intersection to increase driver awareness of bicyclists.		2
O - 7	Point	New	SE Monroe St gap connection	SE Monroe St	SE 78th Ave / SE 79th Ave	Formalize a paved path connection for pedestrians and bicyclists		2
O - 9	Linear	TSP	Southwest Connector Multi-Use Path	North Clackamas Aquatic Center access road	SE 82nd Ave	Construct multi-use Path	0.21	2
ODOT - 10	Point	TSP	I-205 / OR 212/224 Interchange bike connection	In vicinity of Roots Rd and McKinley Ave		Create new bikeway connections to facilitate movement from I-205 path to local street network		2
ODOT - 15	Linear	New	OR 212 pedestrian facilities	SE Old Barn Lane	SE Regner Terrace	Improve pedestrian facilities and add lighting	0.79	2
CC - 223	Linear	TSP	SE Borges Rd shoulder widening	SE Tillstrom Road	SE 242nd Avenue	Widen shoulder based on operational and safety analysis during project development	2.93	3
CC - 224	Linear	TSP	SE Royer Rd shoulder widening	OR 212	OR 224	Widen shoulder based on operational and safety analysis during project development	2.59	3
ODOT - 34	Linear	TSP	OR 212 shoulder widening	OR 224	SE Sunnyside Road	Add pedestrian and bicycle facilities	2.49	3
CC - 219	Linear	TSP	SE 222nd Dr shoulder widening	County line	OR 212	Widen shoulder based on operational and safety analysis during project development	3.02	3
CC - 220	Linear	TSP	SE 257th Avenue shoulder widening	SE Hoffmeister Road	OR 212	Widen shoulder based on operational and safety analysis during project development	0.32	3
CC - 221	Linear	TSP	SE Bohna Park Rd shoulder widening	SE Tillstrom Road	SE 242nd Avenue	Widen shoulder based on operational and safety analysis during project development	1.92	3
CC - 110	Point	TSP	SE Otty St / SE 80th Ave crosswalk	SE Otty St	SE 80th Ave	Install new crosswalk		3

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 130	Point	TSP	SE 92nd Ave / SE Phillips Pl crosswalk	SE 92nd Ave	SE Phillips Pl	Install a pedestrian crossing near Phillips Pl		3
CC - 133	Point	SRTS	SE 92nd Ave sidewalk	SE Stevens Way	SE Hillcrest Rd	Construct sidewalks with ADA-compliant curb cuts on the east and west side of SE 92nd Ave between SE Hillcrest Rd and SE Stevens Way.		3
CC - 135	Linear	TSP	SE Hillcrest St pedestrian facilities	SE 92nd Ave	SE Stevens Rd	Add pedestrian facilities	0.19	3
CC - 138	Linear	TSP	SE Evelyn St / SE Mangan Dr pedestrian facilities and bikeway	SE Jennifer St	SE Water Ave	Add pedestrian facilities and bikeways	0.24	3
CC - 147	Linear	TSP	SE 97th Ave / SE Mather Rd pedestrian facilities and bikeways	SE Lawnfield Rd	SE Summers Ln	Add bikeways and fill in gaps in pedestrian facilities	0.85	3
CC - 148	Linear	TSP	SE Valley View Terrace pedestrian facilities and bikeways	SE Sunnyside Rd	SE Otty Rd	Add bikeways and pedestrian facilities	0.45	3
CC - 151	Linear	TSP	SE Mather Rd pedestrian facilities and bikeways	SE Summers Ln Rd	SE 122nd Ave	Add bikeways, pedestrian facilities and eastbound left turn lanes at Mather Rd / 122nd Ave	0.71	3
CC - 154	Linear	TSP	SE 122nd Ave pedestrian facilities and bikeways	SE Sunnyside Rd	SE Timber Valley Dr	Add bikeways, fill in gaps in pedestrian facilities, add turn lanes at major intersections	0.24	3
CC - 157	Point	New	SE 122nd Ave/SE Summers Ln crosswalk	SE Summers Lane	SE 122nd Ave	Install new crosswalk		3
CC - 178	Linear	TSP	SE 162nd Ave pedestrian facilities and bikeways	SE Sager Rd	County line	Add bikeways, pedestrian facilities, turn lanes at major intersections	0.25	3
CC - 182	Linear	New	SE Bolivar Street Multi-Use Path	SE Eckert Lane	SE Anderegg Pkwy	Install pedestrian and bicycle connection via SE Bolivar St	0.1	3
CC - 184	Linear	TSP	SE Cheldelin Rd pedestrian facilities and bikeways	SE Foster Rd	SE 190th Dr	Add bikeways and pedestrian facilities	0.65	3
CC - 85	Point	New	SE Alberta Ave/SE 70th Ave crosswalk	SE Alberta Ave	SE 70th Ave	Install new crosswalk		3
O - 10	Linear	TSP	I-205 Multi-Use Path gap bike-ped bridge	I-205 Multi-Use Path Gap from SE Herbert St to SE Jefferson St		Construct bike/pedestrian bridge over I-205 in vicinity of Clackamas Road / Jannsen Road.	0.1	3
O - 17	Linear	New	SE 242nd Ave / Clackamas-Boring Hwy sidewalk	SE Hollyview Lane	Lewis and Clark Montessori Charter	Install sidewalk	0.4	3

Figure 33 Projects in Clackamas Town Center Area West

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 112	Linear	TSP	SE Johnson Creek Blvd pedestrian facilities and bikeway	SE Bell Ave	SE 92nd Ave	Fill gaps in pedestrian facilities and upgrade bikeway	1.19	1
CC - 113	Linear	TSP	SE Clatsop St / SE Luther Rd pedestrian facilities and bikeways	SE 72nd Ave	SE Fuller Rd	Add pedestrian facilities and bikeways, consider associated intersection improvements at SE 82nd Ave	0.84	1
CC - 123	Linear	TSP	SE Causey Ave bikeways	SE Fuller Rd	I-205	Add bikeways	0.6	1
CC - 125	Linear	TSP	SE 85th Ave pedestrian facilities and bikeways	SE Causey Ave	SE Monterey Ave	Add sidewalks and bikeways and consider crosswalk improvements	0.21	1
CC - 169	Linear	TSP	Scouters Mountain / Mt Scott Loop Trail	Loop trail through Happy Valley, Damascus, Clackamas County and Portland		Construct multi-use path in accordance with the Active Transportation Plan	27.63	1
CC - 82	Linear	TSP	SE Lake Rd pedestrian facilities	Milwaukie city limits	OR 224	Fill gaps in pedestrian facilities	0.74	1
CC - 83	Linear	TSP	SE Harmony Rd pedestrian facilities and bikeways	Clackamas Community College	OR 224	Fill gaps in bikeways and pedestrian facilities and improve pedestrian crossings and bicycle turning movements	1.25	1
CC - 88	Linear	TSP	SE Monroe St / SE 72nd Ave / SE Thompson Rd pedestrian facilities	Linwood Ave	Fuller Rd	Add bikeways and pedestrian facilities	0.96	1
CC - 92	Linear	TSP	SE King Rd pedestrian facilities	Milwaukie city limits	SE Spencer Dr	Fill gaps in pedestrian facilities	1.79	1
CC - 96	Linear	TSP	SE Lake Rd pedestrian facilities and bikeways	Johnson Rd	Webster Rd	Fill gaps in pedestrian facilities and bikeways	0.58	1
CC - 99	Linear	New	SE Drew Ave / SE 73rd Ave / SE Otty St pedestrian facilities	SE Bell Ave	SE 82nd Ave	Install pedestrian facilities	0.45	1
ODOT - 7	Linear	TSP	OR 224 Multi-Use Path	SE 17th Ave	I-205	Construct multi-use path as parallel route to OR 224	4.03	1

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 101	Linear	TSP	SE Michael Dr pedestrian facilities	SE 72nd Ave	SE Fuller Ave	Fill gaps in pedestrian facilities	0.36	2
CC - 108	Linear	TSP	SE Fuller Rd pedestrian facilities and crosswalks	SE Boyer Dr	SE Sunnyside Dr	Install pedestrian facilities and new crosswalks along segment	0.86	2
CC - 117	Linear	TSP	Phillips Creek Multi-Use Path	SE Causey Ave	North Clackamas Regional Parks Trail	Construct multi-use path in accordance with the Active Transportation Plan	2.13	2
CC - 121	Linear	TSP	SE 84th Ave pedestrian facilities and bikeways	SE Sunnyside Rd	SE Sunnybrook Blvd	Fill in pedestrian facility gaps and bikeway	0.23	2
CC - 128	Linear	TSP	SE Otty Rd pedestrian facilities and bikeways	OR 213	SE 92nd Ave	Improve consistent with Fuller Road Station Plan including bikeways and pedestrian facilities. Install pedestrian crossing between Fuller Rd and I-205 and near 91st Ave.	0.52	2
CC - 145	Linear	New	SE Sunnybrook Blvd bikeway	OR 213	I-205	Install protected bikeway, green crossbike treatments, and left turn boxes at major intersections	0.74	2
CC - 71	Linear	TSP	SE Lake Rd pedestrian facilities and bikeways	OR 224 west	Milwaukie city limits	Add pedestrian facilities and fill bikeway gaps	0.45	2
CC - 77	Linear	TSP	SE Flavel Dr bikeways	SE Alberta Ave	County line	Add bikeways	0.22	2
CC - 86	Linear	TSP	SE Bell Ave / SE Alberta St / SE 72nd Ave pedestrian facilities and bikeways	SE Johnson Creek Blvd	County line	Add bikeways and pedestrian facilities	0.55	2
CC - 97	Linear	TSP	North Clackamas Regional Park Multi-Use Path	OR 213	North Clackamas Park Complex	Construct multi-use path	1.26	2
O - 2	Linear	TSP	North Clackamas Regional Park Multi-Use Path	SE Linwood Ave	North Clackamas Park Complex	Construct multi-use path	0.76	2
O - 6	Linear	TSP	SE Monroe St pedestrian facilities and bikeways	SE 72nd Ave	SE Fuller Rd	Add bikeways and pedestrian facilities	0.44	2

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
O - 8	Linear	TSP	SE Johnson Rd pedestrian facilities and bikeways	SE Lake Rd	North Clackamas Park Trail	Fill gaps in pedestrian facilities and bikeways	0.5	2
ODOT - 9	Linear	TSP	SE 82nd Ave multi-use path connection	North Clackamas Regional Park Multi-Use Path (proposed)	SE Sunnybrook Blvd	Connect proposed North Clackamas Regional Park Multi-Use Path to bicycle and pedestrian facilities on SE Sunnybrook Blvd via 82nd	0.04	2
O - 19	Linear	TSP	SE 92nd Ave pedestrian facilities	SE Johnson Creek Blvd	SE Clatsop St	Fill gaps in pedestrian facilities	0.31	3
CC - 122	Linear	TSP	SE Cornwell Ave pedestrian facilities	OR 213	SE Fuller Rd	Add pedestrian facilities; connect to I-205 Multi-Use Path	0.31	3
CC - 124	Linear	TSP	SE Fuller Rd pedestrian facilities and bikeways	SE Otty St	SE Johnson Creek Blvd	Fill in gaps in pedestrian facilities and bikeways	0.38	3
CC - 126	Linear	TSP	SE Fuller Rd pedestrian facilities and bikeways	SE Johnson Creek Blvd	County line	Fill in gaps in pedestrian facilities and bikeways	0.73	3
CC - 127	Linear	TSP	SE Boyer Dr / SE 85th Ave / SE Spencer Dr bikeway	OR 213	I-205 bike path	Add bikeways	0.47	3
CC - 132	Linear	TSP	SE 93rd Ave bikeways	SE Sunnyside Rd	SE Sunnybrook Blvd	Upgrade bikeways in accordance with the Active Transportation plan	0.27	3
CC - 78	Linear	TSP	SE Johnson Creek Blvd pedestrian facilities and bikeway	SE 55th Ave	SE Bell Ave	Add bikeways and pedestrian facilities	0.74	3
O - 5	Linear	TSP	72nd Ave Multi-Use Path	SE Thompson Rd	SE Harmony Rd	Construct multi-use path	0.78	3

East County Area

Figure 34 Linear and spot improvement projects in East County Area

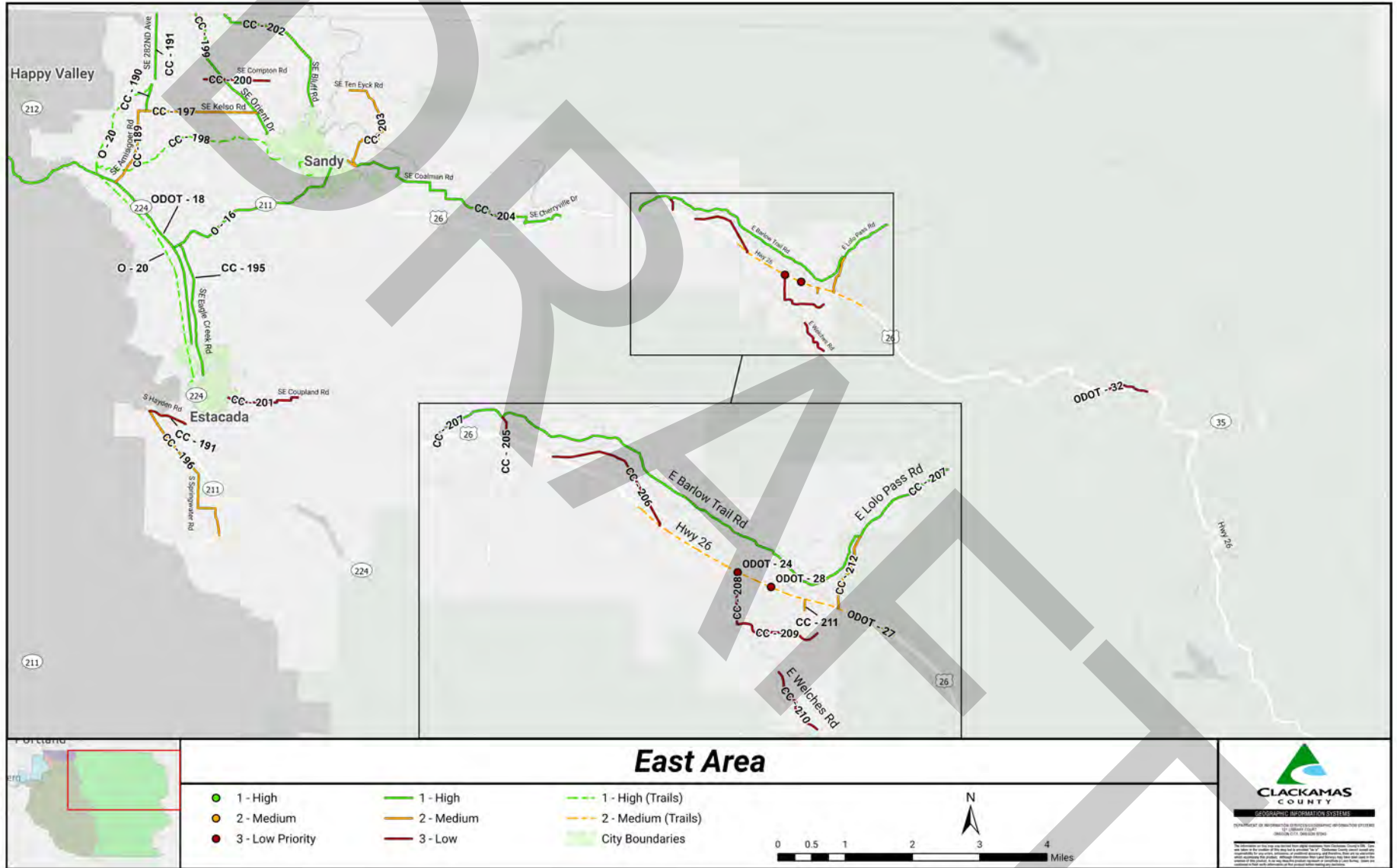


Figure 35 Projects in East County Area

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 190	Linear	TSP	SE Richey Rd paved shoulders	SE Kelso Rd	OR 212	Add paved shoulders	0.83	1
CC - 191	Linear	TSP	SE 282nd Ave paved shoulders	OR 212	County line	Add paved shoulders	1.99	1
CC - 195	Linear	New	SE Eagle Creek Rd paved shoulders	OR 211	Estacada city limits	Add paved shoulders	4.11	1
CC - 198	Linear	TSP	Tickle Creek Trail	Cazadero Trail	Sandy city limits	Construct multi-use path	7.8	1
CC - 199	Linear	TSP	SE Orient Dr paved shoulders	US 26	County line	Add paved shoulders	4.44	1
CC - 202	Linear	TSP	SE Bluff Rd paved shoulders	Sandy city limits	County line	Add paved shoulders	4.63	1
CC - 204	Linear	TSP	SE Coalman Rd / SE Cherryville Dr paved shoulders	SE Ten Eyck Rd	US 26	Add paved shoulders	7.85	1
CC - 207	Linear	TSP	E Barlow Trail Rd / E Lolo Pass Rd paved shoulders	US 26	End of County-maintained road	Add paved shoulders	10.73	1
O - 16	Linear	TSP	OR 211 paved shoulders	OR 224	Sandy city limits	Add paved shoulders and bikeways	0.74	1
ODOT - 18	Linear	New	Cazadero Trail	Boring city limits	Estacada city limits	Construct multi-use path	10.75	1
CC - 189	Linear	TSP	SE Amisigger Rd / SE Kelso Rd paved shoulders	OR 224	SE Richey Rd	Add paved shoulders	2.64	2
CC - 196	Linear	TSP	S Springwater Rd paved shoulders	S Hayden Rd	OR 211	Add paved shoulders	4.85	2
CC - 197	Linear	TSP	SE Kelso Rd paved shoulders	SE Richey Rd	SE Orient Dr	Add paved shoulders	3.38	2
CC - 203	Linear	TSP	SE Ten Eyck Rd paved shoulders	SE Lusted Rd	Sandy city limits	Add paved shoulders	7.14	2
CC - 211	Linear	SRTS	E Woodsey Way paved shoulders	US 26	East Cedar Hill Terrace	Construct/improve sidewalks connecting to the school	0.15	2

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 212	Linear	TSP	E Lolo Pass Rd paved shoulders	US 26	E Barlow Trail Rd	Add paved shoulders	1.16	2
ODOT - 27	Linear	New	US 26 Multi-Use Path	E Miller Road	E Faubion Loop	Construct multi-use path parallel to US 26	4.33	2
CC - 193	Linear	TSP	S Hayden Rd paved shoulders	S Springwater Rd	OR 211	Add paved shoulders	1.2	3
CC - 200	Linear	TSP	SE Compton Rd paved shoulders	US 26	SE 352nd Ave	Add paved shoulders	2.01	3
CC - 201	Linear	TSP	SE Coupland Rd paved shoulders	Estacada city limits	SE Divers Rd	Add paved shoulders	2.3	3
CC - 205	Linear	TSP	E Sleepy Hollow Rd paved shoulders	E Barlow Trail Rd	US 26	Add paved shoulders	0.32	3
CC - 206	Linear	TSP	E Brightwood Loop Rd paved shoulders	US 26	US 26	Add paved shoulders	2.19	3
CC - 208	Linear	TSP	E Arrah Wanna Blvd paved shoulders	US 26	E Fairway Ave	Add paved shoulders	0.77	3
CC - 209	Linear	TSP	E Fairway Ave paved shoulders	E Arrah Wanna Blvd	E Salmon River Rd	Add paved shoulders	1.35	3
CC - 210	Linear	TSP	E Welches Rd paved shoulders	E Birdie Ln	E Salmon River Rd	Add paved shoulders or multi-use path	1.16	3
ODOT - 24	Point	TSP	US 26 / E Arrah Wanna Blvd crosswalk	US 26	E Arrah Wanna Blvd	Install enhanced crosswalk		3
ODOT - 28	Point	TSP	US 26 / E Welches Rd crosswalk	US 26	E Welches Rd	Install enhanced crosswalk		3
ODOT - 32	Linear	TSP	Government Camp Loop bikeways	US 26	US 26	Add bikeways	1.3	3

Figure 37 Projects in Greater McLoughlin Area

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 109	Linear	TSP	SE Clackamas Rd pedestrian facilities and bikeways	Ann-Toni Schreiber Park	SE McKinley Ave	Fill gaps in bikeways and pedestrian facilities, potentially utilizing Safe Routes to Parks funds	0.97	1
CC - 119	Linear	TSP	SE Johnson Rd / SE McKinley Rd pedestrian facilities and bikeways	OR 224	I-205 Multi-Use Path	Fill in gaps in pedestrian facilities and bikeways	1.22	1
CC - 35	Point	SRTS	SE Courtney Road / SE River Rd crosswalk	SE Courtney Ave	SE River Rd	Install new crosswalk		1
CC - 41	Linear	SRTS	SE Arista Drive bikeway	SE Courtney Ave	Trolley Trail	Pilot for advisory bike lane or shared street/ greenway	0.65	1
CC - 44	Linear	SRTS	SE Linden Ln shared street	SE Linden Pl	SE Courtney Ave	Install shared street	0.32	1
CC - 45	Linear	TSP	SE Oak Grove Blvd pedestrian facilities and bikeways	SE Oatfield Rd	SE River Rd	Fill gaps in pedestrian facilities and bikeways	0.96	1
CC - 55	Point	New	SE Roethe Rd / SE River Rd crosswalk	SE River Rd	SE Roethe Rd	Install new crosswalk		1
CC - 58	Linear	TSP	SE Roethe Rd pedestrian facilities and bikeways and traffic calming	SE River Rd	SE Oatfield Rd	Fill in gaps in bikeways and pedestrian facilities, add RRFB crosswalks, implement traffic calming	0.88	1
CC - 60	Linear	TSP	SE Oatfield Rd pedestrian facilities and bikeways	Milwaukie city limits	Gladstone city limits	Fill gaps in pedestrian facilities and bikeways	3.4	1
CC - 66	Linear	TSP	SE Oetkin Rd / SE Naef Rd shared street	SE Thiessen Rd	SE River Rd	Implement shared street	1.97	1
CC - 69	Point	New	SE Roethe Rd / SE Austin St crosswalk	SE Roethe Rd	SE Austin St	Install new crosswalk with RRFB		1
CC - 70	Point	TSP	OR 99E (McLoughlin Blvd) / SE Jennings Ave bike crossing	OR 99E / SE Jennings Ave / Trolley Trail intersection		Construct bike signal at SE Jennings / OR 99E / Trolley Trail intersection		1
CC - 74	Linear	TSP	SE Thiessen Rd pedestrian facilities and bikeways	SE Oatfield Rd	SE Johnson Rd	Add bikeways and pedestrian facilities	2.1	1

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
ODOT - 6	Linear	TSP	OR 99E (McLoughlin Blvd) pedestrian facilities and bikeways	Milwaukie city limits	Gladstone city limits	Fill gaps in pedestrian facilities and bikeways, install additional crosswalks, install pedestrian refuge medians	3.75	1
CC - 33	Linear	New	SE Bluff Rd / SE Denny St / SE Laurie Ave / SE Courtney Ave shared street	SE Courtney Ave	SE River Rd	Install shared street to provide access to Rivervilla Park	0.48	2
CC - 37	Point	SRTS	SE Oak Grove Blvd / SE River Rd crosswalk	SE Oak Grove Blvd	SE River Rd	Install crosswalk		2
CC - 38	Linear	TSP	SE River Rd pedestrian facilities and bikeways	SE Lark St	SE Courtney Ave	Fill gaps in bikeways and pedestrian facilities	0.64	2
CC - 50	Linear	TSP	SE Concord Rd pedestrian facilities	SE River Rd	SE Oatfield Rd	Fill gaps in pedestrian facilities	0.97	2
CC - 57	Point	SRTS	SE View Acres Road	SE Hill Rd	SE Oatfield Rd	Implement shared street		2
CC - 59	Linear	TSP	SE Naef Rd pedestrian facilities and bikeways	SE Oatfield Rd	SE River Rd	Add bikeways and pedestrian facilities	0.91	2
CC - 61	Linear	TSP	SE Harold Ave pedestrian facilities	SE Concord Rd	SE Roethe Rd	Add pedestrian facilities and traffic calming	0.8	2
CC - 62	Linear	New	SE Jennings Ave / SE Willamette Dr shared street	SE Morse Ct	SE River Rd	Implement shared street	0.65	2
CC - 63	Linear	New	SE Jennings Ave pedestrian facilities	SE Morse St	SE River Road	Add pedestrian facilities	0.09	2
CC - 73	Linear	TSP	SE Hull Ave pedestrian facilities	SE Wilmot St	SE Tims View Ave	Fill gaps in pedestrian facilities	1.09	2
CC - 75	Linear	TSP	SE Rusk Rd pedestrian facilities and bikeways	OR 224	SE Aldercrest Rd	Add bikeways and pedestrian facilities	0.57	2
CC - 91	Linear	TSP	SE Webster Rd pedestrian facilities and bikeways	OR 224	Gladstone city limits	Fill gaps in bikeways and pedestrian facilities	1.91	2
CC - 115	Linear	TSP	SE Strawberry Ln pedestrian facilities and bikeways	SE Webster Rd	SE 82nd Dr	Add pedestrian facilities and fill bikeway gaps	0.74	3
CC - 36	Point	New	SE River Rd / SE Creighton Ave crosswalk	SE River Rd	SE Creighton Ave	Install new crosswalk		3

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 43	Linear	TSP	SE Park Ave pedestrian facilities	SE River Rd	OR 99E (McLoughlin Blvd)	Fill sidewalk gaps	0.42	3
CC - 48	Linear	TSP	SE Courtney Ave pedestrian facilities and bikeways	OR 99E (McLoughlin Blvd)	SE Oatfield Rd	Fill gaps in pedestrian facilities and bikeways	0.16	3
CC - 51	Linear	TSP	SE Risley Ave pedestrian facilities	SE Arista Dr	SE Hager Rd	Fill gaps in pedestrian facilities	0.88	3
CC - 64	Linear	TSP	SE Hill Rd pedestrian facilities and bikeways	SE Oatfield Rd	SE Thiessen Rd	Add bikeways and pedestrian facilities	1.17	3
CC - 65	Linear	New	SE Kuehn Rd shared street	SE Aldercrest Road	SE Lake Road	Implement shared street	0.56	3
CC - 68	Point	New	SE Hill Rd / SE View Acres Rd crosswalk	SE Hill Road	SE View Acres Road	Install new crosswalk with RRFB		3
CC - 72	Point	SRTS	SE Hill Rd / SE Bramble Ct crosswalk	SE Hill Rd	SE Bramble Ct	Install new crosswalk with RRFB		3
CC - 76	Linear	TSP	SE Portland Ave pedestrian facilities	SE Jennings Ave	SE Hull Ave	Fill gaps in pedestrian facilities	0.31	3
CC - 81	Linear	TSP	SE McNary Rd / SE Mabel Ave pedestrian facilities and bikeways	SE Oatfield Rd	SE Webster Rd	Add bikeways and pedestrian facilities	0.93	3
CC - 90	Point	SRTS	SE Webster Rd radar speed sign	SE Webster Rd	100 ft north of SE Bixel Way	Install permanent radar speed sign		3

Northwest County Area

Figure 38 Linear and spot improvement projects in Northwest County Area

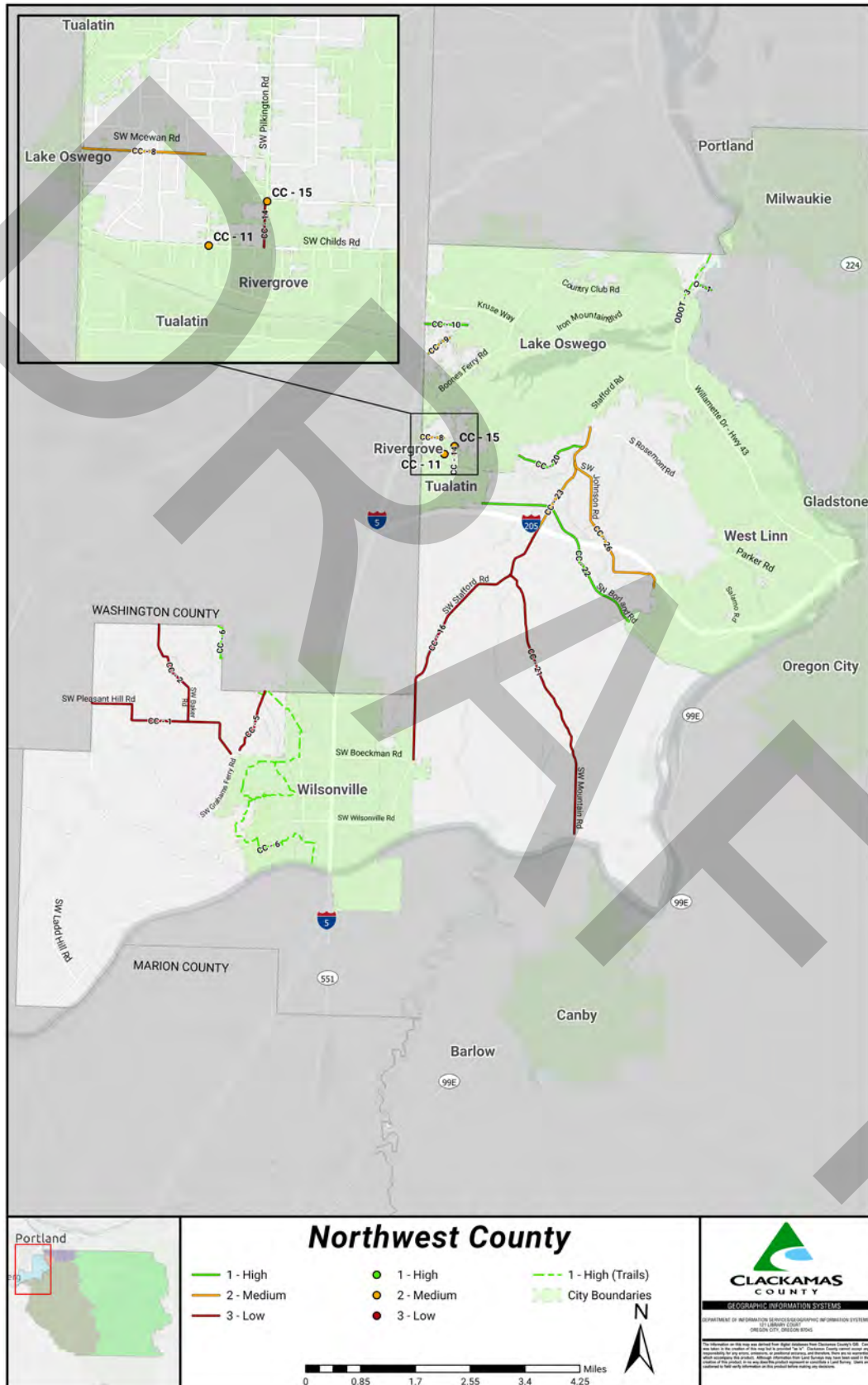


Figure 39 Projects in Northwest County Area

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 10	Linear	TSP	Bonita Rd pedestrian facilities and bikeways	Carman Dr	I-5	Add bikeways and pedestrian facilities	0.65	1
CC - 20	Linear	TSP	SW Childs Rd pedestrian facilities and bikeways	SW Stafford Rd	Lake Oswego city limits	Add pedestrian and bicycle facilities	1.19	1
CC - 22	Linear	TSP	SE Borland Rd paved shoulders	Tualatin city limits	West Linn city limits	Add paved shoulders	3.3	1
CC - 6	Linear	TSP	Tonquin Trail	Willamette River	County line	Construct multi-use path pursuant to the Ice Age Tonquin Trail Master Plan	7.73	1
O - 1	Linear	TSP	Oak Grove to Lake Oswego bridge	Oak Grove	Lake Oswego	Construct bike/pedestrian crossing over the Willamette River	0.2	1
ODOT - 3	Linear	TSP	Willamette River Greenway	Lake Oswego north	County line	Construct multi-use path	1.11	1
CC - 11	Point	SRTS	SW Childs Rd / SW Benfield Ave crosswalk	SW Childs Road	SW Benfield Ave	Install new crosswalk with RRFB		2
CC - 15	Point	SRTS	Pilkington Rd / SW Dawn St crosswalk	Pilkington Rd	SW Dawn St	Install new crosswalk with RRFB		2
CC - 23	Linear	TSP	Stafford Rd paved shoulders	Rosemont Rd	I-205	Add paved shoulders	1.83	2
CC - 26	Linear	TSP	SW Johnson Rd paved shoulders	SW Stafford Rd	West Linn city limits	Add paved shoulders	2.87	2
CC - 8	Linear	SRTS	SW McEwan Rd pedestrian facilities	SW 65th Ave	SW Benfield Ave	Install sidewalks from Longfellow Ave. to 65th Ave. along south side of road	0.41	2
CC - 9	Linear	TSP	Carman Dr pedestrian facilities and bikeways	Lake Oswego city limits	SW Roosevelt Ave	Add pedestrian and bicycle facilities	0.4	2
CC - 1	Linear	TSP	SW Pleasant Hill Rd / SW McConnell Rd / SW Tooze Rd paved shoulders	SW Ladd Hill Rd	SW Westfall Rd	Add paved shoulders	2.76	3
CC - 14	Linear	SRTS	Pilkington Rd pedestrian facilities	SW Dawn St	SW Childs Rd	Add pedestrian facilities	0.13	3
CC - 16	Linear	TSP	Stafford Rd paved shoulders	I-205	Boeckman Rd / SW Advance Rd	Add paved shoulders	4.47	3
CC - 2	Linear	TSP	SW Baker Rd paved shoulders	SW Tooze Rd	County line	Add paved shoulders	1.71	3
CC - 21	Linear	TSP	SW Mountain Rd paved shoulders	SW Stafford Rd	Canby Ferry	Add paved shoulders	4.28	3
CC - 5	Linear	TSP	SW Grahams Ferry Rd paved shoulders	County line	SW Westfall Rd	Add paved shoulders	1.01	3

South County Area

Figure 40 Linear and spot improvement projects in South County Area

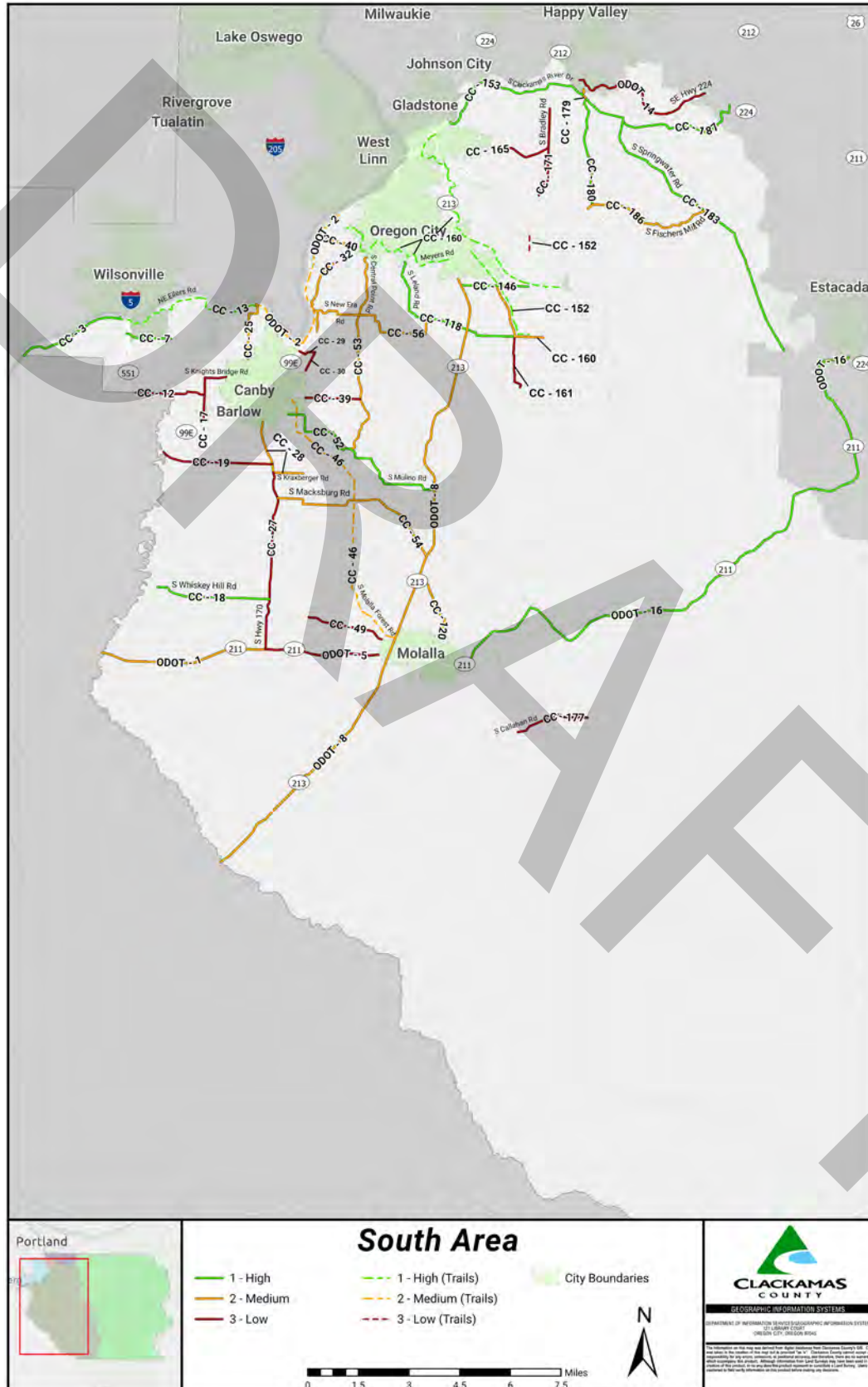


Figure 41 Projects in South County Area

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
O - 18	Linear	TSP	Newell Creek Trail / Oregon City Loop Trail	Loop around the perimeter of Oregon City		Construct Oregon City Loop Trail and Newell Creek Trail in accordance with the Active Transportation Plan	16.81	1
CC - 118	Linear	TSP	S Leland Rd paved shoulders	Oregon City line	S Beavercreek Rd	Add paved shoulders	4.88	1
CC - 13	Linear	TSP	Willamette River Greenway	Canby Ferry	Wilsonville city limits	Construct multi-use path	5.08	1
CC - 146	Linear	TSP	S Henrici Rd paved shoulders	OR 213	S Ferguson Rd	Add paved shoulders and turn lanes at major intersections	1.98	1
CC - 152	Linear	TSP	Beavercreek Multi-Use Path	Loder Rd	Ferguson Rd	Construct multi-use path consistent with the Beavercreek Road Concept Plan	3.23	1
CC - 153	Linear	TSP	S Clackamas River Dr bikeway	Oregon City limits	S Springwater Rd	Add bikeway	4.94	1
CC - 18	Linear	TSP	S Barnards Rd / S Whiskey Hill Rd paved shoulders	Meridian Rd	OR 170 (Canby-Marquam Hwy)	Add paved shoulders	3.41	1
CC - 180	Linear	New	Carver Rd / S Hattan Rd / S Fischers Mill Rd paved shoulders and bikeways	S Redland Schools Rd	S Springwater Rd	Add paved shoulders and bikeways	3.31	1
CC - 183	Linear	TSP	S Springwater Rd paved shoulders	S Clackamas River Dr	S Hayden Rd	Add paved shoulders	1.34	1
CC - 187	Linear	TSP	S Bakers Ferry Rd paved shoulders	S Springwater Rd	OR 224	Add paved shoulders	3.98	1
CC - 3	Linear	TSP	Butteville Rd NE paved shoulders	Boones Ferry Rd NE	County line	Add paved shoulders	3.28	1
CC - 52	Linear	TSP	S Mulino Rd / SE 13th Ave paved shoulders	Canby city limits	OR 213	Add paved shoulders	5.88	1
CC - 7	Linear	TSP	SE Miley Rd paved shoulders	Butteville Rd NE	NE Eilers Rd	Add paved shoulders	1.46	1
ODOT - 16	Linear	TSP	OR 211 paved shoulders	Molalla city limits	S Hayden Rd	Add paved shoulders	19.65	1
CC - 120	Linear	TSP	S Molalla Ave paved shoulders	OR 213	Molalla city limits	Add paved shoulders	2	2
CC - 160	Linear	TSP	Beavercreek Rd paved shoulders	Henrici Rd	Yeoman Rd/ Steiner Rd	Add paved shoulders in accordance with the Active Transportation Plan.	2.47	2

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 179	Linear	TSP	S Springwater Rd pedestrian facilities	OR 224	S Hattan Rd	Add pedestrian facilities	0.35	2
CC - 186	Linear	TSP	S Fischers Mill Rd paved shoulders	S Redland Rd	S Springwater Rd	Add paved shoulders	3.94	2
CC - 25	Linear	TSP	N Holly St / NE 37th Ave / N Locust St / Ferry Rd paved shoulders	NE Territorial Rd	Canby Ferry	Add paved shoulders	1.88	2
CC - 28	Linear	TSP	OR 170 (Canby-Marquam Hwy) / S Kraxberger Rd paved shoulders	Canby city limits	S Harms Rd	Add paved shoulders	2.47	2
CC - 32	Linear	TSP	South End Rd paved shoulders	Oregon City city limits	OR 99E	Add paved shoulders	1.54	2
CC - 40	Linear	New	S Beutel Rd shared street	South End Rd	S Beutel Rd	Install shared street	0.79	2
CC - 46	Linear	TSP	Molalla Forest Rd bikeway	Canby city limits	Molalla city limits	Pave and fill gaps in bicycle access	8.68	2
CC - 53	Linear	TSP	S Central Point Rd paved shoulders	Parrish Rd	S Mulino Rd	Add paved shoulders	6.22	2
CC - 54	Linear	TSP	S Macksburg Rd paved shoulders	OR 170 (Canby-Marquam Hwy)	OR 213	Add paved shoulders	5.46	2
CC - 56	Linear	TSP	S New Era Rd paved shoulders	OR 99E	S Leland Rd	Add paved shoulders	4.94	2
ODOT - 1	Linear	TSP	OR 211 paved shoulders	County line	OR 170 (Canby-Marquam Hwy)	Add paved shoulders	4.96	2
ODOT - 2	Linear	TSP	Willamette River Greenway	Oregon City city limits	Canby city limits	Construct multi-use path	6.13	2
ODOT - 8	Linear	TSP	OR 213 paved shoulders and bikeways	Oregon City city limits	County line	Add paved shoulders and bikeways	18.66	2
CC - 12	Linear	TSP	S Knights Bridge Rd / S Barlow Rd / S Arndt Rd bikeway	Canby boundary	S Airport Rd	Fill in gaps in bikeway	3.27	3
CC - 161	Linear	New	S Kamrath Rd paved shoulders and bikeways	S Leland Rd	S Spangler Rd	Add paved shoulders and bikeways	1	3
CC - 165	Linear	TSP	S Holcomb Blvd paved shoulders	S Edenwild Ln	S Bradley Rd	Add paved shoulders	1.56	3

Project ID	Type	Source	Name	Extent 1	Extent 2	Description	Miles	Tier
CC - 17	Linear	TSP	S Barlow Rd paved shoulders	S Arndt Rd	OR 99E	Add paved shoulders	0.67	3
CC - 171	Linear	TSP	S Bradley Rd paved shoulders	S Gronlund Rd	S Redland Rd	Add paved shoulders	2.68	3
CC - 177	Linear	TSP	Callahan Rd S / S Ramsby Rd paved shoulders	S Dickey Prairie Rd	S Fernwood Rd	Add paved shoulders and turn lanes at major intersections	2.28	3
CC - 19	Linear	TSP	S Lone Elder Rd paved shoulders	County line	OR 170 (Canby-Marquam Hwy)	Add paved shoulders	3.3	3
CC - 27	Linear	TSP	OR 170 (Canby-Marquam Hwy) paved shoulders	S Kraxberger Rd	OR 211	Add paved shoulders	4.56	3
CC - 29	Linear	TSP	SE Territorial Rd bikeways	S Haines Rd	OR 99E	Add bikeways	0.51	3
CC - 30	Linear	TSP	S Haines Rd paved shoulders	S Bremer Rd	SE Territorial Rd	Add paved shoulders	0.61	3
CC - 39	Linear	TSP	S Township Rd paved shoulders	S Central Point Rd	Canby city limits	Add paved shoulders	1.61	3
CC - 49	Linear	TSP	Toliver Rd paved shoulders	S Dryland Rd	Molalla city limits	Add paved shoulders	2.32	3
O - 14	Linear	TSP	Ferguson Multi-Use Path	S Thayer Rd	S Ferguson Rd	Construct multi-use path to connect Ferguson Rd to Thayer Rd	0.51	3
ODOT - 14	Linear	TSP	OR 224 paved shoulders	S Springwater Rd	SE 232nd Dr	Add paved shoulders	4.71	3
ODOT - 5	Linear	TSP	OR 211 paved shoulders	OR 170 (Canby-Marquam Hwy)	Molalla city limits	Add paved shoulders	3.39	3

6.4 Shared Streets

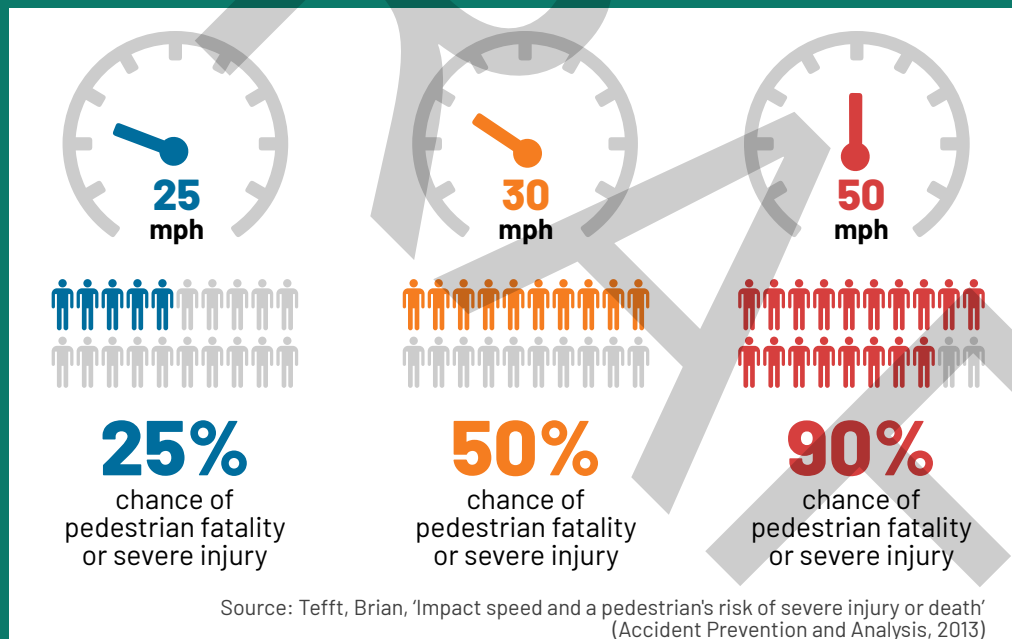
Shared Streets help connect the active transportation network by encouraging slow speeds that make walking and bicycling on streets safer.

WBC identifies candidate Shared Streets, which are high-use streets for people walking and bicycling in Clackamas County with speeds reduced to 20 mph to enhance public health, equity, and safety, particularly on streets connecting neighborhoods, shopping areas, and parks.*

Why does speed matter?

Public feedback and experience from Clackamas County Planning and Traffic Engineering indicates vehicle speeding is an issue on roadways throughout the county.

Having the ability to set the speed limit on certain local roads under ORS 810.180 provides an opportunity to designate streets as places to walk, ride bicycles, roll, and recreate, especially in places without dedicated walkways or bike lanes.



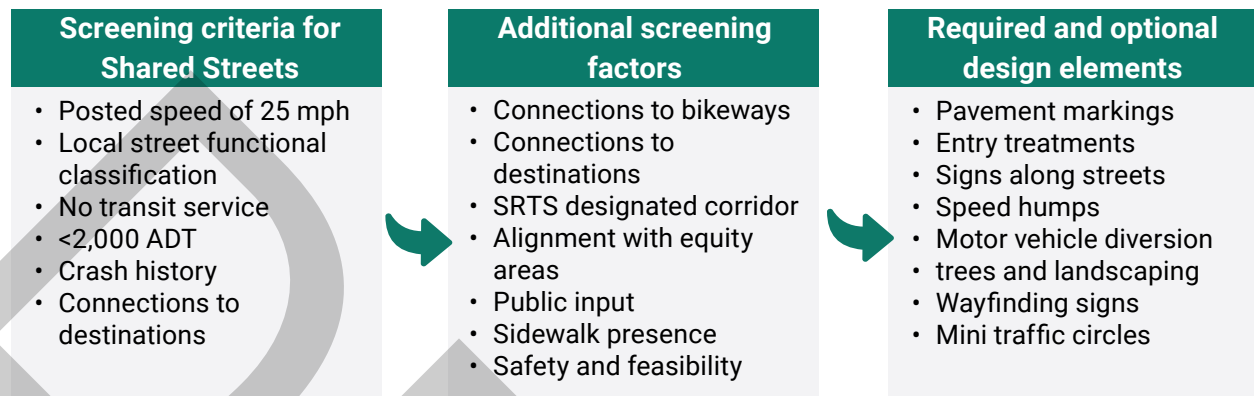
Shared Streets do not form a network on their own, but rather constitute one project type among the many walking and biking improvements noted in this plan.

Cities around the country installed Shared Streets during the COVID-19 pandemic to address many active transportation challenges including:

- Creating more space for people to safely walk or bike.
- Facilitating essential trips and access to essential services.
- Limiting overcrowding in popular public spaces, on multiuse paths, or on narrow sidewalks.
- Addressing non-motorized network gaps.
- Slowing vehicle speeds.

*Oregon Statute ORS 810.180(10) provides agencies the authority to post 5 mph below that statutory when certain criteria are met.

Figure 42 Shared Streets screening and selection process



All streets that pass through the screening would be eligible for Shared Streets speed limit reductions. Shared Streets connections to destinations include the following places within 1/4 -mile of the street segment:

- Schools
- Parks
- Transit stops
- Community centers
- Retail centers/corridors, or specific destination types such as groceries, pharmacies, etc.
- Multiuse trailheads/access points

Figure 43 Shared Streets Elements

Required Shared Street Elements	Feature Description
	<p>Pavement marking</p> <p>Pavement markings allow roadway users to fully understand the purpose of the road, the primary user of the road, and any information about special conditions ahead. The pavement marking in the photo to the left shows roadway users that this is a Shared Street where people on bikes and on foot share the road with people driving.</p>
	<p>Entry treatment</p> <p>Entry treatments such as signs or traffic cones give roadway users information about the Shared Street before entering.</p>
	<p>Signs along Shared Streets</p> <p>Shared Streets signs remind people of the purpose of the roadway.</p>

Additional Elements for Consideration	Feature Description
	<p>Speed hump</p> <p>Speed humps are small, raised areas built across a road to slow vehicles.</p>
	<p>Motor vehicle diversion</p> <p>Motor vehicle diversions lower traffic volumes by limiting vehicle entry or turns, while people walking and rolling can continue to move along the street without a detour.</p>
	<p>Mini traffic circles</p> <p>Mini traffic circles are small islands that must be maneuvered around by motor vehicles to go straight or turn. They are installed to reduce traffic speeds.</p>
	<p>Trees and landscaping</p> <p>Landscaping is used to visually narrow the width of the roadway and sometimes limit where vehicles can enter. Landscaping is used to slow or reduce traffic.</p>
	<p>Wayfinding signs</p> <p>Wayfinding signs point people walking, biking, and rolling toward key destinations.</p>

Figure 44 Shared Streets candidate locations

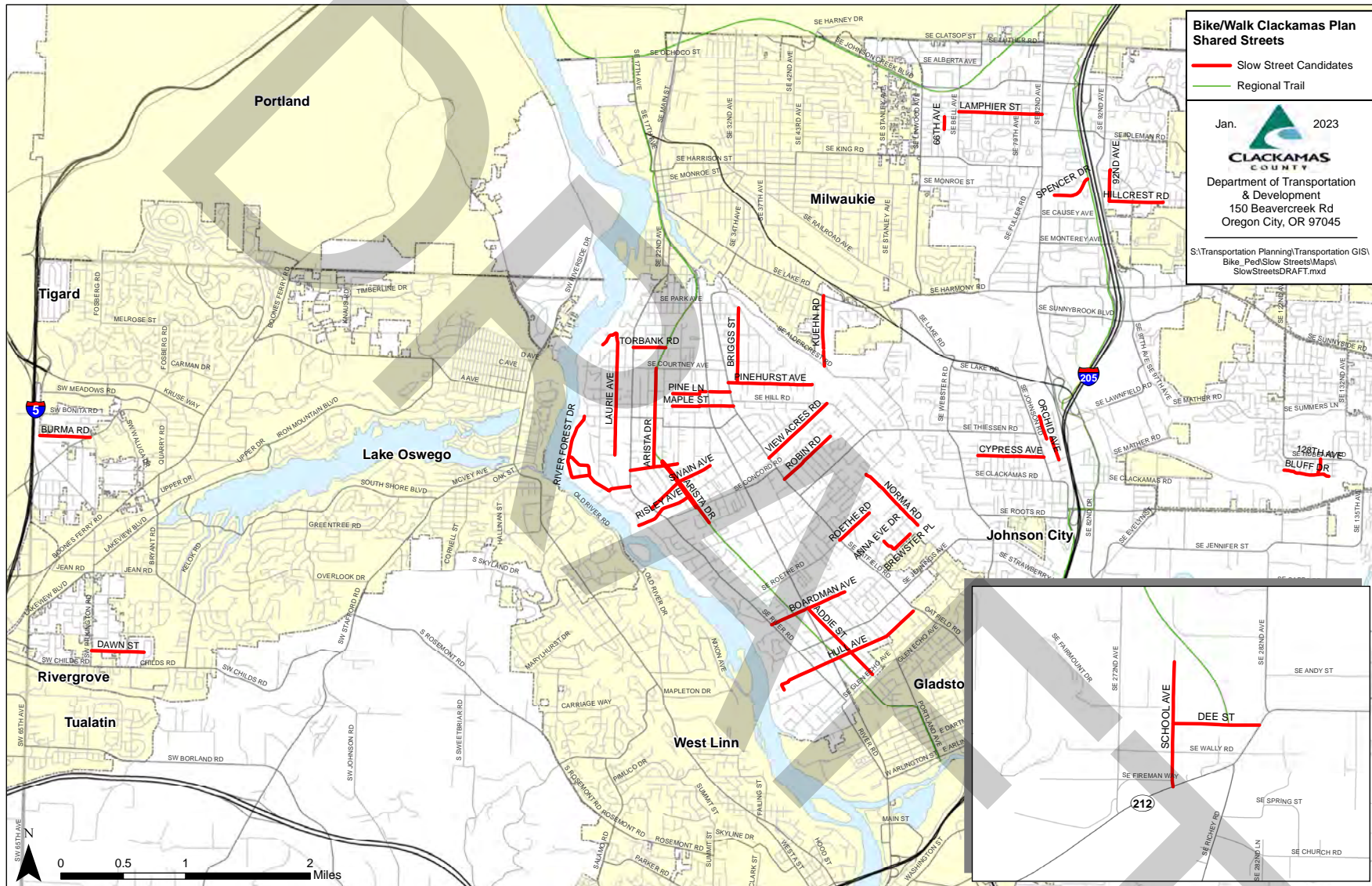


Figure 44 shows Shared Streets candidate locations in the County using red lines. A few examples of these locations include, but are not limited to: Risely Avenue, Dawn Street, Boardman Avenue, Orchid Avenue, Lamphier Street, Bluff Drive, and Dee Street. These corridors were selected using the screening factors in Figure 42. Additional streets may be added as changes in land use occur throughout the County.



7. PROGRAM RECOMMENDATIONS

While infrastructure improvements are an important part of making walking and biking safer and more comfortable, supportive programs help build awareness, use, and safety of these investments.





7.1 Proposed New Programs

Clackamas County already has programs that support walking and bicycling, but several new programs could help address community desires and complement infrastructure investments. Potential programs for the WBC plan are categorized into three groups: events, campaigns, and mode shift. Not all programs need funding and resources in place to be included in the plan; some programs may be included in the plan for future implementation.

Program success is amplified when partnerships are leveraged. These partnerships could include local jurisdiction planning and public works departments, police and sheriff departments, Clackamas County Public Health, and advocacy/support organizations. WBC identified the number of additional full-time equivalent (FTE) staff as Level of Effort parameters and the ability to create long-term behavior change as Impact parameters.

Existing county programs are described in **Appendix G: Technical Memorandum 6: Supportive Programs.**

Figure 45 Programs

	Program	County Role	Level of Effort	Impact
Events	 <p>Open Streets Events that close a portion of a road to cars to allow people to walk, bike, skateboard, scoot, and have fun with friends, family, and neighbors</p>	<p>Lead/Support Partner with nonprofits</p>	<p>Medium-High</p>	<p>High</p>
	 <p>School Zone Safety Promote safe driving behaviors for parents and other adults, and safe walking and bicycling access to schools for students</p>	<p>Lead Partner with local agencies and nonprofits</p>	<p>Low</p>	<p>Medium</p>
Campaigns	 <p>Bicycle-Friendly Drivers Build driver awareness of how to safely drive on roads with bike lane and other facilities, and rights and responsibilities of people bicycling and driving</p>	<p>Lead Partner with local agencies and nonprofits</p>	<p>Medium</p>	<p>Low</p>
	 <p>No Parking in Bike Lane Target illegal car/truck parking in bike lanes to ensure lanes remain open and usable to people bicycling</p>	<p>Lead Partner with local agencies and nonprofits</p>	<p>Low</p>	<p>Low</p>

	Program	County Role	Level of Effort	Impact
Mode Shift	 <p>Micromobility Offered shared services -- such as short-term bike, electric bike, or electric scooter rentals -- to give people travel options for short trips</p>	<p>Lead/Support</p> <p>Partner with Metro, local agencies</p>	<p>High</p>	<p>Medium</p>
	 <p>Bicycle and Pedestrian Counts Gather data about the number of people walking and biking at key locations to learn what's working and what needs to be done</p>	<p>Lead/Support</p> <p>Partner with Metro, local agencies</p>	<p>Medium-High</p>	<p>High</p>
	 <p>Street Painting Program Develop street painting program to allow for neighborhood groups to install street murals to foster lower speeds and solidify shared streets</p>	<p>Lead</p> <p>Partner with nonprofits</p>	<p>Medium</p>	<p>Medium</p>



8. Bicycle and Pedestrian Facility Design Toolkit

A Bicycle and Pedestrian Facility Design Toolkit provides a framework for county staff to identify and design bicycling and walking improvements with consistency.

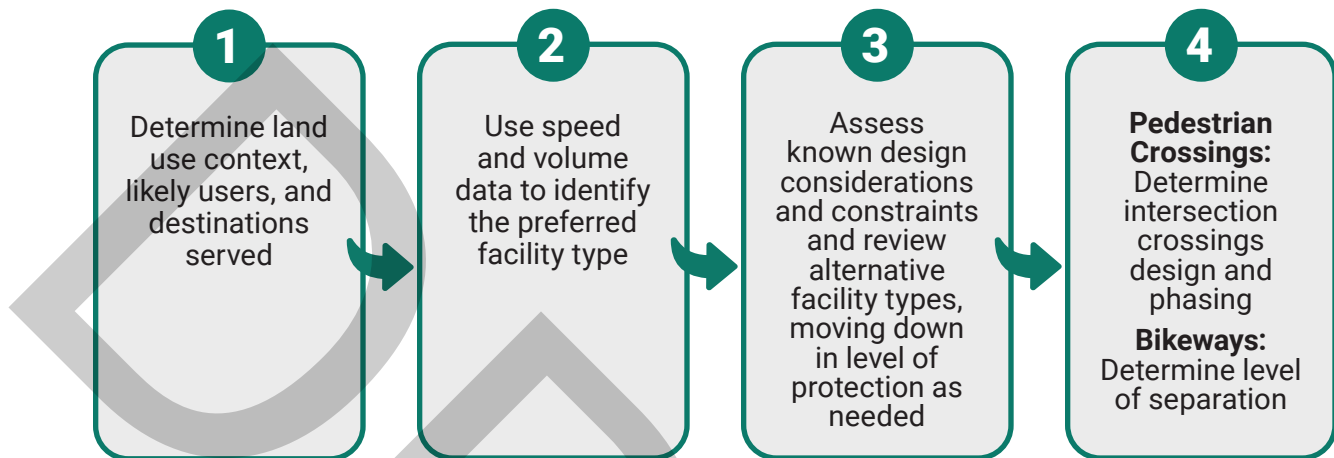
An updated Bicycle and Pedestrian Facility Design Toolkit expands options for active transportation in Clackamas County. It provides:

- A process to support decision-making
- Design guidance for new types of walking and bicycling facilities

8.1 Decision Making

Many of the proposed projects in this plan include new or upgraded crossings, paths, or lanes. The variety of road types and land uses throughout the County means that there is not a one size fits all solution for how to fill a gap or improve the quality of a location. The Toolkit provides a process to support decision making, illustrated in Figure 45.

Figure 46 Facility Selection Process



8.2 Key Facility Types and Design Elements

Certain facility types and design elements are key to advancing priority WBC projects. These elements – which are described in more detail below -- provide guidance on supportive treatments for conflict areas or other locations to increase comfort and safety for people walking and biking:

- Mid-block Crossings
- Uphill/downhill Markings
- Bicycle Box
- Bicycle Ramps
- Two-stage Left-turn Markings
- Bicycle Signals
- Vehicle Parking
- Vertical Separation for Bike Lanes
- Shy Zones
- Bicycle Crossing Markings - Colored Pavement in Conflict Zones

Mid-Block Crossings

Intersection and mid-block crossings can serve as key connections in the active transportation network. Mid-block crossings often connect multi-use path segments or commonly used paths to key destinations like schools, libraries, public institutions, etc.



Uphill/Downhill Markings

Uphill bicycle lane and downhill shared lane markings can be used in constrained rights-of-way to provide separate space for uphill bicyclists that travel significantly slower than vehicle traffic while alerting drivers that the downhill lane is shared with (faster-moving) bicyclists.



Bicycle Box

A bicycle box is a designated area on the approach to a signalized intersection consisting of an advanced stop line and bicycle symbols. Bike boxes are primarily used to reduce conflicts between through bicyclists and right-turning motorists at the beginning of the green signal phase.



Bicycle Ramps

Bicycle ramps can be used to transition bicyclists from on-street bicycle facilities (e.g., shared lanes, bicycle lanes, and shoulders) to off-street facilities (e.g., sidewalk-level protected bike lanes and multi-use paths).



Two-Stage Left-Turn Markings

A two-stage bicycle turn box designates an area at an intersection where bicyclists can wait for traffic to clear or for the signal to change before proceeding across the intersection (i.e., performing a two-stage turn). It may be used for left or right turns (i.e., turning right off of a two-way bikeway on the opposite side of the street). Research shows that this treatment is preferred by most bicyclists over a bicycle box for left turns.



Bicycle Signals

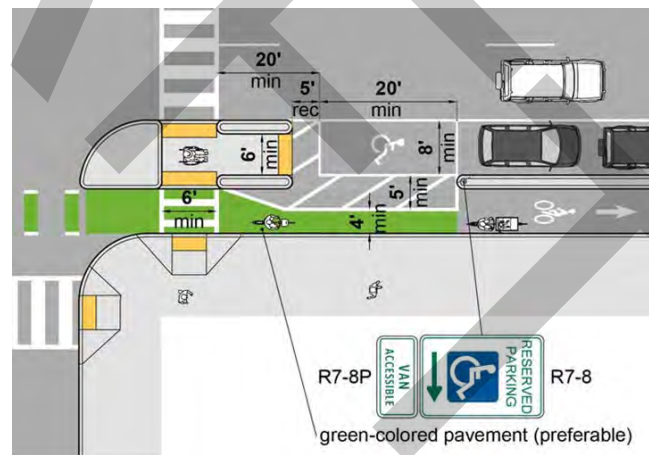
Bicycle signals provide a dedicated signal phase for bicyclists to move across an intersection when cars are not – in particular right-turning vehicle traffic -- or to facilitate a diagonal crossing of an intersection for a multi-use path.



Vehicle Parking

On-street parking may serve residents or street-oriented businesses. On-street parking can provide a buffer for bicyclists and pedestrians, improving their comfort and safety, by displacing moving traffic further away. The presence of parking may also reduce automobile traffic speeds on the street. Careful design is needed to maintain intersection.

The need for on-street parking is often a consideration in reallocating road space for enhanced pedestrian facilities and higher-quality bikeways.



Vertical Separation for Bike Lanes

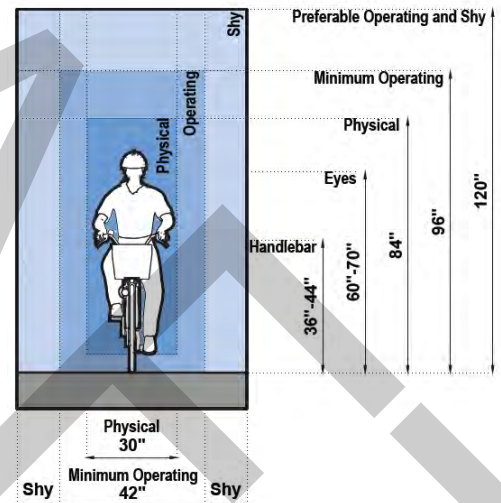
Protected bike lanes, raised cycle tracks, and multi-use paths all benefit from continuous or intermittent vertical elements in the street buffer to provide separation between motor vehicle traffic and the bikeway operating zone, and to discourage or prevent motor vehicle encroachment into the bikeway.

Examples of vertical elements include, but are not limited to, raised medians, textured pavement, flexible delineator posts, precast curbs (or parking stops), mountable curbs, planter boxes, parked cars, concrete barriers or rigid bollards, and landscaping/stormwater treatment facilities.



Shy Zones

Shy zone distance is the distance from which bicyclists feel comfortable riding next to physical (often vertical) elements. Bicyclists shy away from other bicyclists and vertical obstructions to avoid handlebar and pedal strikes. Shy distance plus operating space should be considered in the design of bikeways.



Bicycle Crossing Markings – Colored Pavement in Conflict Zones

Careful consideration for addressing potential motorist/pedestrian/bicyclist conflict areas at intersections, crossings, and transitions between facility types should be part of the facility design process. Conflict areas pose significant deterrents for many users and can result in a decision not to walk or bike.





9000 Block

NORTH
Perland
↑ ONLY

Sunnyside
Road
↑

SOUTH
Oregon City
↑ ONLY

40

9. MOVING FORWARD

Implementation will require community support and political leadership in addition to funding for both initial investments and ongoing maintenance.

This chapter outlines potential funding sources, implementation pathways, and accountability strategies.

9.1 Funding the Plan

Implementing a connected bicycle and pedestrian network in Clackamas County will take many years. It will require a variety of funding sources and creative collaborative efforts among various agencies to fund and build the network of walkways and bikeways, starting with the Tier 1 projects within each planning area.

Potential funding sources for active transportation are shown in the table below.

Figure 47 Funding Sources

	Common Funding Sources
County/local	<ul style="list-style-type: none"> • Urban Renewal District (Tax Increment Financing and Capital Projects Funds) • Community Road Fund • Fee in Lieu of (FILO) • Transportation System Development Charge (SDC)
Regional & State	<ul style="list-style-type: none"> • Regional Flexible Fund Allocation (RFFA) • Statewide Transportation Improvement Program (STIP) • Oregon Safe Routes to School (SRTS) • Oregon Community Paths (OCP) • Recreational Trails Program (RTP) through Oregon Parks and Recreation Department • Oregon Transportation Infrastructure Bank

Common Funding Sources	
Federal	<ul style="list-style-type: none"> • Rebuilding American Infrastructure with Sustainability and Equity (RAISE) • Federal Lands Access Program (FLAP) • Safe Streets and Roads for All (SS4A) Grant Program • Reconnecting Communities and Neighborhoods Grant Program (RCP) • New Federal Funding Sources Established by the Bipartisan Infrastructure Law (BIL) <ul style="list-style-type: none"> - Carbon Reduction Program - PROTECT Formula Program - Active Transportation Infrastructure Investment Program

9.2 Implementation

Projects have multiple pathways to implementation. Projects may be implemented through processes internal to the County or rely on external partnerships, through private developer requirements or partnerships with other agencies. Leveraging various implementation approaches and programs creates diverse opportunities to get projects off the ground.

Transportation Maintenance

The Clackamas Transportation Maintenance Division is responsible for the upkeep and repair of county roads and bridges, road-related infrastructure implementation. In addition to regular yearly maintenance, the division addresses over 5,000 maintenance requests from the public annually.

Hot Spot Programming

The Active Transportation Hot Spot program is a community-led effort by the county's Pedestrian and Bikeway Advisory Committee (PBAC) to identify and solve bicycle and pedestrian safety issues. These "hot spots" are specific locations on the road where there is a safety risk for people walking and biking. The program addresses these issues to reduce crashes involving people walking or bicycling. These problems are more significant than routine maintenance but not large enough for inclusion in broader transportation projects. Low-cost, hot spot projects are an easy way to advance small active transportation efforts. County should continue to support the Hot Spot program and advance implementation of solutions identified by the PBAC.

Private Developer Requirements

Encouraging or requiring private developers to complete local bicycle and pedestrian facilities is essential for connecting and enhancing bicycle and pedestrian access to key community destinations and closing gaps in the active transportation network. When local authorities collaborate with private developers to integrate walk- and bike-friendly amenities into new developments, they can create well-connected residential and business areas that support active transportation. Providing developers options to pay fees instead of building necessary active transportation facilities allows local government to allocate funding towards high priority active transportation near the new development.

Regional or State Partnerships

Exploring opportunities for collaboration with regional and state partners, such as the Oregon Department of Transportation (ODOT), North Clackamas Parks & Recreation District (NCPRD), Oregon State Parks, and municipal partners, can help Clackamas County advance larger-scale active transportation efforts that are challenging to fund locally. The County might consider leveraging these partnerships to group multiple projects under a single grant. A comprehensive network of improvements often yields a better return on investment during Benefit Cost Analysis than individual projects.

9.3 Accountability Strategies

Project implementation will be best supported by one or a combination of the strategies below:

- Ongoing WBC coordination meetings
- A quarterly agency partner workshop
- Additional staffing



10. APPENDICES

- A. [Fact Sheet](#)
- B. [Public Involvement Plan](#)
- C. Title VI Equity Assessment Memorandum
- D. [Technical Memorandum 1: Health Equity Framework](#)
- E. [Technical Memorandum 2: Baseline Health Conditions](#)
- F. [Technical Memorandum 3: Plan Review](#)
- G. [Technical Memorandum 4: Existing Conditions Analysis](#)
- H. [Technical Memorandum 5: Pedestrian and Bicycle Goals](#)
- I. [Technical Memorandum 6: Supportive Programs](#)
- J. [Technical Memorandum 7: Shared Streets](#)
- K. [Technical Memorandum 8: Gaps and Deficiencies Analysis](#)
- L. [Technical Memorandum 9: Project Prioritization Methodology](#)
- M. [Technical Memorandum 10: Pedestrian and Bicycle Project Identification](#)
- N. [Technical Memorandum 11: Pedestrian and Bicycle Priority Project Recommendations](#)
- O. [Cost Estimate Methodology](#)
- P. [Funding and Implementation Strategy \(December 2023\)](#)
- Q. [Engagement #1 Summary \(Winter 2022\)](#)
- R. [Engagement #2 Summary \(Spring 2023\)](#)
- S. [Engagement #3 Summary \(Summer 2023\)](#)
- T. Engagement #4 Summary (April 2024) – Forthcoming in Final Draft

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