

# Transportation System Plan

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Portal Users Group

Gary Albrecht, Clark County Public Works

November 17, 2021



# Agenda

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- TSP Overview
- Transportation System Plan Goals and Objectives
- Public Outreach
- Clark County Bicycle and Pedestrian Master Plan
- Pedestrians and Bikes



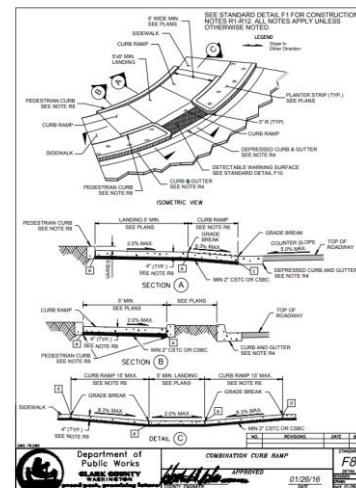
# Transportation Guiding Documents

- Clark County Comprehensive Plan
- Arterial Atlas
- Capital Facilities Plan
- Transportation Improvement Program (TIP)
- Bicycle and Pedestrian Master Plan
- Clark County Code Chapter 40.350 Transportation and Circulation
- Pedestrian Crossing Treatment Policy
- School Zone Traffic Control Policy
- Standard Details Manual



**Arterial Atlas Clark County**

A supporting document to the Comprehensive Plan



**CLARK COUNTY  
WASHINGTON  
PUBLIC WORKS**

NW Pacific Highway Curbless Replacement at Wetmore Road

**2021-2026  
CLARK COUNTY  
TRANSPORTATION  
IMPROVEMENT  
PROGRAM (TIP)**



**Clark County, WA  
Bicycle and Pedestrian Master Plan**

PREFILED BY Alta Planning + Design  
October 2016



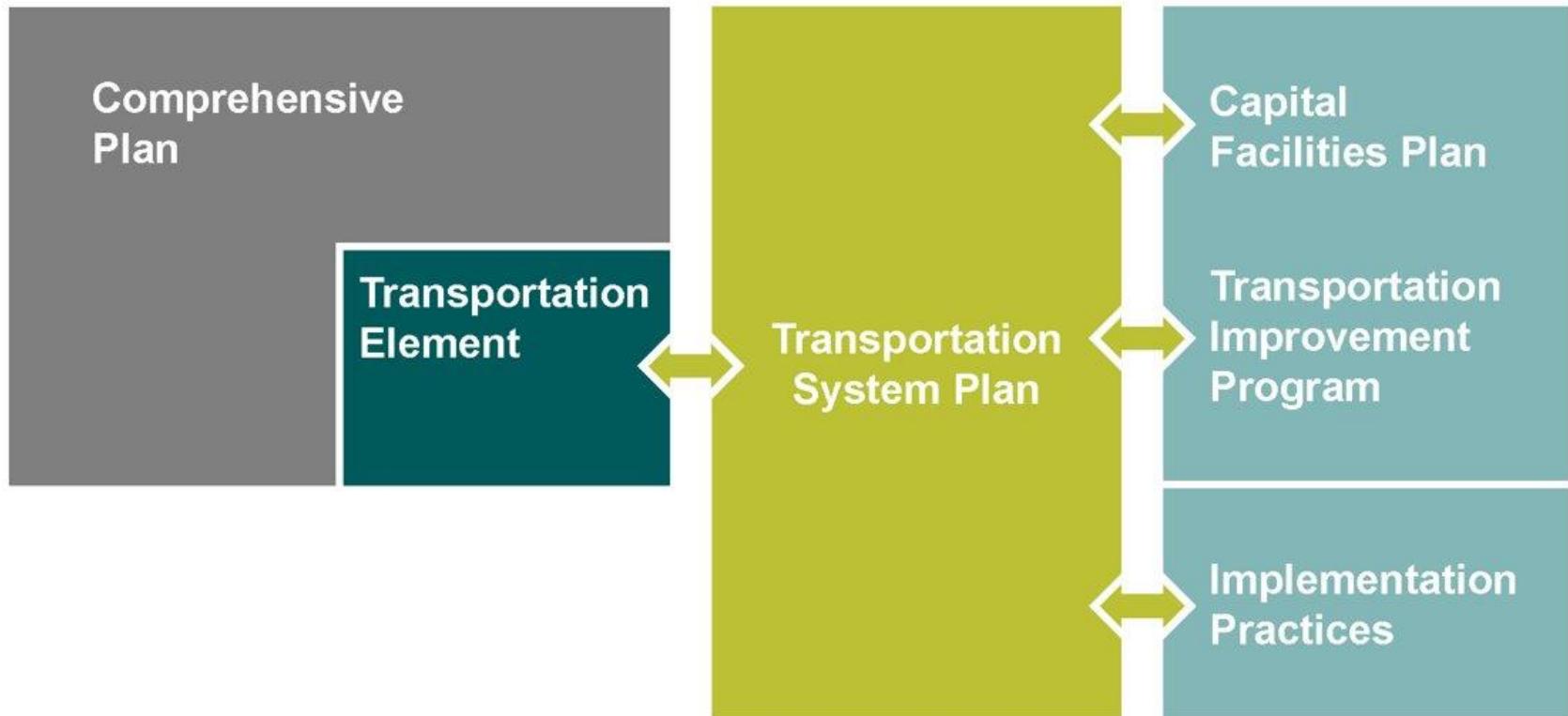
# Goals & Policies Comparison

	Land Use Linkage	Multi-modal	Preservation	Mobility	Safety	Financial Viability	Economic Development	Management and Operations	Environment	Stewardship
Clark County	✓	✓	✓	✓	✓	✓	*		*	
2019 Regional Transportation Plan (RTC)		✓	✓	✓	✓	✓	✓	✓	✓	
Washington State Transportation Plan		✓	✓	✓	✓	✓	✓	✓	✓	✓
United States (23 USC Sec 150)			✓	✓	✓		✓	✓	✓	✓

\* Clark County's Goals for Safety, Land Use Linkage, Mobility, Multi-modal, Preservation and Financially Viable are contained in the Transportation Element of the Comprehensive Plan. The Comprehensive Plan has an Economic Development and Environmental Element, as well.



# Transportation System Plan Implementation

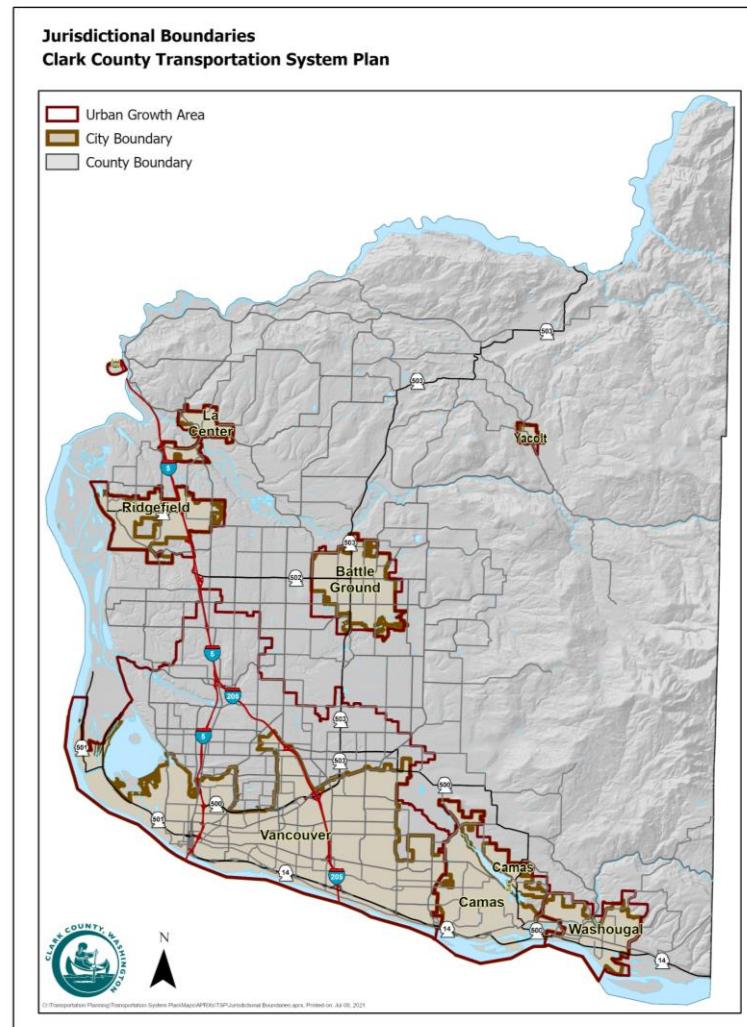


# Transportation System Plan Scope of Work

Description	Start Date	End Date
Transportation Analysis	January 2020	September 2021
Performance Measures	October 2020	September 2021
Multi-Modal Transportation System Framework	October 2020	September 2021
Solution Development and Evaluation	January 2021	September 2021
Funding Strategies	September 2021	December 2021
Equity and Inclusion Analysis	March 2021	December 2021
Community Feedback of Strategy Development	April 2021	December 2021
Transportation System Plan Development	October 2021	March 2022
Adoption Process	April 2022	June 2022



# Jurisdiction Boundary Map



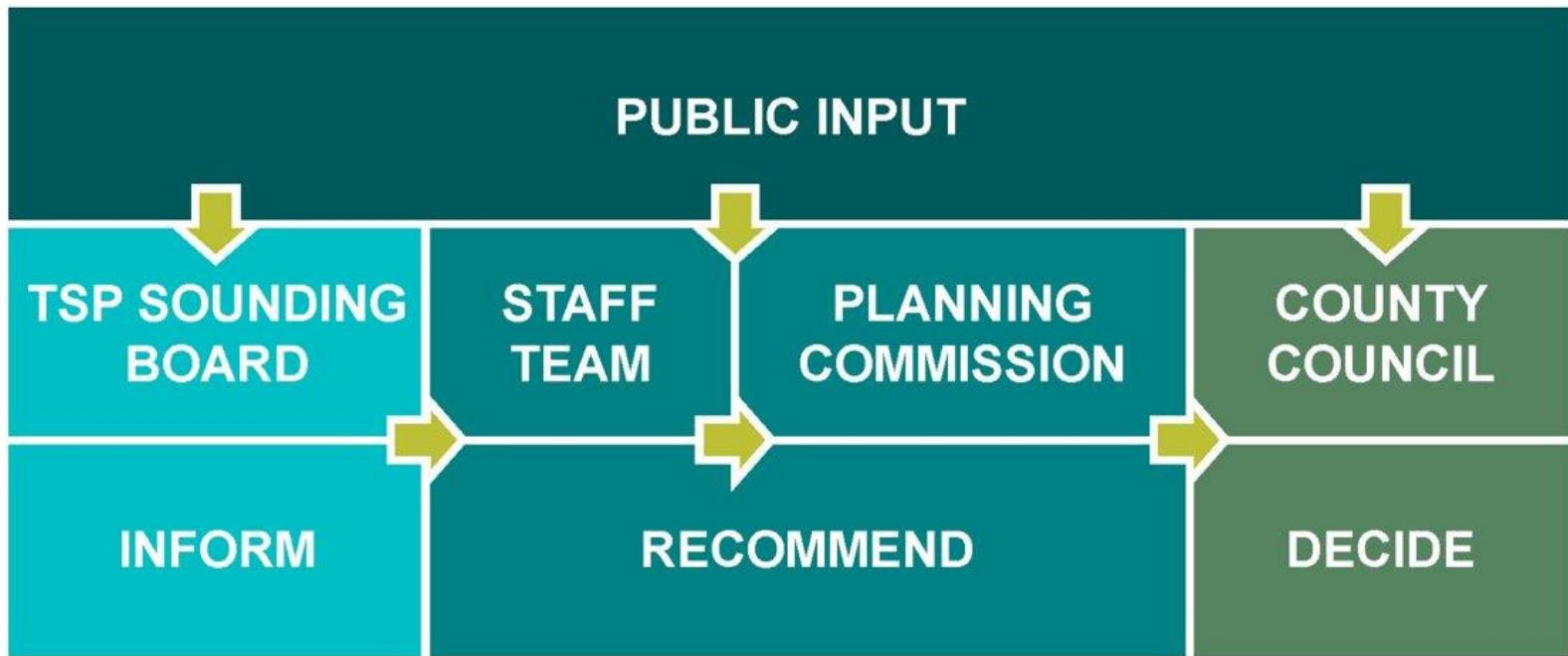
# Transportation System Plan Overview

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- A TSP will provide direct guidance on how to build, operate and maintain Clark County's major roadway network.
- Treating transportation body as a system, rather than an artery as a component.
- Addresses larger transportation system including transit, multi-use trails, state highways and freight railroads maintained by other entities.
- Interactive [story map](#)



# Public Outreach



Diversity, Equity and Inclusion approach



# Sounding Board Schedule

Date (3rd Tuesday of each month)	Agenda Items
6/15	Intro including Diversity, Equity and Inclusion
7/20	Topic: Vehicular Transportation
8/17	Feedback Consensus: Vehicular Transportation Topic: Freight, Rail, Aviation
9/20	Feedback Consensus: Freight, Rail, Aviation Topic: Pedestrians, Bikes
10/19	Feedback Consensus: Pedestrians and Bikes Topic: Transit
11/16	Feedback Consensus: Transit Topic: Neighborhood Circulation
12/21	Feedback Consensus: Neighborhood Circulation Topic: Regional Circulation
1/18	Feedback Consensus: Regional Circulation Topic: Diversity, Equity and Inclusion
2/15	Feedback Consensus: Diversity, Equity and Inclusion
3/15	Final Plan Development



# Pedestrian & Bicycle Comprehensive Plan Policies

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Goal: Develop a multi-modal transportation system.

## 5.2 Multi-modal System Policies

- 5.2.6 The 2010 Clark County Bicycle and Pedestrian Master Plan and its policies are included by reference in the Comprehensive Plan.
- 5.2.7 The county supports the development of its bicycle and pedestrian network identified in the 2010 Clark County Bicycle and Pedestrian Master Plan.
- 5.2.8 The county supports coordination among the jurisdictions and agencies in the development of bikeway and pedestrian facilities.
- 5.2.9 Supports efforts to fund construction of bicycle and pedestrian improvements in the Clark County Bicycle and Pedestrian Master Plan without the loss of streets and/or highway vehicular lane capacity.
- 5.2.11 Promote bicycle and pedestrian safety and increased bicycling and walking through safety and encouragement activities.
- 5.2.12 Endorse the concept of complete streets, which promotes roadways that are safe and convenient for all users.
- 5.2.13 Design and construct complete streets wherever feasible and practicable.

Goal: Ensure mobility throughout the transportation system.

## 5.4 System Mobility Policies

- 5.4.4 County roadways and intersections shall be designed when practical to achieve safety and accessibility for all modes. Arterial streets shall provide facilities for automobile, bike and pedestrian mobility as defined in the Arterial Atlas and shall include landscaping.



# Pedestrian & Bike Comprehensive Plan Policies

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Goal: Provide a safe transportation system

## 5.5 System Safety Policies

- 5.5.2 Pedestrian and bicycle safety shall be given consideration in the design and capital facilities planning process.

Goal: Develop a balanced finance program, which ensures that new development pays the costs of its impacts and that adequate public financing is pursued and available.

## 5.6 System Funding Policies

- 5.6.4 A portion of available transportation funds shall be dedicated to sidewalk and bicycle facilities consistent with state law.



# Clark County Bicycle and Pedestrian Master Plan, 2010



## Clark County, WA Bicycle and Pedestrian Master Plan

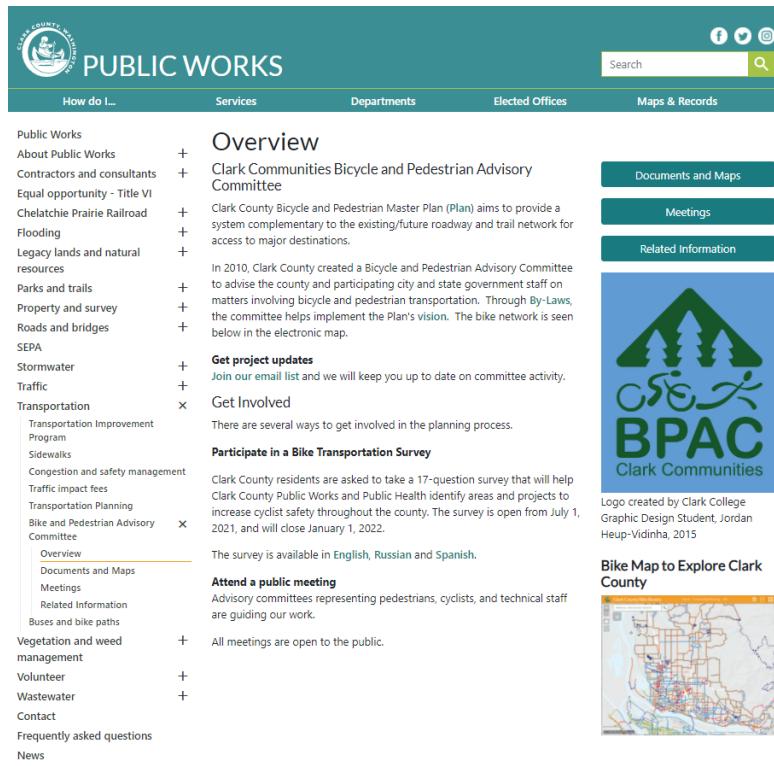
PREPARED BY:  
Alta Planning + Design  
October 2010



- 20-year vision and implementation strategy that seeks to increase the number of people walking and bicycling while improving walking and bicycling safety throughout the county.
- Recommended bikeways, walkways, and trails connect key destinations in and around Clark County.
- Improvements vary from low-cost measures yielding immediate results, such as re-striping of streets to accommodate bike lanes, to longer-term strategies for transforming Clark County into a truly bicycle- and pedestrian-friendly community.



# Clark Communities Bicycle and Pedestrian Advisory Committee



The screenshot shows the Clark County Public Works website. The main navigation bar includes links for How do I..., Services, Departments, Elected Offices, and Maps & Records. The Public Works logo is in the top left. On the right, there's a search bar and social media icons. A sidebar on the left lists various public works categories like Public Works, About Public Works, Contractors and consultants, etc. The main content area is titled 'Overview' and discusses the Clark County Bicycle and Pedestrian Master Plan. It includes a map and links for 'Get project updates' and 'Get Involved'. Below this is a section for the 'Bike Transportation Survey' and 'Attend a public meeting'. At the bottom, there's a 'Frequently asked questions' section.

The committee's role is to advise Clark County (County) and participating City and State government staff on matters involving transportation for people walking and bicycling.

Responsibilities include advising on the implementation of the vision of the Clark County Bicycle and Pedestrian Master Plan.



Logo created by Clark College Graphic Design Student, Jordan Heup-Vidinha, 2015

## Bike Map to Explore Clark County



# Clark Communities Bicycle and Pedestrian Advisory Committee

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## Participate in a Bike Transportation Survey

Clark County residents are asked to take a 17-question survey that will help Clark County Public Works and Public Health identify areas and projects to increase cyclist safety throughout the county.

The survey is open from July 1, 2021, and will close January 1, 2022.

The survey is available in [English](#), [Russian](#) and [Spanish](#).



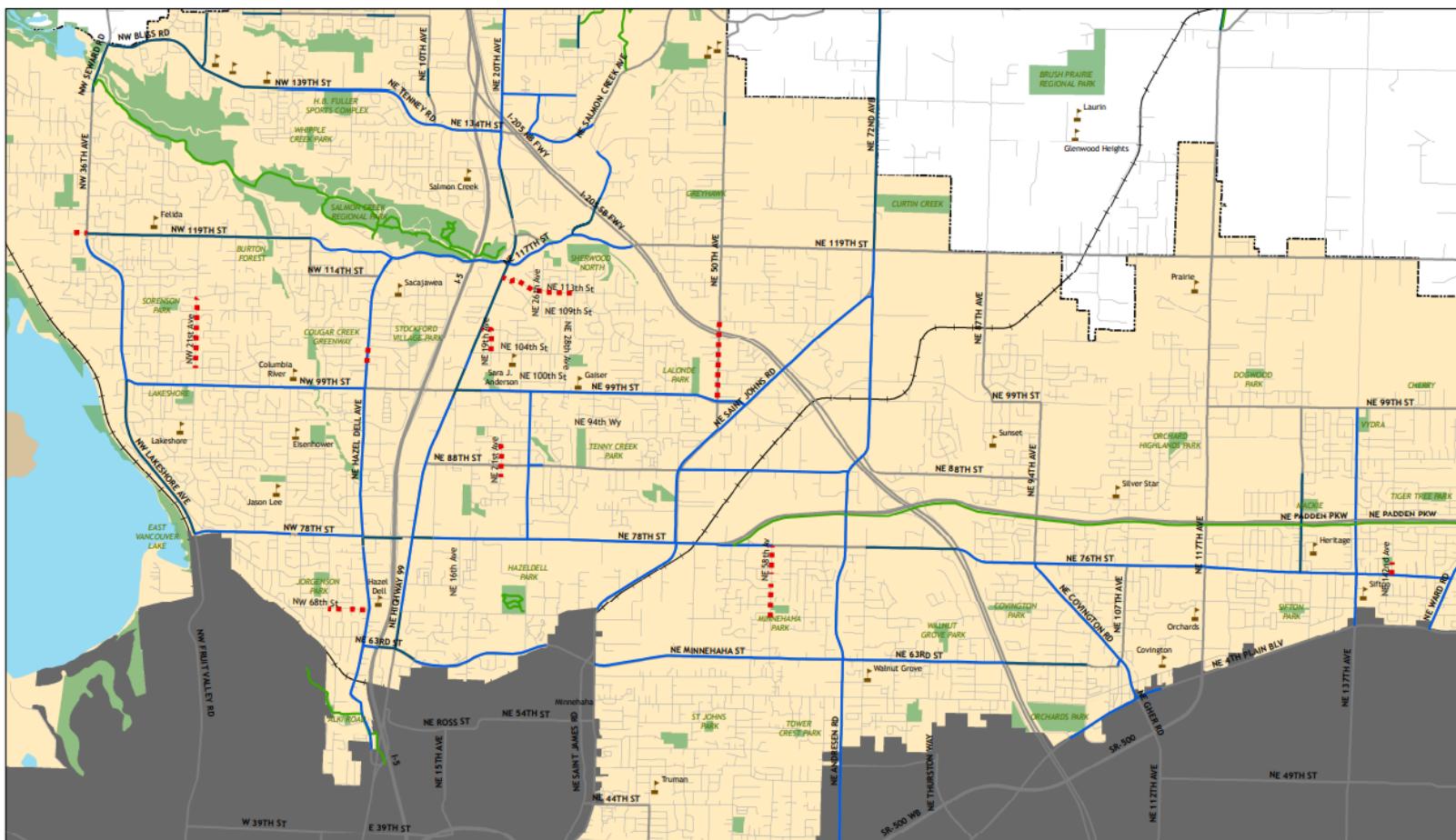
# Clark County Bicycle and Pedestrian Master Plan

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- Objectives and actions are designed to guide the way the public improvements are made, where resources are allocated, how programs are operated, how department priorities are determined, and how private development is designed.
- Policies are organized into the categories of:
  - Developing a Bicycle and Pedestrian Network
  - Jurisdictional Coordination
  - Traffic Management/Demand Management
  - Education, Encouragement and Safety Programs
  - Funding
  - Bicycle and Pedestrian Supportive Land Uses



# Priority sidewalk projects



#### **Map 4. Priority Sidewalk Projects**

**Clark County**  
**Bicycle and Pedestrian Master Plan**  
Source: Data obtained from Clark County  
Author: HWK  
Date: September 2010

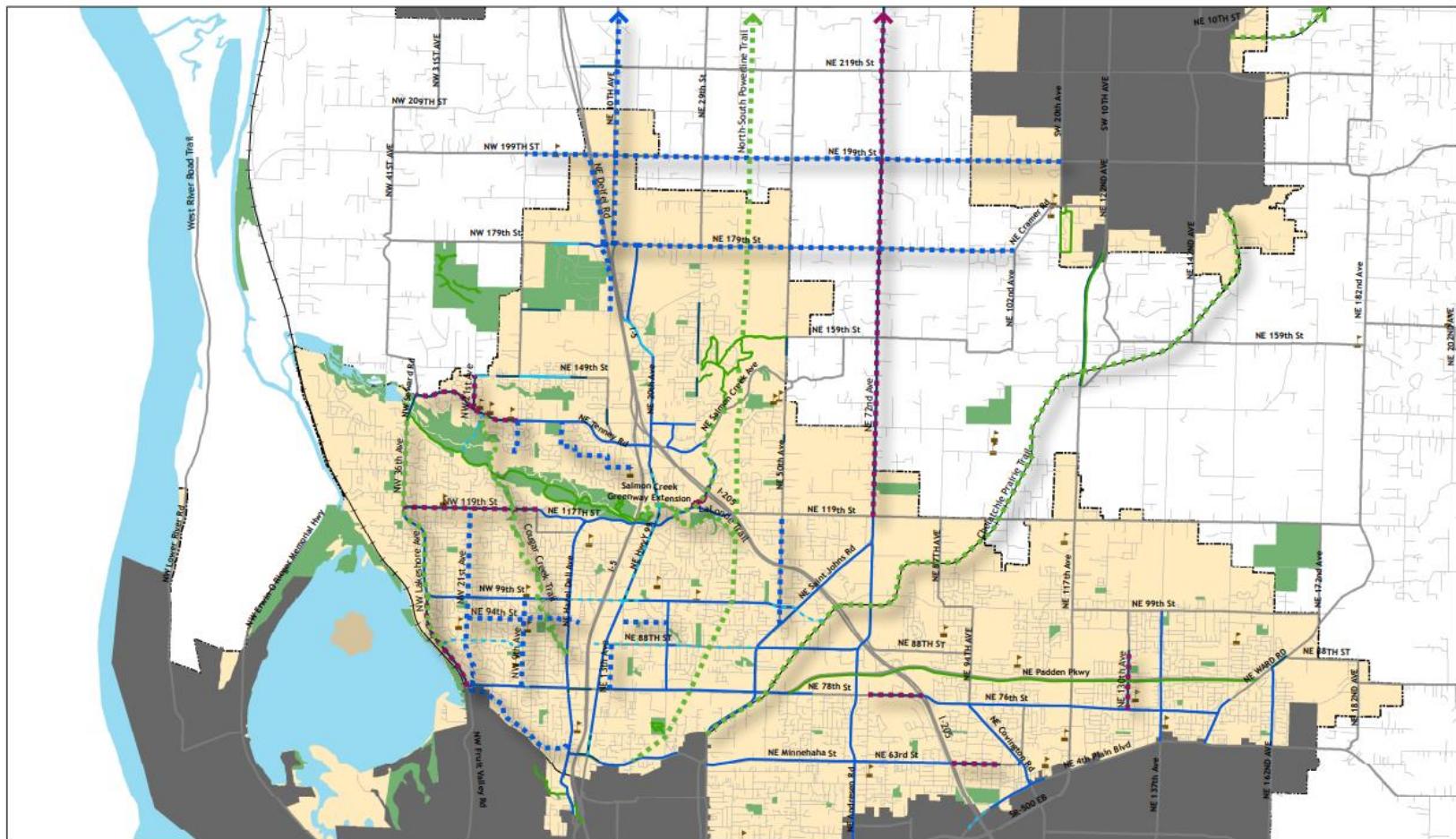
- Legend:

  - Priority Sidewalk Projects
  - Off-Street Trail
  - Shoulder Bikeway
  - Railroad
  - Parks
  - Bike Lane
  - School
  - Urban Growth Boundary



0 0.25 0.5 Miles

# Top Tier Bikeway and Trail Projects

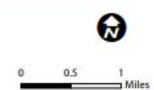


Map 5. Top Tier Bikeway and Trail Projects

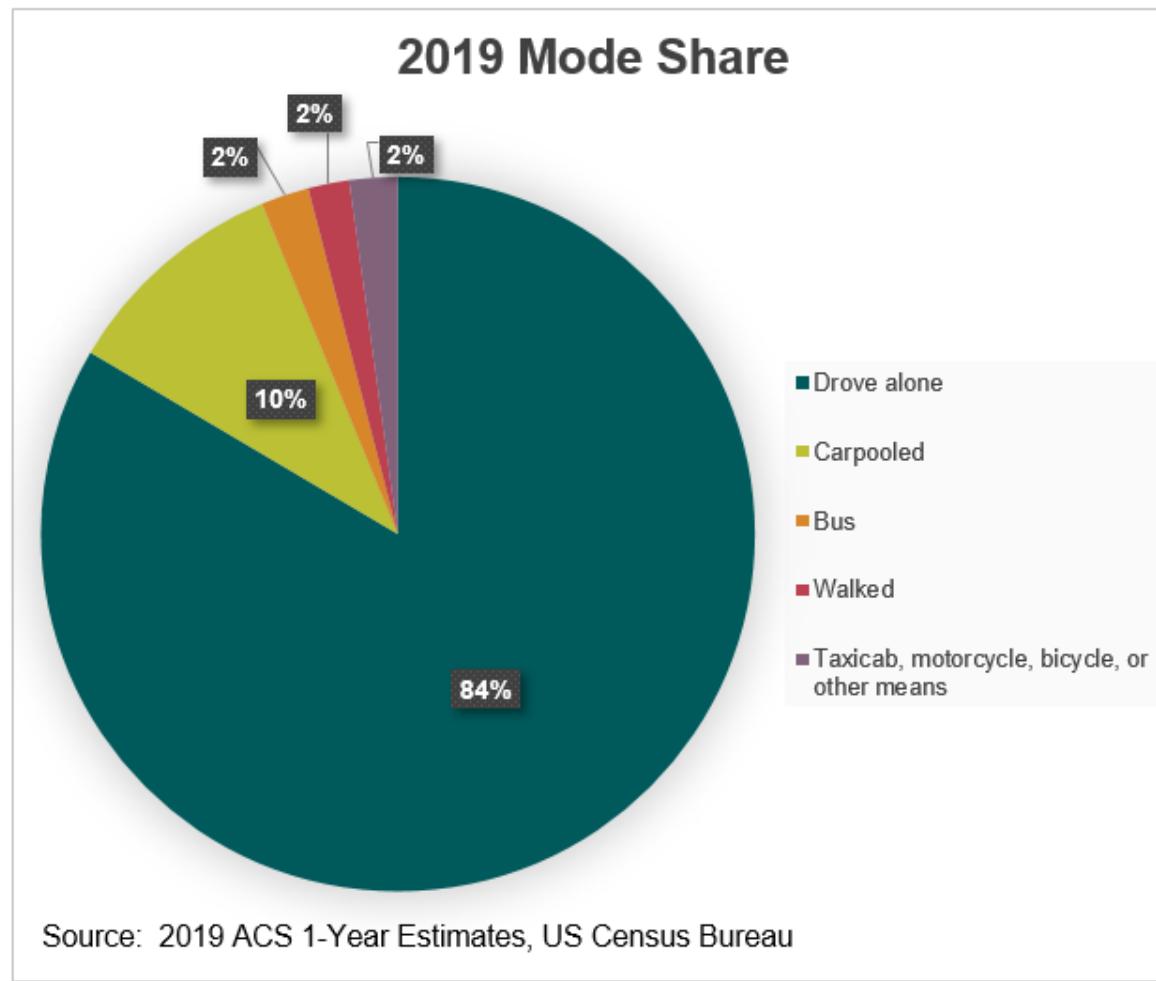
Clark County  
Bicycle and Pedestrian Master Plan  
Source: Data obtained from Clark County  
Author: HMK  
Date: September 2010



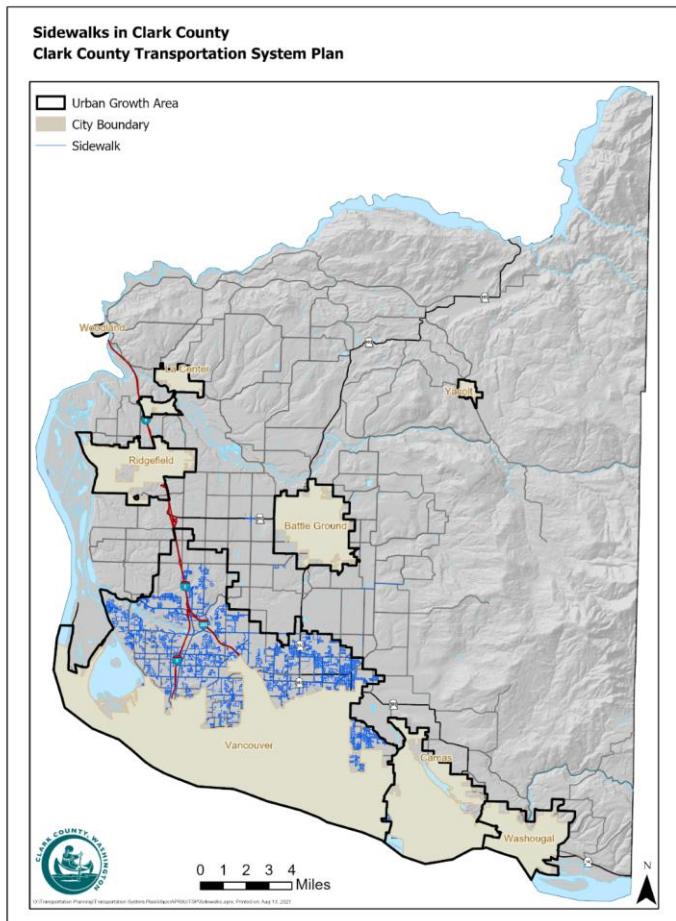
- Planned projects
- Bikeway projects
- Restriping bike lane projects
- Trail and pathway projects
- Off-Street trails and pathways
- Bike lane
- Bike lane one-side
- Shoulder bikeway
- Railroad
- ▲ School
- Parks
- Urban growth boundary



# Mode Share – Commuter Transportation: 2019



# Existing conditions - sidewalks



Most new sidewalks are constructed as part of larger road projects, park projects and private development. In developed areas, the county's sidewalk program helps extend existing sidewalks for short distances to fill gaps and make connections to existing sidewalks.

Clark County's sidewalk program is largely funded by the property tax-based County Road Fund, supplemented by occasional state or federal grants. Funding for the program is set during annual updates of Clark County's [Transportation Improvement Program](#).

Since 2007, Public Works has constructed 38.25 miles of sidewalk at a cost of \$28.6 million, including sidewalks on large road projects. In established neighborhoods, the county's sidewalk program has invested \$10.7 million to complete 7.6 miles of new sidewalk.



# Sidewalk Requirements for New Developments

- Urban Public Road Standards:

Sidewalks shall be constructed along both sides of all public roads in urban areas.

Five (5) feet wide on local streets.

Six (6) feet wide on collectors and arterials, when abutting street.

Five (5) feet wide on collectors and arterials, when separated by planting strip.

- Urban Private Road Standards:

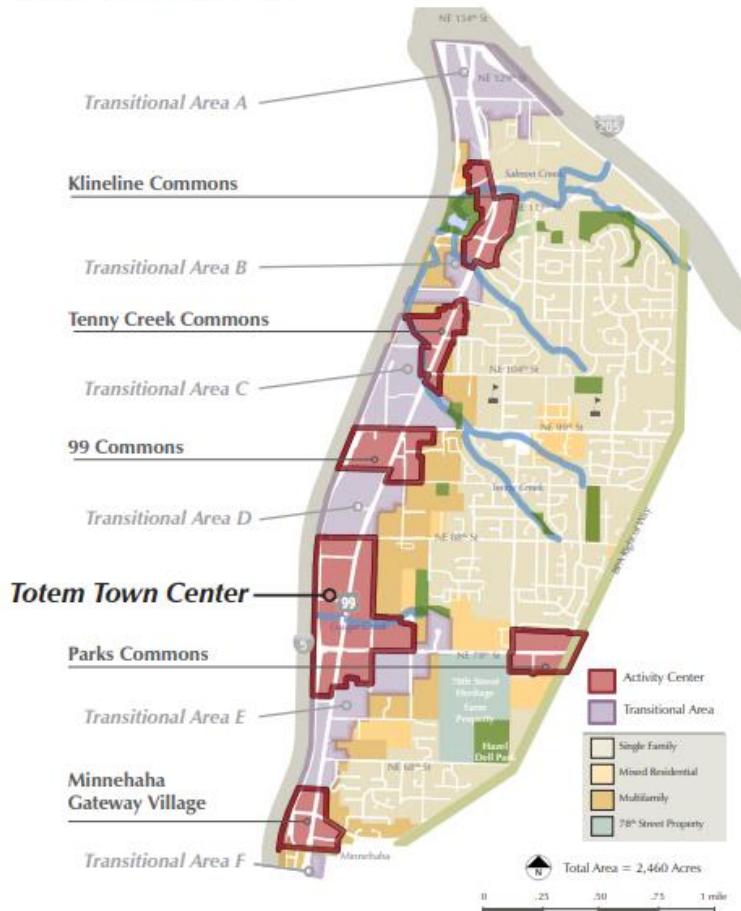
Sidewalks shall be constructed on one side of private roads in urban areas.

Five (5) feet wide.



# Sidewalk Requirements – Hwy 99 Sub Area

2.0.3 Sub-Area Regulatory Map



- Must be separated by 4-foot planting strips.
- All streets in Activity Centers: 8 feet.
- All streets in Transitional Areas: 6 feet, except 8 feet for Highway 99 where right-of-way widths allow.
- Arterials and collectors in residential zones and all streets in Multifamily Overlays: 6 feet.
- Local access roads in Single Family and Mixed-Residential Overlays: 5 feet.

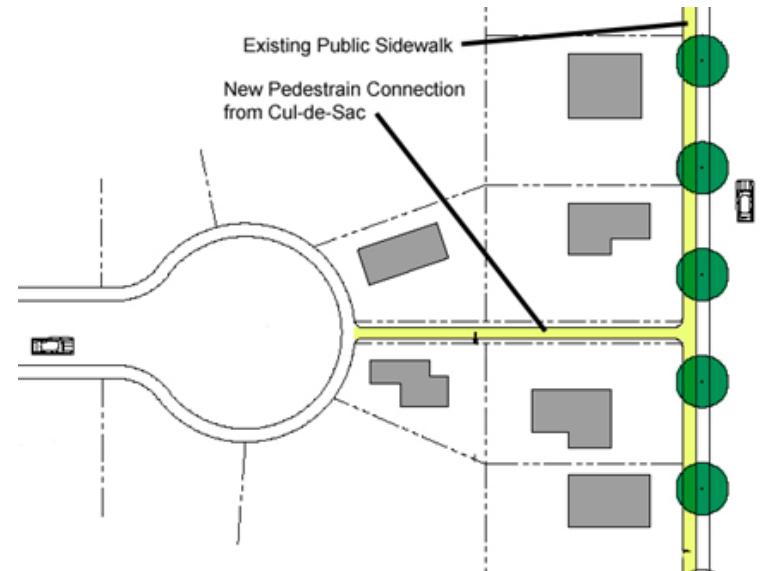


# Accessway Requirements

- Clark County Code 40.350.015

Requires pedestrian connections to new neighborhoods when adjacent to collector and arterial streets.

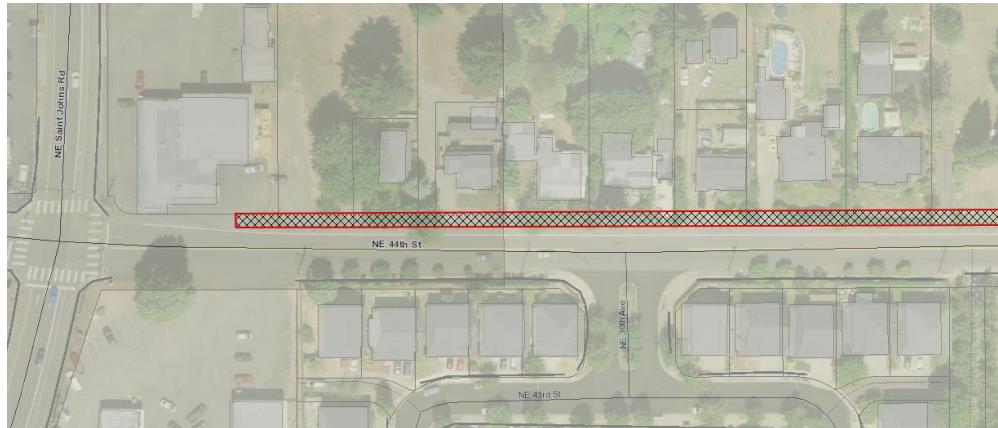
Improves new neighborhood connections to parks, schools, transit stops, retail centers, medical, and public facilities.



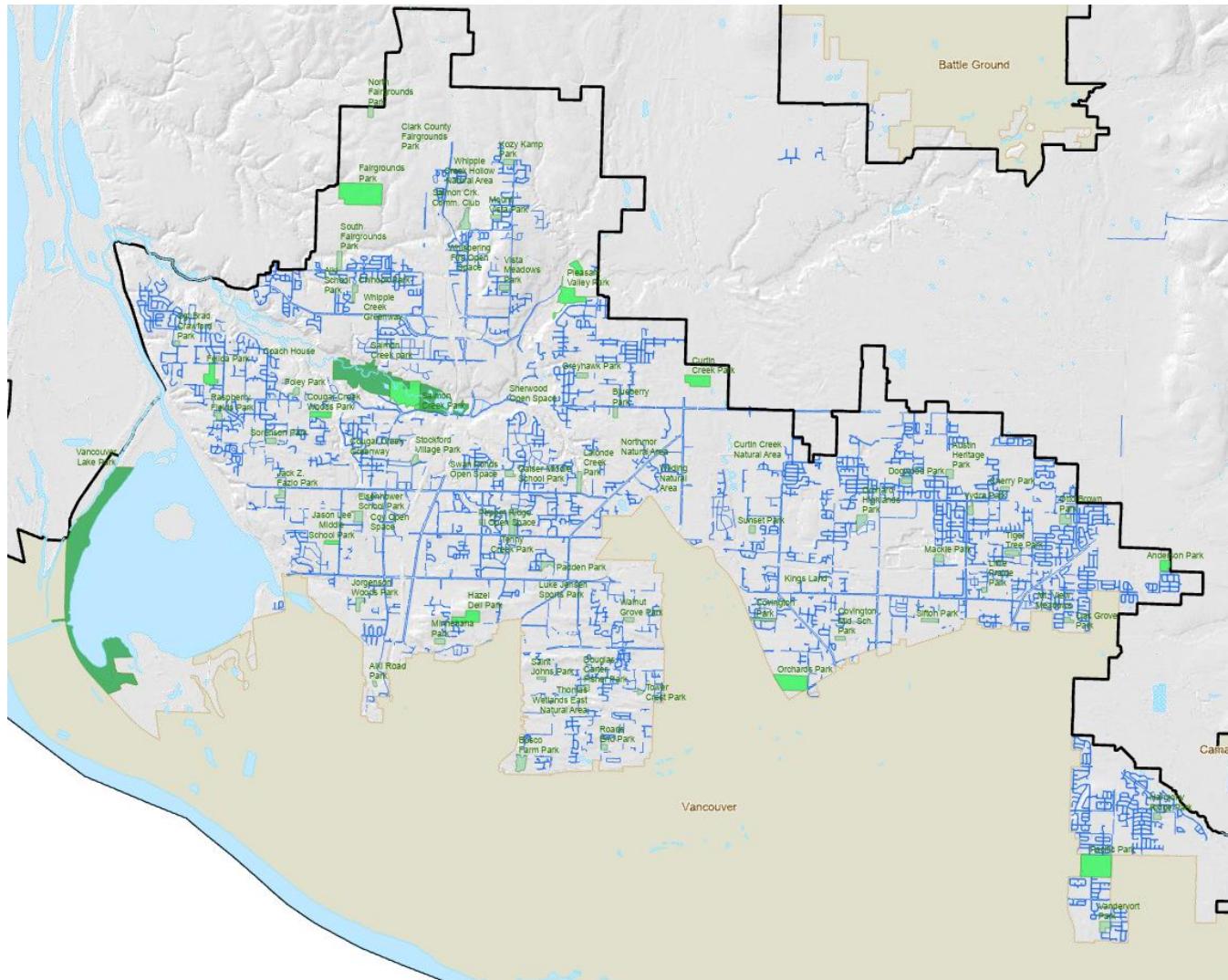
# Retrofitting Existing Streets with Sidewalks



# Retrofitting Existing Neighborhoods with Sidewalks

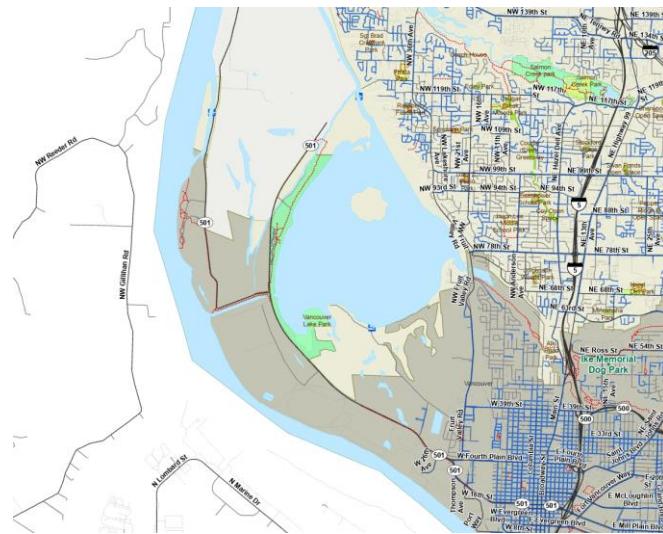
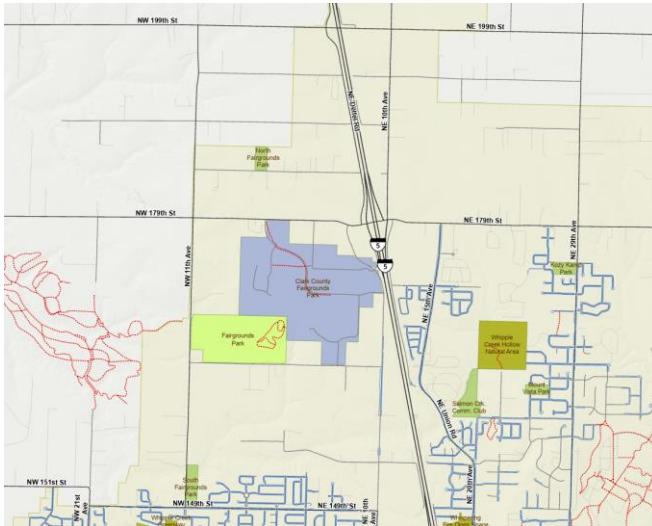


# Parks and Sidewalks



# Park Access

Park Type	Average Distance to Nearest Sidewalk	Maximum Distance to Nearest Sidewalk	Furthest Park from a Sidewalk
Urban Neighborhood Parks	136 Feet	4,889 Feet	North Fairgrounds Park
Urban Community Parks	310 Feet	2,595 Feet	Fairgrounds Park
Urban Regional Parks	2,319 Feet	4,637 Feet	Vancouver Lake Park



# Bicycle Requirements

- **Urban Public Road Standards:**

Bike lanes shall be included in the reconstruction or new construction of any arterial or collector street if bike lanes are indicated in the Arterial Atlas or as required by the County Engineer.

Bike lanes shall include signage and pavement markings in conformance with the Manual on Uniform Traffic Control Devices.

Bike facilities shall have an unobstructed vertical clearance of not less than eight (8) feet.

Six (6) feet wide on collectors and arterials.

- Rural area developments outside rural centers are not subject to the bicycle circulation requirements.
- Bike lanes, when required by the road classification, are subject to the following:

Bike lanes may abut travel lanes or be located outside of the curb line, depending on the feasibility of existing and future connections.

When combined with pedestrian paths, the combined width shall be a minimum of ten (10) feet wide.

Bike lanes shall be continuous through a development, i.e., cannot be interrupted by curb extensions or other features.

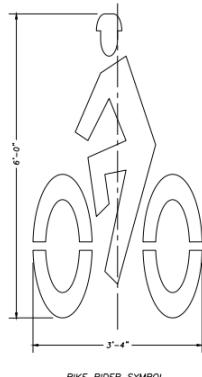


# Bicycle Signage

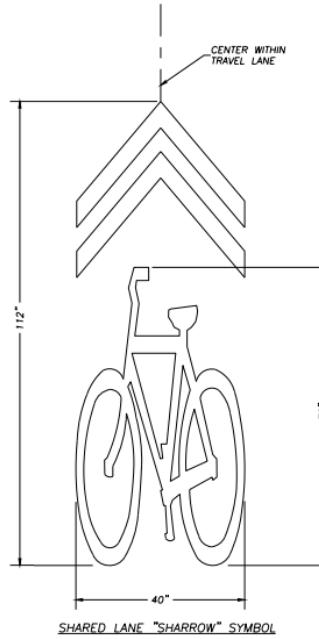


vehicle/bicycle use low posted speeds (25 MPH) or low traffic volumes (3,000 ADT or less).

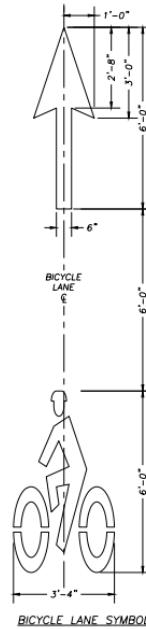
Curb-to-curb widths range between 40' and 50'



BIKE RIDER SYMBOL



SHARED LANE "SHARROW" SYMBOL



BICYCLE LANE SYMBOL



# Green Bike Lane and Striping

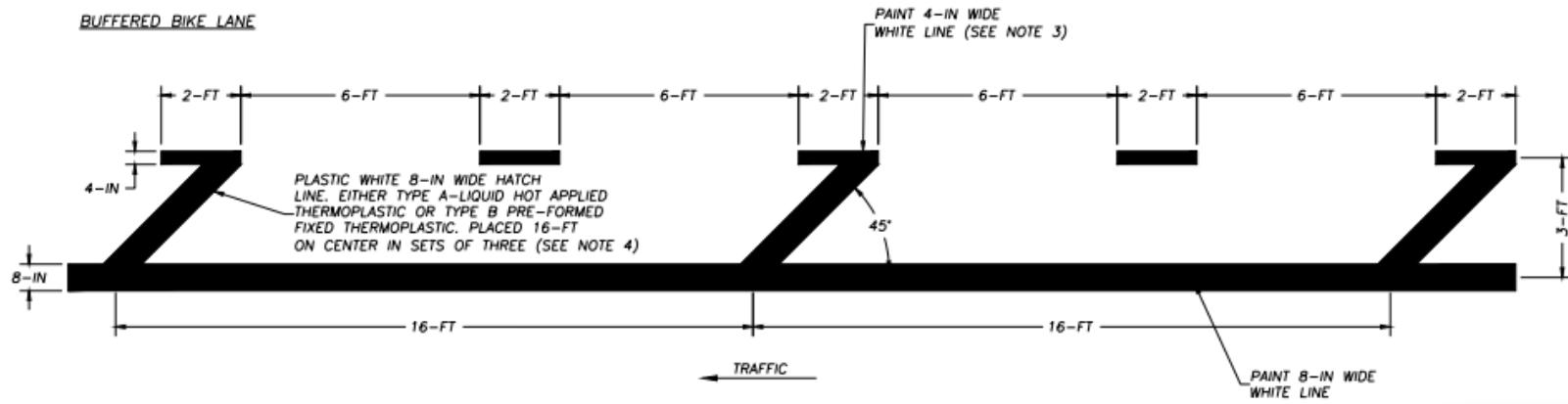
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Bicycle lanes use green color under one of the following conditions:

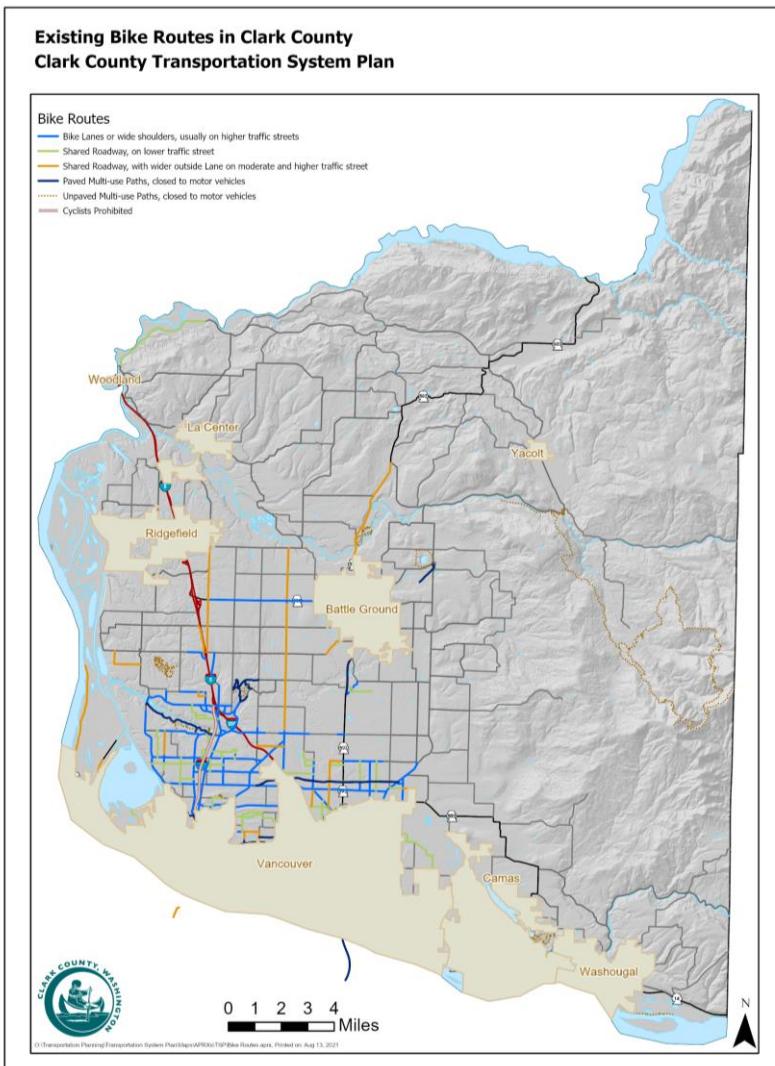
- The bike lane crosses a heavily used right turn lane; or
- Traffic in a channelized right turn lane crosses a bike lane; or
- History of motor vehicle-bicycle crashes; or
- Documented conflicts (failure of motor vehicle yielding to bicyclist).



# Buffered Bike Lanes

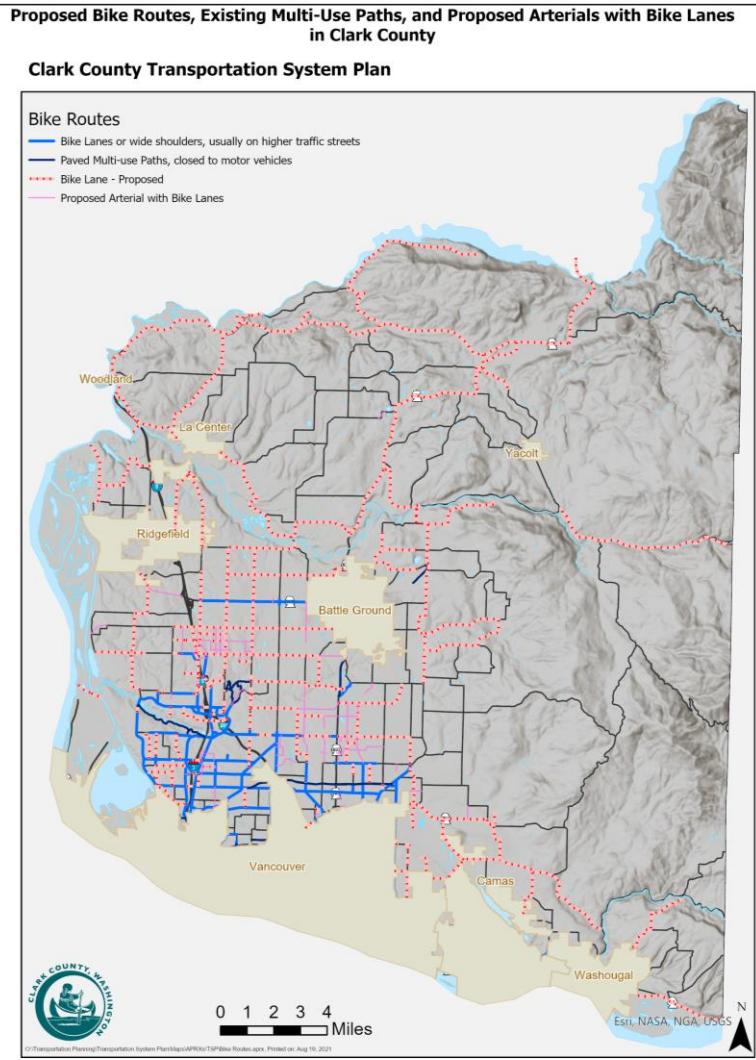


# Existing Conditions – Bicycle Infrastructure



- 65 miles of bike lanes in unincorporated Clark County.
- Bicycle lanes are near vehicle travel lanes, marked with striping and pavement stencils, for the exclusive use of bicycles.
- Most new bike lanes are constructed as part of larger road projects, park projects and private development.

# Proposed Bike Routes



- Clark County Bicycle and Pedestrian Master Plan presents a 20-year vision increasing people bike and walking in Clark County.
- Clark County gives high priority to establishing a multi-modal transportation system.



# Bicycle Design User Profiles

## BICYCLIST DESIGN USER PROFILES

### Interested but Concerned

51%-56% of the total population

Often not comfortable with bike lanes, may bike on sidewalks even if bike lanes are provided; prefer off-street or separated bicycle facilities or quiet or traffic-calmed residential roads. May not bike at all if bicycle facilities do not meet needs for perceived comfort.



LOW STRESS  
TOLERANCE

### Somewhat Confident

5-9% of the total population

Generally prefer more separated facilities, but are comfortable riding in bicycle lanes or on paved shoulders if need be.

### Highly Confident

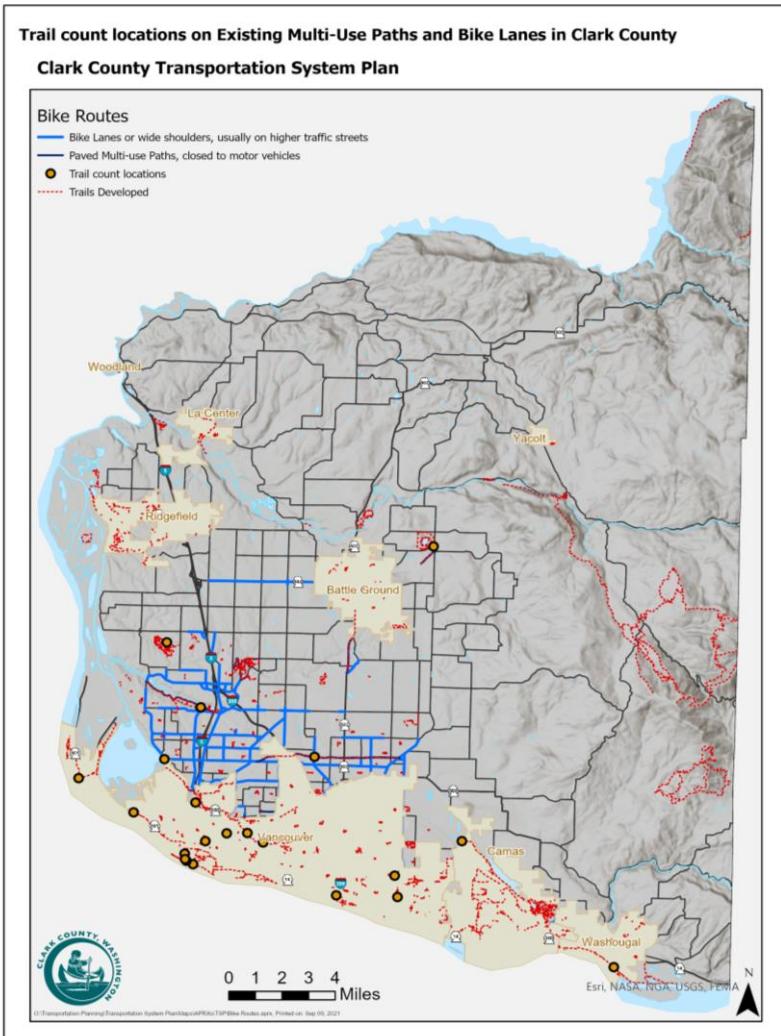
4-7% of the total population

Comfortable riding with traffic; will use roads without bike lanes.

- Target design user influence safety, comfort, connectivity, and cohesion of the bicycle network.
- Comfort and stress are related.
- Exposure to high motor vehicle traffic speeds and volumes is primary contributor of stress.
- High-comfort/low stress networks serve the most people.
- Low-comfort/high-stress networks serve the least people.

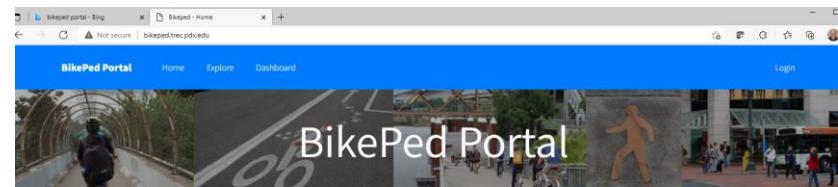


# Bicycle and Pedestrian Count Stations



- Bicycle and pedestrian counts are manual or permanent counts.
- Portland State University BikePed Portal houses a non-motorized database showing 21 count stations.

<http://bikeped.trec.pdx.edu/>



Leading the national non-motorized count data archive, BikePed Portal provides a centralized standard non-motorized count database for public agencies, researchers, educators, and other curious members of the public.

BikePed Portal was established in 2015, by researchers at Portland State University through a pooled fund grant administered by the National Institute for Transportation and Communities (NITC). Other project partners include the Federal Highway Administration, Oregon Department of Transportation, Metro, Lane Council of Governments, Central Lane MPO, Bend MPO, Mid Willamette Valley Council of Governments, Rogue Valley Council of Governments, City of Boulder, City of Austin, Cycle Oregon, and Oregon Community Foundation. The archive includes automated and manual counts from across the country and supports screening and turning movement counts. The archive allows users to view and download data.

BikePed Portal is currently supported by the Transportation Research and Education Center (TREC) at PSU and its partners. If you're interested in using BikePed Portal for archiving bicycle and pedestrian counts for your community, please contact us at [bikepedportal@pdx.edu](mailto:bikepedportal@pdx.edu).



# Pedestrian Count Stations

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- Clark County has nearly 100 cameras at traffic signals in unincorporated parts of the county, primarily in the urban area outside the city of Vancouver.
- FLIR has the ability to count pedestrians and bicyclists.

FLIR Camera System, Installed at Highway 99 and NE 78th Street



# Level of Service Standards

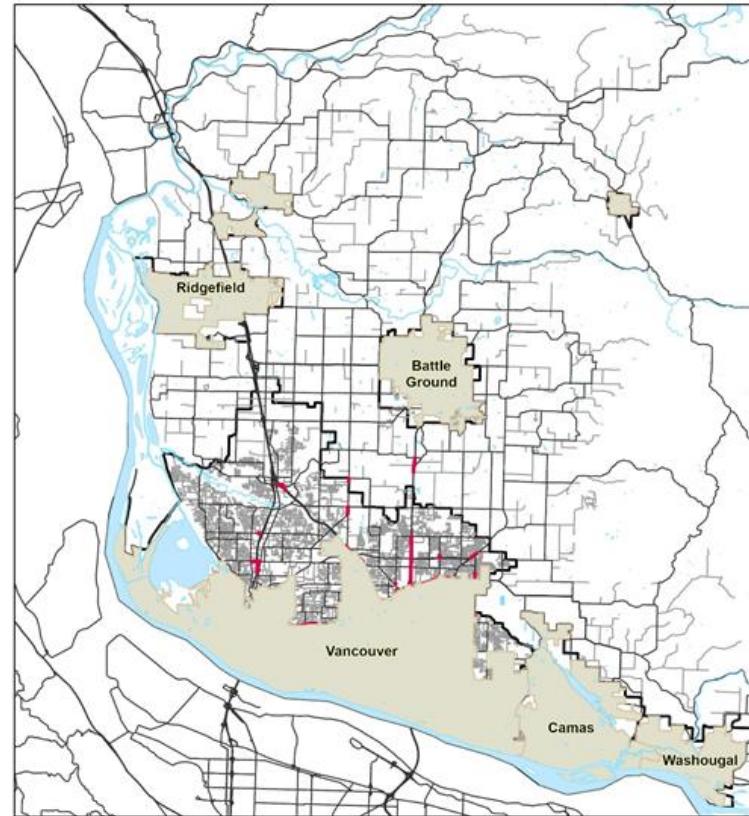
## Urban Collector and Arterial Streets

- Volume to Capacity Ratio
  - > 0.9 indicates failure

## Intersections of Regional Significance

- Two (2) cycle lengths or
- Two hundred forty (240) seconds of delay
- Whichever is less

Defined in CCC 40.350.020



Clark County Transportation System Plan

2040 Level of Service  
Street segments forecasted to operate with significant delays  
and low speeds.



NOTE: Information shown on this map was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.  
Data is as of March 2022 and subject to change. © Clark County, Washington. Printed on Mar 16, 2022.

Water Body  
Major Roads  
— Interstate or State Route  
— Arterial  
— Level of Service E-F



# Alternatives to Current Level of Service Standards

- Multimodal Level of Service (LOS) Standards
- Pedestrian LOS
- Person Capacity vs. Automobile Capacity
- Person Delay



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Department of Commerce  
Innovation is in our nature.

## Your Community's Transportation System

A Guide to Reviewing, Updating and Implementing Your Transportation Element



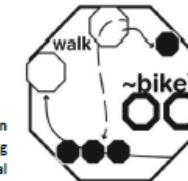
The American Recovery and Reinvestment Act of 2009

## Multimodal Concurrency

### Background

#### Definition

Concurrency describes a planning process that ensures that transportation infrastructure supports new and existing development as it occurs according to local standards for transportation system performance. These local standards are known as [level-of-service standards](#). As development brings new demands on the transportation system, concurrency programs help a community ensure its facilities and services keep pace. Conversely, local jurisdictions can also use transportation facilities and concurrency programs to support and encourage desired patterns of growth. The Growth Management Act defines transportation concurrency to mean that necessary improvements are in place at the time of development, or that funding is in place to complete the necessary improvements within six years ([RCW 36.70A.070\(6\)](#), [RCW 36.70A.108](#)). The types of improvements shown in the statute include increased public transportation service, ride sharing programs, demand management, and other transportation systems management strategies; interestingly, automobile trips are not mentioned. Concurrency requirements can also be established for utilities and public services. Concurrency programs often drive infrastructure funding decisions. In effect, "you get what you measure."



Multimodal concurrency refers to a concurrency program that recognizes that the transportation system is multimodal, including motor vehicles, pedestrians, transit, and bicycles. Multimodal concurrency requires either multiple level-of-service standards that are specific to each mode (e.g., one standard for the pedestrian network, one for transit), or one unified level-of-service standard that considers all modes together (e.g., person-trip capacity across all modes compared to demand).

Concurrency mitigation refers to financial or in-kind contributions by developers in situations where the transportation system is unable to accommodate the predicted demand from the proposed development. Multimodal concurrency programs allow developers to mitigate concurrency failures with improvements to pedestrian, transit, and bicycle networks, as well as roadways and intersections.

### Health, equity and sustainability considerations

Establishing, improving, and maintaining multimodal LOS standards and concurrency programs promotes physically active transportation by making planning for pedestrian, bicycle and transit travel more visible and transparent to planners, elected officials, and members of the community. Multimodal concurrency programs also make it easier for growth and development to contribute to multimodal transportation facilities. Accessible, safe, and well-designed facilities benefit users of all incomes, ages, physical ability, and language proficiency. One recent [study](#) conducted in King County found that a 5% increase in neighborhood walkability is associated with 32.1% more minutes devoted to physically active travel and about one-quarter point lower Body Mass Index or BMI (0.228). Multimodal facilities also promote more environmentally sustainable methods of transportation, and can increase access across income levels when used alongside other sustainable planning methods such as compact, mixed-use

There are over 300 miles of regional trails and bicycle paths in King County.



Planning for Whole Communities Toolkit

Puget Sound Regional Council • 1

## Non-Motorized Performance Standards

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- State law requires consistency between comprehensive plans and regional plans.
- RTC's Unified Work Planning Program addresses Active Transportation.
- Metro is currently updating its Regional Mobility Policy.
- RTC will revise any potential mobility policies created from Metro's update.



## Data Restraints

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- Additional permanent count stations are needed.
- Clark County does not currently have a repository for bike and ped counts.
- PSU BikePed Portal needed that can help establish non-motorized performance standards.



# Report Road Concerns

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- Report a Road Concern

- For issues that don't require immediate attention, such as a pothole or vegetation issue, filling out an online maintenance request is an excellent way to report a road or park concern (link below).

<https://clark.wa.gov/public-works/report-park-road>

- Speeding

- Public Works also does not enforce speed laws or issue traffic and parking citations. Residents who want information about enforcement should contact the [Clark County Sheriff's Office](#) or call the sheriff's speeding hotline: 360.397.2211 ext. 5482.



# Thank you!

## Comments and questions

Clark County Public Service Center

1300 Franklin Street • PO Box 5000

Vancouver, WA 98666-5000