- 5.C.5 Build working partnerships between the County's Public Health and Transportation Divisions and utilize tools, such as health impact assessments, to better connect the effects of transportation projects with the health of communities.
- 5.C.6 Support the continued provision of public transportation services to County populations that are un-served or under-served, as well as the network of community-based, transportation services for seniors and persons with disabilities.

5.D Intelligent Transportation Systems (ITS) Policies

- 5.D.1 Implement a wide range of ITS strategies aligned with the TSP vision and goals by ensuring safe, efficient, and equitable mobility for people and goods.
- 5.D.2 Update the ITS Action Plan every five years as part of the County's 5-Year Capital Improvement Program.

5.E Transportation Demand Management (TDM) Policies

- 5.E.1 Implement Transportation Demand Management techniques—including education, encouragement, and enforcement—appropriate for all County residents, in order to increase efficient use of existing transportation infrastructure and minimize congestion and safety concerns by offering choices of mode, route, and time.
- 5.E.2 Support and participate in efforts by Metro, the Department of Environmental Quality (DEQ), transit providers, and any area Transportation Management Associations (TMAs) to develop, monitor and fund regional TDM programs.
- 5.E.3 Provide adequate bicycle and pedestrian facilities to employment areas to encourage use of bicycles or walking for the commute to work and to improve access to jobs for workers without cars.
- 5.E.4 Support programs that work with schools to identify safe bicycle and pedestrian routes to connect neighborhoods and schools. Seek partnerships and funding to support improvement of these routes.
- 5.E.5 **Urban** Work with County employers located in concentrated employment areas to develop Transportation Management Associations (TMAs) to coordinate and support private-sector TDM efforts and to work toward mode share targets (Table 5-1) adopted in this Plan.

Next Document

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:

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.

NEW MOBILITY OPTIONS

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

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

Climate 25 respondents Supporting efforts to combat climate change

Safety 119 respondents Being able to safely and comfortably walk and bike

Health

51 respondents Getting exercise for my own personal health and wellness

29 respondents Accessibilty for all

Equity

regardless of age, income level, ability, race, or gender

Connections

22 respondents Getting to school, parks, jobs, and other places without a car

ECONOMY 9 respondents Supporting tourism and local business



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.

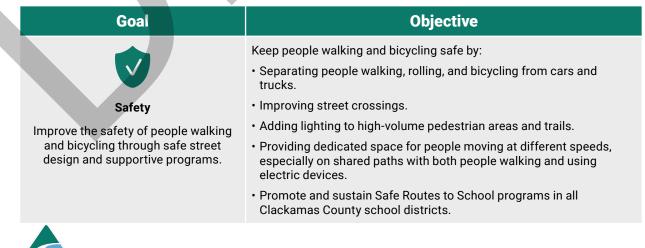


Figure 17 Goals and Objectives

Goal	Objective
∽ ⊷⊙	• Repair and maintain existing sidewalks, trails, bikeways, ramps and wayfinding signs.
Accessibility Ensure walkways and bikeways are accessible for people of all ages, abilities, and incomes.	 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
Connectivity Develop and maintain walking and biking routes that provide	 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
convenient and clear connections to important community destinations in Clackamas County.	Encourage and support active transportation mode shift with
	educational campaigns, incentive programs, or community events.
Sustainability Expand and promote active travel (walking and biking) options that optimize the environment, the economy, and community benefits.	 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.
†11	• Provide equitable access to active transportation facilities for all communities, especially Communities of Interest.
Equity	• Improve access to job opportunities, medical care, local commercial services, and neighborhoods within Communities of Interest.
Focus investments to ensure safe transportation alternatives regardless of age, race, income, gender, and ability.	 Integrate equity into all aspects of the development, financing, and implementation of projects and programs.
Health	• 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.
Plan and provide infrastructure that allows people to safely walk, run or cycle for improved 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

Next Document

Clackamas County's Climate Action Plan

In response to climate change, this Climate Action Plan (CAP) is designed to set the stage to achieve the following community-wide outcomes:

- Reduce GHG emissions to carbon neutral by 2050;
- Quantify community-wide consumption-based emissions; and
- Adapt to climate change and reduce climate-related risk.

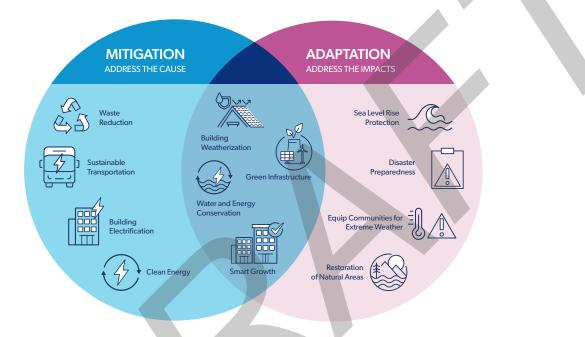


Figure 1. Adaptation and mitigation actions comparison.

The development of this CAP included a four-pronged approach:

- 1. Targeted engagement with interested and affected parties (stakeholders), including County staff and the community;
- 2. Data analysis and technical modeling to inform targets, pathways, and recommendations;
- **3.** Review of local context including current plans, policies, legislation, demographics, and climate action readiness, and of best practices; and
- 4. Broad public engagement.

These approaches were iterative¹³ and worked in concert to provide a robust analysis and recommendations that reflect the local context and unique needs of Clackamas County.

¹³ An iterative approach to planning is a method of problem-solving that involves repeatedly refining and updating a plan until the desired outcome is achieved. This approach allows for flexibility and adaptability, as it allows for adjustments and improvements to be made as new information becomes available. It also allows for the gradual refinement of a plan, rather than expecting a perfect plan from the start.

Climate Change Mitigation vs Climate Change Adaptation

(see Figure 1, p. 18)

Mitigation: taking action to reduce human- caused GHG emissions to limit changes in the climate.

Adaptation: adjusting infrastructure and practices to decrease risk and build resilience to expected changes in climate.

Addressing both mitigation and adaptation recognizes that emissions need to be reduced to avoid the most catastrophic impacts of climate change, but also that some changes are already underway and will be unavoidable, so we must prepare and adapt to minimize the impact of those changes.

The actions identified in the CAP, and in the more detailed Implementation Guide¹⁴, describe how Clackamas County, by implementing this plan, can:

- Lead by example in the community through changes to its own infrastructure, services, and internal policies;
- Support the community through programs, education, incentives, and pilot projects, and
- Advocate for the community through partnerships and dialogue with other decisionmakers and service providers.

The major actions in the CAP are briefly described below, in Table A.

Table A. Major outcomes addressed in the Climate Action Plan

ουτςομε	DESCRIPTION	METHOD
Reduce community- wide emissions	Community-wide GHG emissions reach carbon neutral by 2050.	Identify local actions to address emissions- producing sectors (buildings, land use, energy generation, transportation, waste), leveraging community engagement, data analysis, and modeling. Identify sequestration actions through engagement, research, and data analysis, to close the gap between the target outcome and the emissions that can be reduced through direct sector action.
Reduce	Consumption-based	Identify consumption-based emissions through
community- wide	emissions decrease over time.	engagement, research, and data analysis, to
consumption-based		reduce consumption-based emissions at a
emissions		community scale in the future.

¹⁴ The Implementation Guide is an accompanying document to the CAP that identifies how the county can implement the CAP through leadership, support, and advocacy functions, including governance, policies, regulations, programs, pilots, incentives, education, and direct advocacy. The Implementation Guide can be accessed on the county's website www.clackamas.us/sustainability/climateaction or by contacting the county.

Next Document

То	Scott Hoelscher, Rob Sadowsky, Anthony De Simone, and Karen Buehrig	Memo
From	Destree Bascos, Geoff England	
Date	10 October 2024	
Project	Clackamas County Travel Options Action Plan	Project No. 24566401

Opportunities and Challenges Technical Memo

Overview

This memo synthesizes key findings from the first stage of the Clackamas County Travel Options (TO) Action Plan, including Transportation Demand Management (TDM) best practices, existing TDM programs and activities, and regional travel trends to identify opportunities and challenges for implementing TDM The detailed memos for these focus areas are attached for reference, while key insights gained are provided, leading to a Strengths, Challenges, Opportunities, Risks (SCOR) Assessment. By highlighting strengths to leverage, challenges to address, opportunities to pursue, and potential risks to mitigate, this memo provides a foundation for crafting effective and tailored TDM strategies for the TO Action Plan.

TDM Best Practices

A TDM best practice review was conducted to examine four selected TDM programs across the United States that could provide potential new program or policy opportunities. The attached memo contains:

- Brief background about each case study region.
- Rationale for their inclusion in the best practice review.
- Description of the TDM program (services, partnerships, and strategies).
- Key takeaways.

Four case studies were selected based on key indicators that align with Clackamas County's context, including: suburban characteristics, service to marginalized groups, infrequent transit, and presence of urban areas.

Table 1: Case Studies and Associated Key Indicator

Jurisdiction		Suburban	Service Marginalized Groups	Infrequent Transit	Urban Areas
Pierce County, WA		\checkmark		\checkmark	✓
SCAG, CA		✓	✓	\checkmark	✓
Chittenden County,	νт	✓		\checkmark	
Rockville, MD (Montgomery Count	y)	~	\checkmark	✓	



Findings from the best practice review include:

- **Pierce County, WA**: Implemented corridor-focused TDM initiatives and neighborhood-based "In Motion" programs to target both commute and non-commute trips. Leveraged transit hubs as multimodal connection points and adapted strategies for areas with infrequent transit service.
- Southern California Association of Governments (SCAG), CA: Developed a comprehensive TDM toolkit for local governments, providing strategies tailored to different contexts. Focused on equity by including a variety of strategies to support marginalized groups and areas with infrequent transit.
- **Chittenden County, VT**: Prioritized carpool/vanpool programs for suburban and rural areas with limited transit service. Demonstrated strong regional coordination between various TDM service providers and emphasized information-sharing and facilitation roles.
- Rockville, MD (Montgomery County): Implemented a TDM ordinance requiring large employers to develop and submit TDM plans. Established Transportation Management Districts (TMDs) to provide targeted resources and support in key areas. Integrated TDM strategies with land use and development policies.

SCOR Findings

Challenges:

- Requiring tailored solutions for a diverse urban/rural context, no "one-size-fits all" program
- Reducing drive alone travel when convenient and accessible options are limited (e.g. few transit options)
- Creating effective TDM strategies and programs for hard to reach and marginalized segments of the population

Opportunities:

- Corridor-focused TDM initiatives (e.g., for I-205)
- Neighborhood-based, residential TDM outreach programs to target non-commute trips
- TDM Toolkit or Menu of Options to support regional knowledge sharing and capacity-building
- Catalyzing carpool/vanpool programs through regional coordination
- TDM regulations (regional and local) for large employers and developers

Existing TDM Programs and Activities

A review of existing TDM programs, services and plans in Clackamas County and the Portland region provides an inventory of assets and policies to build upon in future TDM development. The attached Existing TDM Programs and Activities summary memo reviews:

- Regional, County, and State Policy and Plans focused on goals and outcomes for TDM program development and planned county-level TDM strategies.
- Mode-specific plans, including goals and measures for expanding non-drive alone trips in the Transit Development Plan (2021) and Walk Bike Clackamas Plan (2024).
- Other resources for TDM initiatives, describing tools and services available for supporting non-drive alone trips.
- Inventory of TDM programs organized by state, regional, county, and city-level implementer.

The inventory of existing programs included these key initiatives:

Regional Progra<u>ms</u>

- Safe Routes to School (SRTS): Promotes walking and biking for children, including events, education and training.
- Get There Oregon: A statewide platform that includes trip planning, carpool matching, and contests.
- Get There Portland Metro: Helps employers plan, market and implement travel options programs.

County Programs

- Ride Clackamas: A transit trip planning tool to simplify riding across the county.
- •Senior Companion Program: Offers free support to homebound seniors and adults with disabilities.
- Transportation Reaching People: Free door-to-door rides for county residents 65+ or with disabilities.
- Vets Driving Vets: Free rides for veterans to medical appointments and other essential
- trips. •Ride Together: Provides funding for transportation services and mileage reimbursement for volunteer drivers.

Transit Services

- Multiple transit
 operators provide
 fixed route, shuttle,
 and dial-a-ride
 services across the
 county, including:

 TriMet
- Canby Area Transit
- Mt. Hood Express
 Sandy Area Metro
 South Clackamas
- Transportation District •South Metro Area
- Regional Transit

• Emergency Ride Home Program: Provides free taxi rides for qualifying employees in case of emergencies.

Other

Services

Proposed Services

• Micromobility services like bike/scooter share and a bicyclefriendly driver education program were identified as a need in planning.

Clackamas County Proposed TDM Measures

The Clackamas County Automobile Trip Reduction Plan's (2019) TDM Measures inventory included 11 measures focused on reducing the county's single occupancy vehicle (SOV) trips (Table 2).

Table 2: Clackamas County Automobile Trip Reduction Plan TDM Measures

TDM Measure	Description
Transit Pass Program	The County pays for 50% of a monthly transit pass or 10-ticket book of 2-hour tickets. Employees can receive the benefits on a pre-tax basis.
County Commute Options Program	The County maintains a Commute Options site on its intranet, which promotes the range of TDM programming offered to employees and links to additional resources such as Get There (getthereoregon.org), for carpool matching and alternative trip planning.
The Street Trust	Each year, the County promotes and participates in the Street Trust May Commute Challenge with prizes and drawings. As an added incentive, the employee who logs the most bicycle commute miles during the month of May is awarded a grand prize from a local retailer.

Wellness and Education Campaign	 Commuter challenge – every summer the County sponsors an employee Commuter Challenge to encourage and reward getting to work by alternative means. Employees who used alternative modes during the challenge are eligible for recognition and prizes. Wellness, Safety and Sustainability Fair – the County hosts a commute options table at the annual Wellness, Safety and Sustainability Fair provides trip reduction resources.
Company Cars for Business Travel	Employees who use alternative modes to commute receive priority County vehicles for business travel.
Bike parking	Covered employee bicycle parking is available at some of the County's worksites. As of 2019, the Red Soil campus has over 30 bicycle parking spaces for employees. Interior, covered parking for over 20 bicycle parking spaces and outlets for charging electric bikes is also available at the Development Services Building on the Red Soils campus.
	Racks are typically located near the front entrance of the buildings and in highly visible locations.
Emergency Ride Home (ERH) vouchers	Emergency Ride Home vouchers are available to employees who use alternative commute options such as carpooling, biking, vanpooling, walking on taking transit to work, in case of an emergency.
Preferential Parking for High Occupancy Vehicles (HOVs)	Preferential parking spaces are reserved for HOVs at most worksites. They are usually located in front of building entrances as an incentive to encourage employees carpooling to work.
Shower Facilities	In order to encourage and facilitate employees using alternative commute options, shower facilities are available at many worksites. About 25% of the employees have access to the shower facilities upon request. Some showers are designed for people with disability.
On-site Amenities	One of the challenges for auto trip reduction is limited amenities in-or-around most worksites, resulting in employees driving during lunch or break time for food. To mitigate this, the County has installed vending machines in large worksites and offers a small coffee, snack, and lunch stand at the Development Services Building.
Telecommuting	Telecommuting was introduced in 2004. Opportunities are limited to a portion of the 222 management and non-represented employees for one day per week.
Compressed Work Week	This option is available to some employees. Most compressed work week employees are those responding to seasonal demands for public services such as the Parks Department, Roads, or North Clackamas Aquatic Park. This option is also common among public safety departments.
Flextime	This option is offered to a limited number of employees, who adjust their work schedules with the agreement of their supervisors and department heads. These are individual arrangements, rather than a promoted department-wide policy.
Alternate Work Week	The most effective County program for decreasing SOV trips has been and continues to be the Alternate Work Week, which is a 10-hour per day, 4-day work week.

The Walk Bike Clackamas plan (2024) recommends goals and proposed programs for expanding active travel in the county. The seven proposed programs are summarized in Table 3.

Program	Description
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
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
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

SCOR Findings

Strengths:

- Existing TDM programs, services, and plans provide a foundation to build upon
- Inter-governmental coordination on programming and plans

Challenges:

- Transit riders may face inconvenience planning and paying for inter-agency trips
- Limited active transportation data

Opportunities:

- Expanding employer and non-commute TDM programs
- Safe Routes to School expansion
- Promoting/regulating infrastructure, services and TDM strategies through new development

Risks:

• Micromobility and other programs may be difficult to implement across the county

Travel Trend Analysis

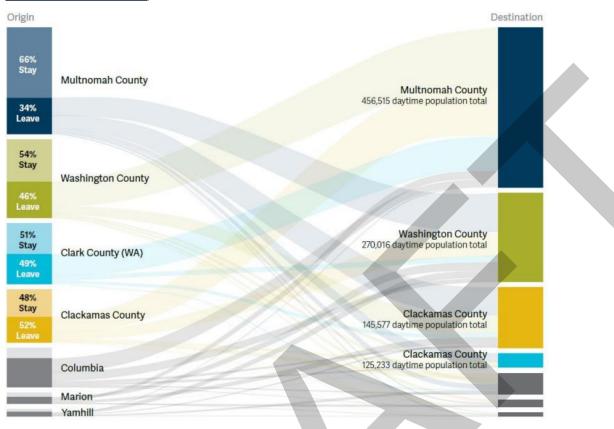
The Travel Trend Analysis assessed Clackamas County's-specific travel trends and sociodemographics identified from existing data sources and regional projects such as the Metro Regional Travel Options Strategy and the 2023 Regional Transportation Plan. The attached memo includes:

- Social and economic characteristics of the county, defined by race and ethnicity, educational attainment, housing, household income, and employment.
- Transportation context, examining mode share, existing bicycle and pedestrian networks, and public transportation options.
- Travel patterns, including trip flows, VMT, and areas of congestion in the context of the county within the Portland Metro area.

Clackamas County, part of the Portland metropolitan area, had approximately 423,000 residents in 2022, with a population density of 226 people per square mile. The majority of residents are concentrated in the northwestern urban areas. Over the last decade, Clackamas County has become increasingly diverse, with the Hispanic population growing from 7.7% in 2010 to roughly 10% in 2022. This demographic shift suggests that education and outreach regarding regional transportation options should be reviewed to ensure it caters to diverse audiences and evolving needs.

The county's transportation infrastructure shows significant disparities between modes. The motor vehicle network is 98% complete, making it substantially more developed than other modal networks. In contrast, the planned bicycle network is only 66% complete, and the pedestrian network is 57% complete. The incomplete nature of these networks presents a challenge for promoting alternative modes of transportation and reducing reliance on single-occupancy vehicles.

Commute patterns in Clackamas County reflect the dominance of the road network, with **66% of residents driving alone to work**. Consistent with post-COVID travel trends, work from home has emerged as the second most popular mode at 22%, followed by carpooling at 7%. Transit and active transportation (bicycling and walking) together comprise only about 5% of commutes. As identified in Oregon Metro's 2023 Regional Transportation Plan, 48% of commuters stay within the county, while 52% leave the county, mostly to Multnomah County (Figure 1). Almost one third (32%) of Clackamas County residents commute to Portland, with the next highest share at 4% commuting to Oregon City. The mean travel time to work for county residents is 26.5 minutes. Notably, about half of employed Clackamas County residents and employees have commutes of 10 miles or less, presenting an opportunity to shift these shorter trips from single-occupancy vehicles to alternative modes such as ridesharing and transit where services exist. The high proportion of work-from-home commuters also indicates a need to address non-commute trips in TDM efforts, as these may now constitute a larger share of overall travel. Figure 1: Where workers live and commute in the Greater Portland region and surrounding counties (source: <u>Oregon Metro 2023</u> <u>Regional Transportation Plan</u>)



SCOR Findings

Strengths:

- High county work-from-home mode share
- Above-regional-average job concentration in the county's cities
- Light rail and bus options connect Clackamas County to Portland

Challenges:

- Limited multimodal infrastructure and services in some areas and between urban centers
- High current SOV mode share

Opportunities:

- Maximizing carpool/vanpool use for those commuting by car
- Enhanced first/last mile connections to transit hubs, potentially with micromobility
- Serve short urban commute trips (10 miles or less)

Risks:

- Further urban sprawl and low-density development
- Failure to market TDM to diverse audiences

Opportunities and Challenges

The following section synthesizes key findings from the TDM best practices, existing conditions review, and travel trends analysis. The findings are organized under a strengths, challenges, opportunities and risks (SCOR) analysis:



Strengths

- Existing local and regional TDM programs
- Inter-governmental coordination
- High county workfrom-home modeshare
- Job concentration in cities
- Transit options serving Portland

S Challenge

- No "one-size-fits all" progam across urban/rural mix
- Convenient & accessible alternative modes limited
- Creating effective TDM outreach for marginalized populations
- Inter-agency payment & schedule gaps
- Limited data on active transportation
- Limited multimodal infrastructure & services in some areas
- High current SOV modeshare



• Corridor-focused initiatives

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- Neighborhood-based noncommute TDM
- TDM Toolkit/Menu
- Employer and developer TDM ordinance
- Expand employer and non-commute TDM Programs
- Support Safe Routes to School
- Support TDM at new developments
- Maximize carpooling/vanpooling among SOV commuters
- Enhance first/last mile connections at transit
- Serve short urban commute trips

steer

Risks

• Micromobility may be difficult to implement

- Further uban sprawl and low-density development
- Failure to market TDM to diverse audiences

Strengths

- **Existing TDM programs and services provide a foundation to build upon**: Get There Oregon, Ride Clackamas, and Transportation Reaching People have established staff support and brand identities.
- Strong history of inter-governmental coordination: The greater Portland region has a strong history of coordination between all levels of government, from the municipal level to state level. Working together allows for more efficient use of resources and best possible outcomes.
- Work from Home was the second most popular mode of commuting: This statistic indicates an openness to alternative commuting arrangements, such as compressed work weeks.
- Clackamas, Milwaukie, and Oregon City contain higher than average concentrations of jobs in the region: Based on Oregon Metro's 2023 RTP employment concentration analysis (using 2021 Census data), these cities have a greater than average potential for commuter-oriented TDM programs.
- Light rail and bus options connect Clackamas County to Portland: Around one third of county residents work in Portland, supporting TDM initiatives that serve common trips into the city.

Challenges

- The diverse urban/rural context of Clackamas County will require tailored solutions: A "one-size-fits-all" approach will likely not be successful given the diverse context in Clackamas County. Solutions will need to be tailored appropriately across the County.
- Reducing drive alone travel when convenient and accessible options are limited (e.g. few transit options): Encouraging a shift away from single-occupancy vehicle travel is particularly challenging in cities with limited public transit coverage or infrequent service.
- Creating effective TDM strategies and programs for hard to reach and marginalized segments of the population: Designing outreach efforts and programs to meet the unique needs and circumstances of underserved populations is crucial but can be resource-intensive and may require new partnerships or community engagement approaches.
- **Transit riders may face inconveniences planning and paying for their trips**: There is no common fare system/fare reciprocity across Clackamas County transit providers, and few providers use real-time vehicle arrival technology, as identified in the Clackamas County Transit Development Plan (2021).
- **Gaps in active transportation data:** With limited data on biking and pedestrian counts, this can make it difficult to measure progress and justify continued investment in TDM strategies.
- Limited multimodal infrastructure and services in some areas and between urban centers: The motor vehicle network is at 98% completion compared to only 66% for the planned bicycle network and 57% for the pedestrian network. These gaps make it more difficult to promote and facilitate the use of alternative modes of transportation for inter-city trips.
- **High current rate of single-occupancy vehicle use:** With 66% of commuters driving alone, there is a significant behavioral shift needed across the county to meet regional SOV reduction targets.

Opportunities

- **Catalyze carpool/vanpool through regional coordination:** Following Chittenden County's example, Clackamas could foster regional coordination between various TDM service providers and emphasizing information-sharing and facilitation roles, potentially increasing the current 7% carpool mode share for commuters.
- **Develop corridor-focused TDM initiatives (e.g. for I-205):** The county could serve as a facilitator bringing together regional stakeholders and major employers along corridors to enhance TDM efforts.



- **TDM Toolkit or Menu of Options to support regional knowledge sharing and capacity building:** This could include detailed information on various TDM measures, their potential impacts on VMT, implementation tips, and examples of successful applications in peer areas.
- **TDM ordinance for employers and large residential developers:** Adopt an ordinance similar to Montgomery County's which requires employers and property owners over a certain size to submit and implement TDM plans.
- Expanding employer and non-commute TDM: Coordinate with large employers directly on vanpoolbased programs and implement neighborhood-based TDM outreach programs to target non-commute trips.
- Safe Routes to School: Community engagement from the Walk Bike Clackamas Plan indicated that there was support for expanding SRTS programs through the installation of appropriate infrastructure and connections to daily destinations.
- **Promoting/regulating infrastructure, services and TDM strategies through new development:** As the county grows, new developments of a certain size could be mandated to set parking maximums, require transit-supportive designs, or install bicycle infrastructure, among other possible TDM strategies.
- **Maximize carpooling/vanpooling SOV commuters:** Carpooling was the third most popular mode of commuting. This provides an opportunity to promote and expand ridesharing among county residents. Incentives such as subsidies could be paired with ride matching support to further encourage this mode.
- Improve first/last mile connections at transit hubs like light rail stations: This could involve implementing a mix of solutions such as improved pedestrian and bicycle infrastructure, micromobility options (e.g., bike or scooter share), on-demand shuttle services, or dedicated carpool/vanpool parking at stations.
- Roughly half of employed Clackamas County residents and employees in Clackamas County have commutes 10 miles or less: These are trips that could be shifted to other modes than driving alone, such as transit or ridesharing.

Risks

- Micromobility and other proposed programs may be difficult to implement across the county: While valuable for promoting active transportation and first/last mile trips, these programs introduce new complexity.
- Further sprawl and low-density development patterns: The urban and suburban areas of the county will be challenging to serve with non-SOV options.
- Failure to market TDM to diverse audiences: Over the past 10 years, the county has become more diverse, for example the Hispanic population has grown from 7.7% in 2010 to roughly 10% in 2022. TDM marketing should reflect this diversity.