

Clackamas County

Walk Bike Clackamas Technical Memo #7: Shared Streets

March 2023

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NYGAARD**

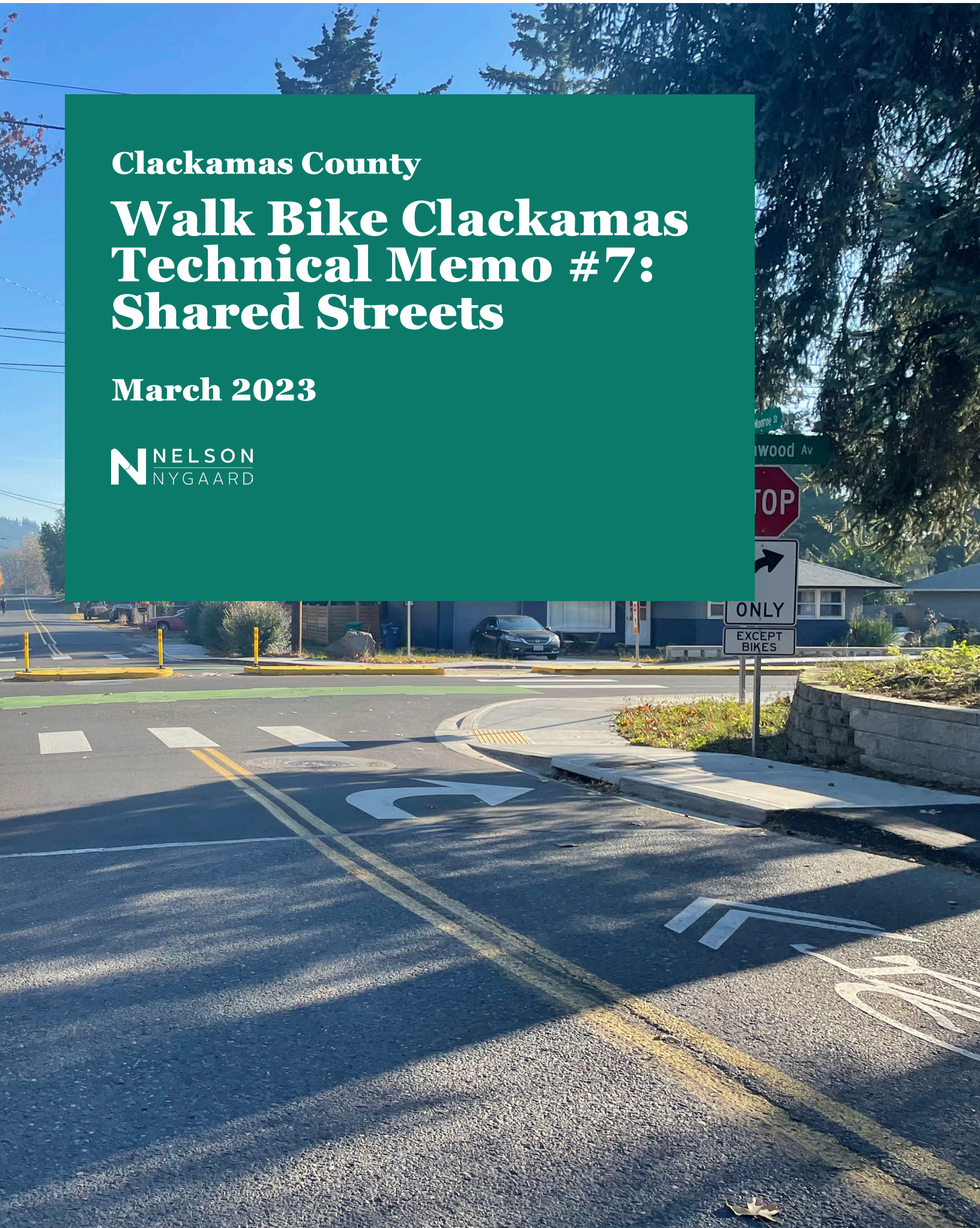


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INTRODUCTION

Clackamas County’s local street system provides important connections within and between neighborhoods, shopping areas, and parks, among other destinations. Walk Bike Clackamas strives to create a hierarchy of mobility and access for people walking, biking, or rolling on local county streets, and identify high-use streets where lower speeds may improve public health, equity, and safety. This memo provides background on creating this first-mile/last-mile hierarchy to identify “Shared Streets.” It includes guidance on screening and prioritization criteria to reasonably and equitably operationalize a Shared Streets Program, infrastructure treatments for future Shared Streets, and regional examples of this type of street treatment.

The County intends for Shared Street facilities to be added to the planned active transportation network and complement bike lanes, multiuse trails, sidewalks, and other bikeways. Recommendations in this memo will inform the County’s facility design toolkit update with new treatments applicable to Shared Streets. A Shared Streets Program would also supplant the County’s existing by-request traffic calming program, while still considering resident and neighborhood input in prioritizing Shared Streets installation.

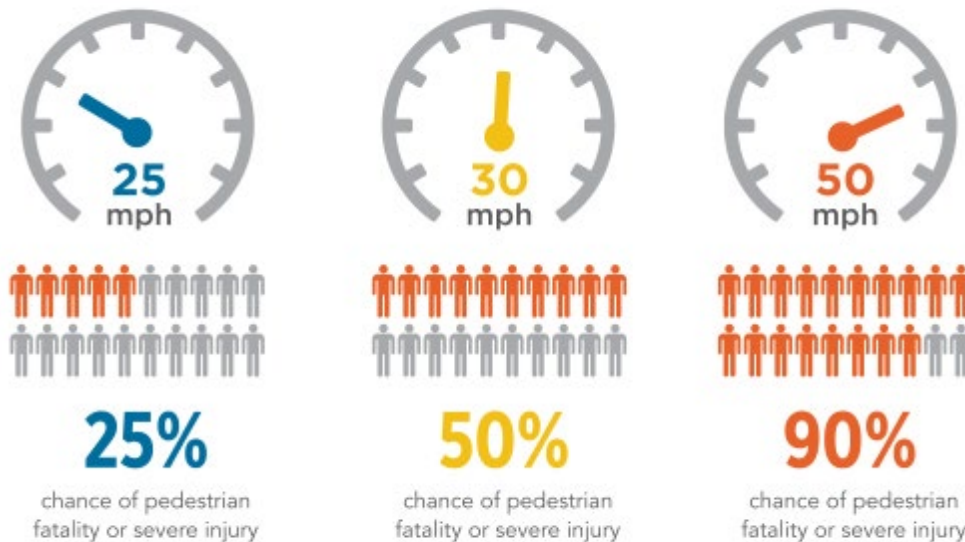
Background on speed limit setting

Public feedback and experience from Clackamas County Planning and Traffic Engineering staff indicates vehicle speeding is an issue on roadways throughout the County. Given the established and dramatic connection between higher motor vehicle speed and greater crash severity (Figure 1), especially for people walking and bicycling, reducing motor vehicle speeds is one of the best ways to increase safety on roadways in Clackamas County.

Clackamas County has an existing neighborhood traffic calming program that allows residents to request installation of speed humps or other devices on urban local roads. Interested neighborhoods are responsible for a portion of the installation cost. Because existing state funding to counties does not support full “urban” levels of service, sidewalk installation and traffic calming presents an immense funding challenge. Reliance on neighborhood contributions for part of the installation cost means traffic calming benefits are not distributed equitably.

This memo is focused on ORS provision ORS 810.180 which allows a speed limit reduction of 5 mph below the statutory speed if the roadway:

- Is located in a residence district;
- Has average vehicle traffic of fewer than 2,000 vehicles per day;
- Has 85th percentile speeds of 30 mph or lower (meaning that 85% of motor vehicles are traveling at 30 mph or less); and
- Has new speed limit signs at each end of the portion of the roadway where the designated speed is imposed, and along the roadway as may be necessary.

Figure 1 Connection Between Motor Vehicle Speed and Chance of Severe Pedestrian Crash

Source: Tefft, Brian, 'Impact speed and a pedestrian's risk of severe injury or death' (Accident Prevention and Analysis, 2013)

This memo describes recommended screening criteria for speed limit reductions from 25 to 20 mph on residential streets in Clackamas County.

What are Shared Streets?

Having the ability to set the speed limit on certain local roads under ORS 810.180 provides an opportunity to explore streets as places to walk, ride bicycles, roll, and recreate, especially in places without designated walkways or bike lanes. Streets in urbanized areas and with certain characteristics may be appropriate for traffic calming elements such as speed humps or traffic circles. There may be some exceptional circumstances that warrant a Shared Street. For example, the rural community of Welches experiences heavy tourist and visitor traffic, but is outside of the urbanized areas to which this Shared Street guidance generally applies.

During the early months of the COVID-19 pandemic, many cities across the country enacted Shared Streets programs to:

- Create more space for people to safely walk or bike;
- Facilitate essential trips and access to essential services;
- Limit overcrowding in popular public spaces, on multiuse paths, or on narrow sidewalks;
- Address non-motorized network gaps; and
- Slow vehicle speeds.



Shared Streets treatment in Portland, Oregon showing shared lane markings and “Local Access Only” signage to reduce cut through vehicle traffic.

Many cities have refined and continued their Shared Streets programs after realizing their ongoing safety, recreational, and active transportation network benefits.

Clackamas County has identified Shared Streets as a tool to reduce motor vehicle speeds on residential roadways, create low-stress routes with comfortable connections to neighborhood destinations, and complement the non-motorized street and trail network. Shared Streets could be implemented with minimal capital and ongoing costs.

Shared Streets’ alignment with current plans and policies

Implementing a Shared Streets program would be an important step in creating streets that are comfortable for people of all ages and abilities to walk, roll, and bicycle, and supports goals and actions identified in Clackamas County plans and policies. Shared Streets can:

- Enable a shift toward active transportation for short local trips in support of the County’s goal of **carbon neutrality by 2050**.
- Slow speed limits and advance traffic calming to support action items in the **Drive to Zero Safety Action Plan** under categories *Safe Vulnerable Users* and *Safe Infrastructure*.
- Constitute a new facility type that helps to efficiently build out the active transportation network in support of the *Infrastructure, Connectivity, and Accessible and Safe* Goals of the **2015 Active Transportation Plan**.

PROPOSED SHARED STREET PROGRAM COMPONENTS

The recommended components of a Shared Street Program for Clackamas County include objective criteria and a process to locate eligible street segments, integration into the existing walking and biking networks, and required and optional standard infrastructure improvements to include. Program components are described in more detail below.

Shared street identification

Clackamas County previously identified several streets that may be appropriate for Shared Streets installations based on their proximity to destinations and surrounding land uses. To apply the Shared Streets concept to the county more broadly, a set of recommended screening criteria are described below.

Screening

The following screening criteria are recommended when considering designation of a local street as a Shared Street:

- **Posted speed must be 25 mph.**
- **Local street functional classification**
- **Transit service must not operate** along the segment being considered.
- **Traffic volumes must be less than 2,000 average daily traffic (ADT)** (if data exists). If volumes are higher, consider traffic calming measures along with vehicle diversion at key locations to reduce motor vehicle volumes and discourage cut-through traffic.
- **Evaluate crash history and consider crash mitigation based on data.**
- **The street segment must provide connections between destinations** (see destination types in Additional Screening Factors section below).

All streets that pass through the screening would be eligible for Shared Street speed limit reductions. See “Infrastructure Improvements along Shared Street Segments” below for typical signage, pavement marking, and other enhancements to include.

Additional suggested screening factors

Additional screening elements could be used to consider which Shared Streets segments to install first. These could include:

- **Connect with incorporated area bikeways** – The degree to which the street connects with established bikeways and trails in incorporated areas of the county.
- **Connections to local destinations** – The number of destinations within ¼-mile of the street segment, normalized per mile. Types of destinations to evaluate include the following:
 - Schools (all levels)

- Parks
- Transit stops
- Community centers
- Retail centers/corridors, or specific destination types such as groceries, pharmacies, etc.
- Multiuse trailheads/access points
- The street is identified as part of a **Safe Routes to School Action Plan corridor**.
- **Designation on Metro’s “Bike There!” map** – The street segment has been identified on Metro’s “Bike There!” map as a “bike friendly street,” meaning it has no bike lane, relatively low traffic, speeds less than 25 mph; and provides convenient and direct connections.¹ Examples include SE Naef Road, SE Oregon Trail Drive, SE Monroe St, and SE Needham/Drew/Otty.
- **Alignment with equity areas** – The relative equity score of the area(s) through which the street segment passes, based on equity analysis undertaken by the Walk Bike Clackamas project team and Clackamas County staff. Equity scores should be averaged if the segment passes through multiple equity scoring geographies.
- **Public input** – Roadway segment is suggested or requested for speed limit reductions and/or Shared Streets treatments by residents through existing or future County projects and/or input processes. The number of times a segment is suggested by public input could be maintained and totaled in existing County data layers.
- **Presence of a sidewalk** – The percentage of segment length with sidewalk on at least one side of the street. Streets with low sidewalk coverage receive higher scores, meaning they are a higher priority for Shared Streets installation.
- **Safety and feasibility** – Evaluate segments for safety factors (such as sight distance issues) based on engineering staff professional judgment.

¹ Oregon Metro *Bike There!* map. Available at: <https://gis.oregonmetro.gov/bikethere/>

Draft Shared Streets candidates

Using the above screening metrics, County staff conducted an initial screening to identify a set of more than 30 candidate Shared Streets segments. These draft segments are mapped in Figure 3. County staff will also consider public input gathered through Walk Bike Clackamas Engagement #2 for possible inclusion of additional street segments. From these initial candidate streets, staff can consider the above criteria to narrow the candidate streets to a final set of streets for implementation. A brief sample of candidate street images is shown in Figure 2.

Figure 2 Select draft Shared Streets candidates



SE Orchid Ave



SE Bluff Dr



Infrastructure improvements along Shared Streets segments

Various signage, pavement marking, traffic calming, and vehicle diversion treatments are required or encouraged to support safe and comfortable implementation of Shared Streets.

Required elements

Certain entry treatments, signs, and pavement markings are required for Shared Streets.

Entry treatment

Per ORS 810.180, bicycle and pedestrian advisory signage is required to indicate the presence of people walking and bicycling. Shared Streets should have signs placed in the roadway at entrance points at each end and at intervals along the roadway from adjacent street entrances to alert drivers to expect to see people walking, rolling, bicycling, and recreating in the street.



Portland uses entry treatments including orange barrels and A-frame signs with “local access only” and “go slow, share the road” placards. Photo source: Nelson\Nygaard

Signs along Shared Streets

- Remove 25 mph speed limit signs and replace with 20 mph signs.
- Install Traffic Control Change Ahead sign or Orange Enhance Conspicuity Flags on new 20 mph signs for a minimum of 30 days.
- Install Shared Street placard on the signpost below the 20-mph sign.



Image source: Nelson\Nygaard

Pavement marking

Where there is no curb and sidewalk on any side along the majority of the roadway, install pedestrian and bicycle pavement markings. Along these streets, people walking are expected to walk in the roadway.

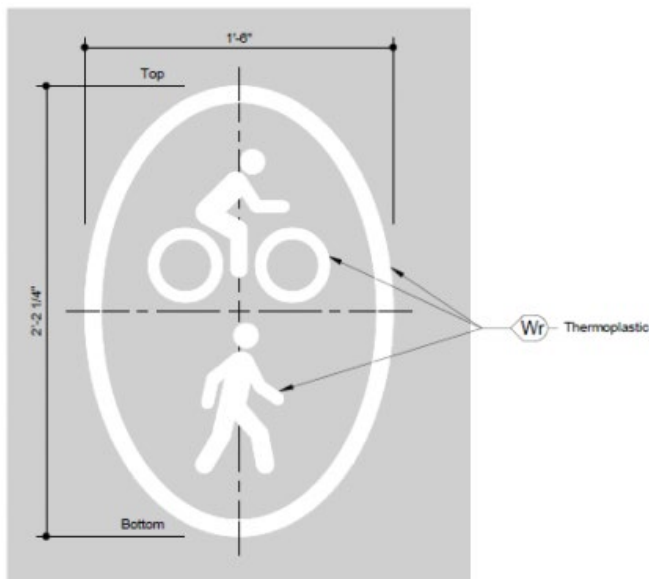


Image source: City of Oregon City

Where there is curb and sidewalk on at least one side along the majority of the roadway, install bicycle shared lane markings (also called sharrows). Along these streets, people walking would be expected to primarily walk on the sidewalk. Sharrows can also be used with directional arrows to assist with wayfinding if Shared Street routes require turns.



Sharrows marking along a neighborhood greenway in Portland, OR. Photo source: Nelson\Nygaard

Additional elements for consideration

Figure 4 describes other elements that support a successful Shared Street environment could be added at the discretion of County staff and as budget allows.

Figure 4 Suggested Supportive Shared Street Elements

Item	Example Image
<p>Speed humps discourage high motor vehicle speeds, making the street environment more comfortable and safe for people of all ages and abilities.</p>	

Item	Example Image
<p>Motor vehicle diversion may be necessary in some cases where cut-through traffic is observed or anticipated. Diverters may be designed to prevent particular turning or through movements or may restrict travel to local traffic only.</p>	 <p>The diverter at SE Monroe St & SE Linwood Ave eliminates motor vehicle left turns and through movements.</p>
<p>Mini traffic circles calm motor vehicle traffic by reducing vehicle speeds and slowing turns. They can be used at the intersection of local streets, with or without stop control.</p>	

Item	Example Image
<p>Trees and landscaping should be considered to provide shade, stormwater mitigation, and beautification.</p>	
<p>Wayfinding signs help direct people to key destinations and can provide travel distance and estimated travel times, making Shared Streets easier and more welcoming to use for daily trips.</p>	

SHARED STREET CONCEPTS FROM OTHER AGENCIES

Oregon City, Portland, Milwaukie, and Manzanita offer local examples of Shared Streets installations or related treatments. Oregon City provides a comparable example of the type and extent of treatments that Clackamas County may implement; Portland is included for regional context; Milwaukie illustrates relevant treatments where jurisdictions meet; and Manzanita provides a rural example.

Oregon City

In 2018 Oregon City adopted a 20-mph speed limit policy that describes the process and treatments for implementing 20 mph speeds on the network of “Family Friendly” streets identified in the City’s 2013 Transportation System Plan. The Family Friendly streets provide low-speed, low-traffic connections to shared-use paths, parks, and schools. In addition to being designated a Family Friendly street, the street segments must also have an 85th percentile speed of 30 mph or lower, and an average motor vehicle volume of fewer than 2,000 vehicles per day, as required in state law.

Oregon City uses the shared pedestrian and bicycle pavement marking stencil and “Family Friendly Route” signage. A recent implementation example is [5th Avenue west of South End Road](#).



20 mph speed sign and “Family Friendly Route” placard on 5th Avenue in Oregon City.
Image source: Google Streetview



Shared pedestrian and bicycle pavement marking on 5th Avenue in Oregon City.
Image source: Google Streetview

Portland

In 2017, state law granted the City of Portland the authority to reduce speed limits on residential streets from 25 mph to 20 mph (the law was later adjusted to include more than just the City of Portland). In 2018, the City proceeded to reduce speed limits on residential streets citywide to 20 mph as part of the City's Vision Zero program. This speed limit reduction included all of the City's 100+ mile network of neighborhood greenways. Speed data collected at 58 locations before and after the speed limit reduction showed a statistically significant reduction in high-end speeds (10 and 15 mph over the posted limit, or 30 and 35 mph on the new 20 mph streets), while the overall average speed remained relatively stable at 22 mph.² The odds of observing speeds greater than 35 mph dropped by 50%, and the odds of observing speeds greater than 30 mph dropped 34%. This reduction in top-end speeds is noteworthy given that even small reductions in speed can have large safety benefits, especially for people walking.³

In May 2020, the Portland Bureau of Transportation (PBOT) installed signage and type two barricades at key intersections along the neighborhood greenway network to convert most of the neighborhood greenways to "local access only" Shared Streets as part of the City's COVID-19 response. These streets allowed more space for people to walk, roll, bicycle, and

² Portland Bureau of Transportation, *Analysis indicated 20 mph speed limit reduced driving speeds*. Available at: <https://www.portland.gov/transportation/vision-zero/news/2020/12/1/analysis-indicates-20-mph-speed-limit-reduced-driving>

³ AAA Foundation for Traffic Safety, *Impact Speed and a Pedestrian's Risk of Severe Injury or Death* (Technical Report). Available at: <https://aaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/>

recreate in their neighborhoods while discouraging cut-through motorized traffic. In 2021, following extensive data collection and positive public feedback, PBOT installed permanent upgrades to some neighborhood entry points along the Shared Streets network. These installations have included permanent concrete planters or yellow plastic posts, yellow advisory 15 mph signs, and yellow Shared Street advisory signs. Driving access is maintained, though features alert drivers to expect people walking, biking, and rolling in the street.

Some locations use planters and plastic posts to calm turns and through traffic where full traffic diversion is not needed or is not feasible. As Shared Streets are only designated on streets that are already neighborhood greenways, the streets already include speed humps, vehicle diversion at key intersections, and crossing treatments at some collector and arterial streets.



Portland's neighborhood greenways include vehicle diversion, special signs, speed humps, and sharrow markings. Photo source: Nelson\Nygaard



Photo source: Portland Bureau of Transportation



Concrete planters and 15 mph advisory signs at SE Salmon St & SE 20th Ave. Photo source: Bike Portland



Photo source: Bike Portland

Milwaukie

The City of Milwaukie recently installed a diverter at SE Monroe St and SE Linwood Ave as part of the Linwood Ave multiuse path project. The diverter reduces cut-through traffic on Monroe St, a low-volume bike-friendly street, and eliminates left turns in all directions.



Photo source: Nelson\Nygaard

Manzanita

Some small towns in rural areas use “yield roadways” as a design treatment to enable residential streets to comfortably serve people walking, rolling, bicycling, and driving at slow speeds. Manzanita, Oregon’s residential street standards include 20’ of pavement width with concrete gutter along one side. The narrow street width requires “courtesy yielding” by motorists driving in opposite directions. The network of slow-speed residential streets allows easy walking, rolling, and bicycling connections to the ocean, parks, and commercial areas.



Image source: [FHWA Small Town and Rural Design Guide](#)/Alta Planning + Design

Other installation examples

Some Shared Street elements and examples from San Francisco (CA), Denver (CO), and Pittsburgh (PA) are included below.

San Francisco installed permanent signs at Slow Street entrances using plastic posts and custom printed signs. Though they are called Slow Streets, they are intended for use by people walking, rolling, and bicycling.

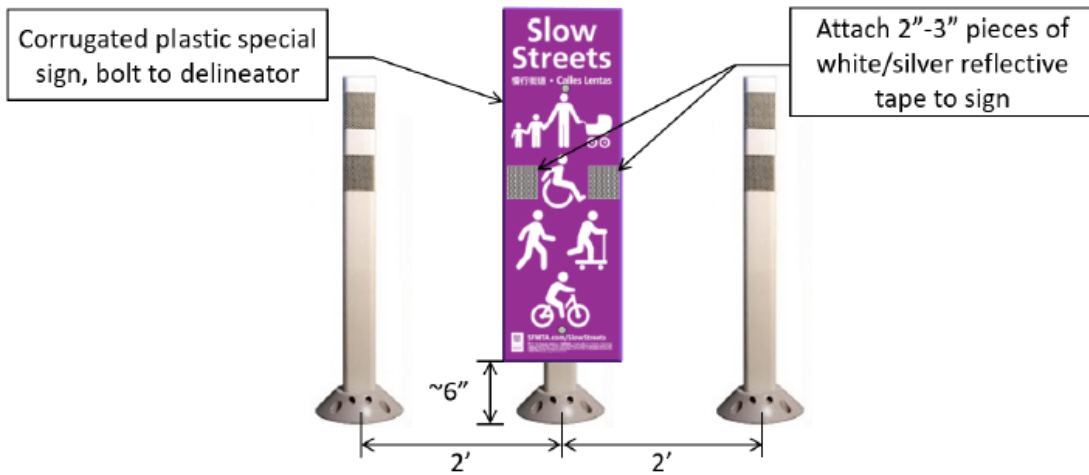


Photo source: City of San Francisco

Denver installed mini roundabouts along its Shared Streets network using water-filled barricades and signs.



Photo source: City of Denver

Pittsburgh installed mini roundabouts on Slow Streets using paint, plastic posts, and signs bolted to the pavement.



Photo source: BikePGH