



# **COMPLETE STREETS**

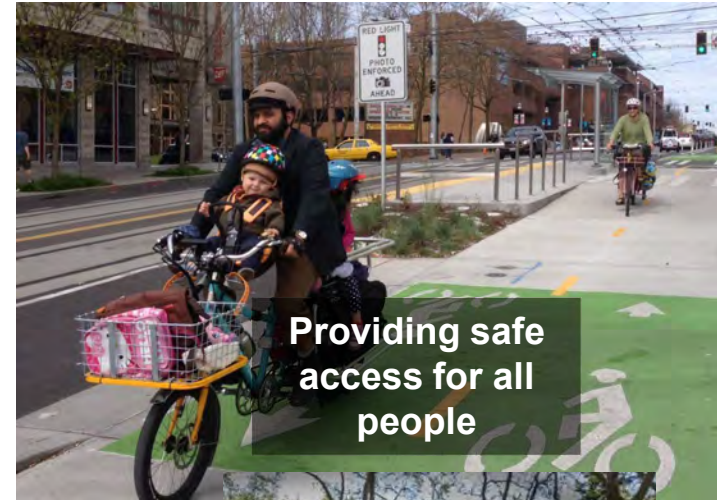
## **FOR STATE TRANSPORTATION PROJECTS**

Celeste Gilman, Strategic Policy Administrator  
WSDOT Active Transportation Division

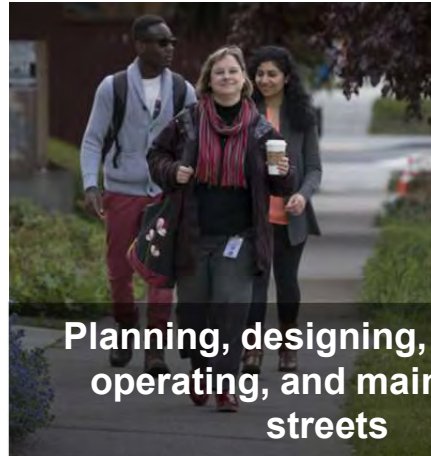
October 19, 2022



Complete Streets are . . .



Providing safe access for all people

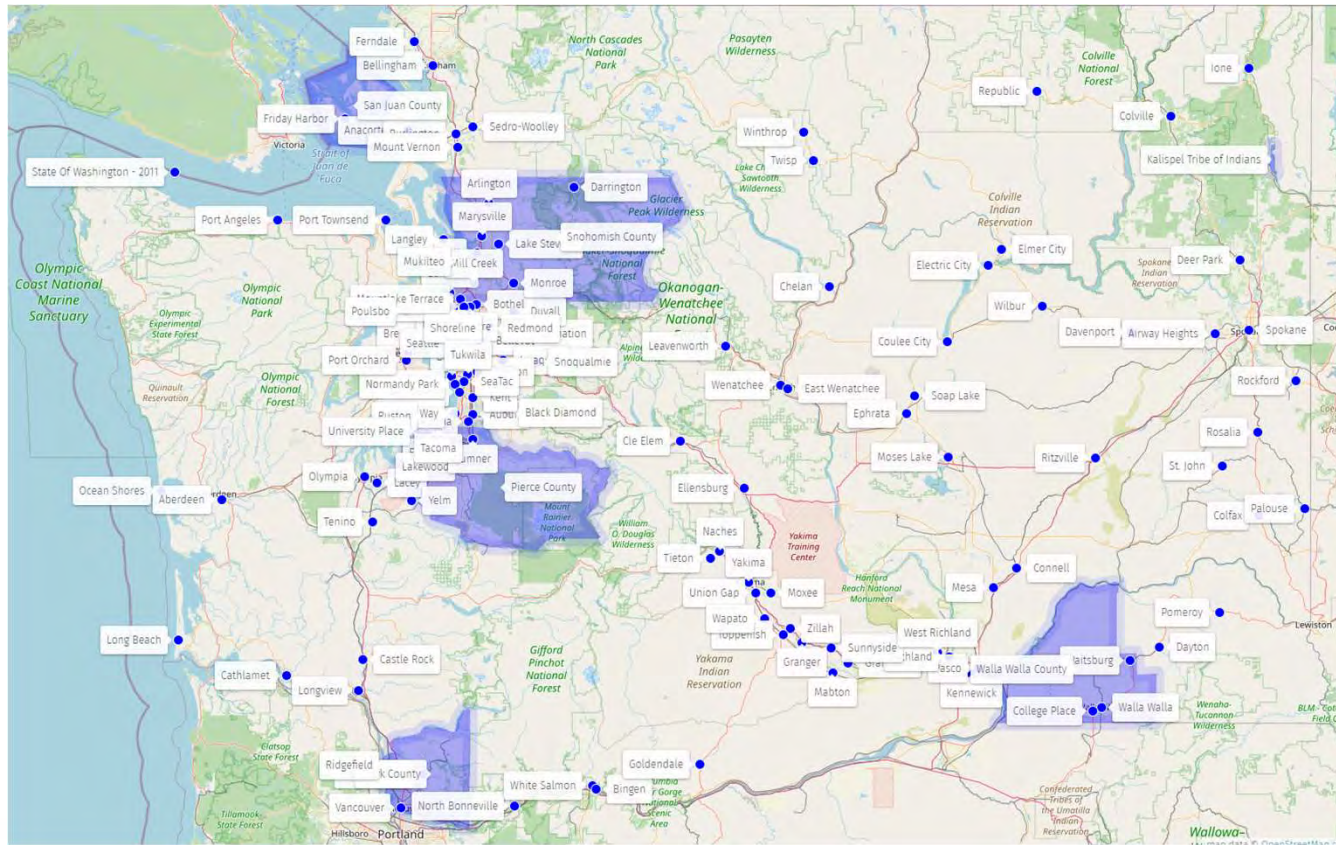


Planning, designing, building, operating, and maintaining streets



# Complete Streets in Washington

## Adopted Complete Streets Policies





# STRATEGIC PLAN



## VISION

Washington travelers have a safe, sustainable and integrated multimodal transportation system.

## MISSION

We provide safe, reliable and cost-effective transportation options to improve communities and economic vitality for people and businesses.

## VALUES

- Safety
- Engagement
- Innovation
- Integrity
- Leadership
- Sustainability

## GOALS

- Inclusion
- Practical Solutions
- Workforce Development



# National Focus on Complete Streets

highways.dot.gov/complete-streets

U.S. Department of Transportation  
Federal Highway Administration

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**MAKE COMPLETE STREETS THE DEFAULT APPROACH**

Make funding and designing Complete Streets the easiest option.

Make Complete Streets the Default Approach



**PLAN AND ANALYZE COMPLETE STREETS**

Integrate safety for all road users into planning and data analysis.

Plan and Analyze Complete Streets



**IMPLEMENT COMPLETE STREETS IMPROVEMENTS**

Design, construct, operate and maintain streets that are safe for all road users.

Implement Complete Streets Improvements

## SPOTLIGHT



Complete Streets Report to Congress



Improving Safety for Pedestrians and Bicyclists Accessing Transit



Safe Streets and Roads for All (SS4A) Grant Program

# Why Complete Streets

# “Solving” Congestion

If we could add enough lanes to build our way out of congestion — what would that look like?

Total additional interstate miles needed to drive posted speed limit at all times:

- 451 lane miles at an estimated cost of \$115 billion
- Depending on timing and percent bonded, would require a \$2.20 to \$2.50 gas tax increase



## Greater Puget Sound area

(Olympia to Marysville/Seattle to Issaquah)

- 385 new lane miles
- Maximum of four additional lanes in each direction in select locations within the Central Puget Sound



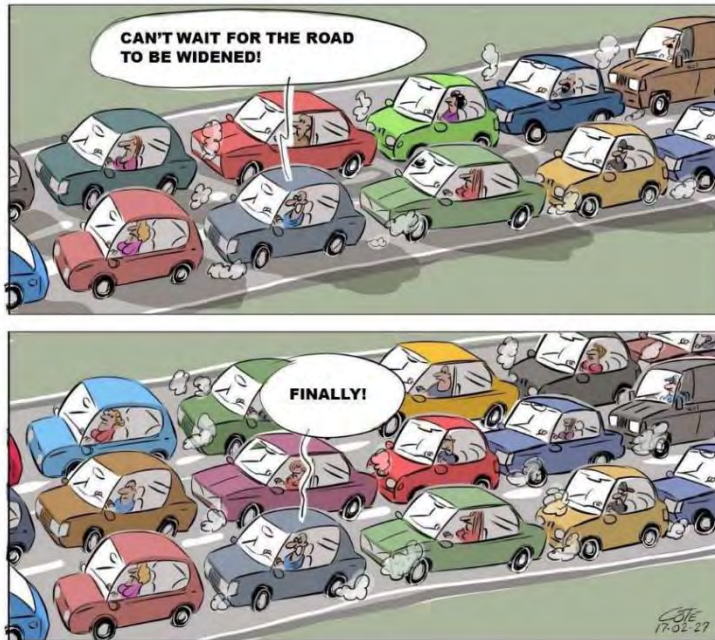
## Vancouver area

- 38 new lane miles



## Spokane area

- 28 new lane miles



Cartoon via @Brent Toderian on Twitter

## “Solving” Congestion Assumptions

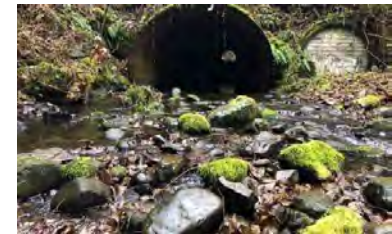
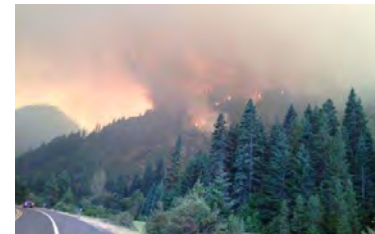
### High-level analysis for the interstate system:

- Assumes no induced travel
- No growth in demand
- Does not address increased capacity needed on other state routes or local roads
- May not address costs or timing of full environmental impacts
- No additional transit or alternative modal options
- Current year costs (in 2017)



# Benefits of a Balanced Transportation System

200 people can fit in ...



# Benefits of a Balanced Transportation System

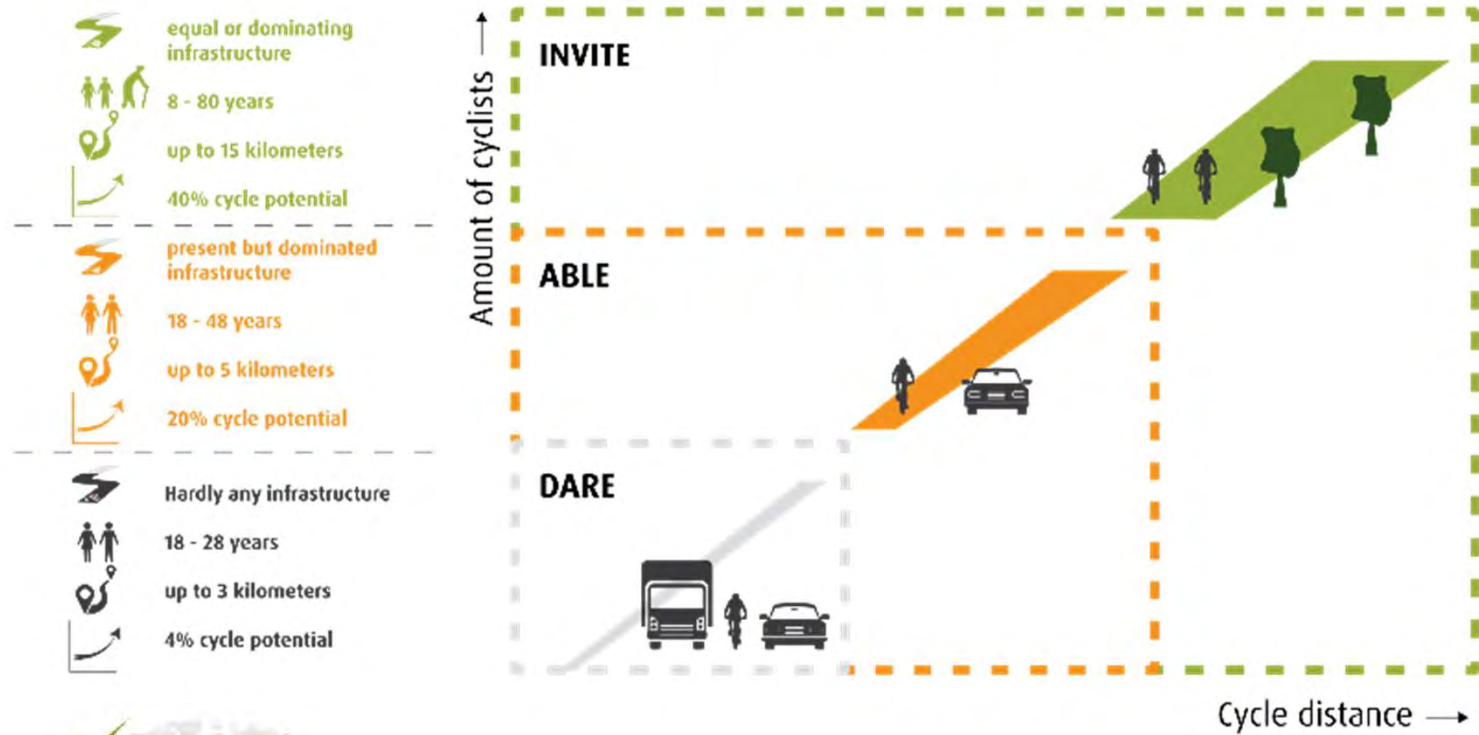
Urban<sup>3</sup>



<b>Land Consumed (Acres):</b>	<b>34.0</b>	<b>00.2</b>
<b>Total Property Taxes/Acre:</b>	<b>\$ 6,500</b>	<b>\$634,000</b>
<b>City Retail Taxes/Acre:</b>	<b>\$ 47,500</b>	<b>\$ 83,600</b>
<b>Residents per Acre:</b>	<b>0.0</b>	<b>90.0</b>
<b>Jobs per Acre:</b>	<b>5.9</b>	<b>73.7</b>

Joe Minicozzi

# Quality Facilities = Meaningful Options



# Transportation Efficient Communities



Proximity of destinations



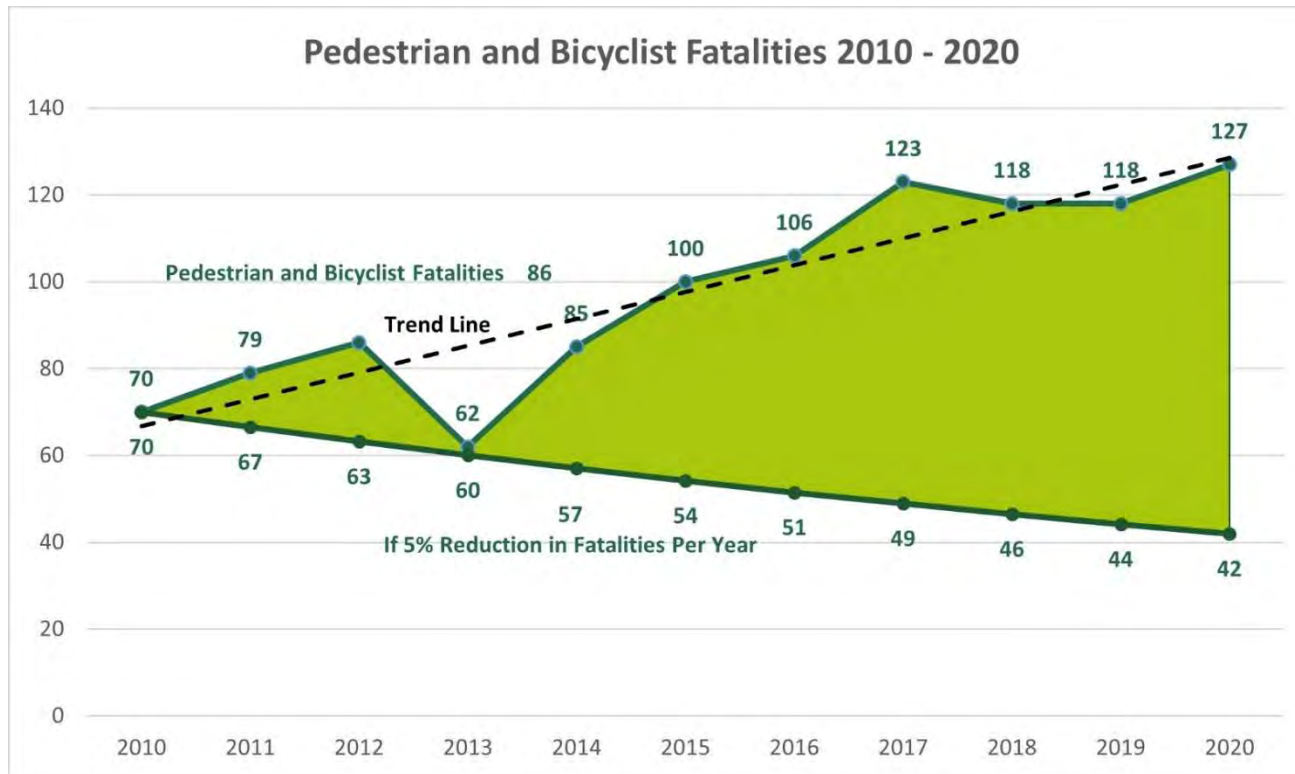
Complete low stress multimodal networks



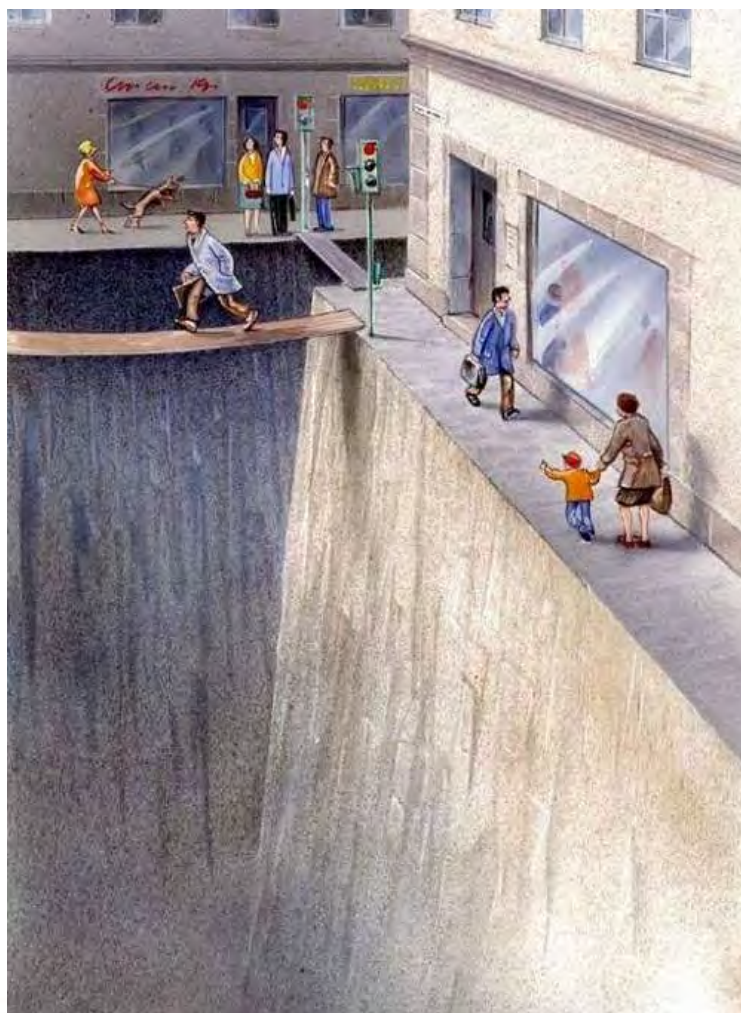
Appropriate roadway characteristics for context and function



# Washington active transportation fatalities



Combined pedestrian and bicyclist fatalities from 2010-2020, comparing actual deaths to lives that would have been spared if the state had met a reduction goal of 5 percent per year.



*Karl Jilg*

# Move Ahead Washington

# Move Ahead Washington

- **New funding:** Creates and funds Climate Active Transportation Account and Climate Transit Programs Account
- **“HEAL Act Plus”:** Prioritize funds to benefit overburdened communities and vulnerable populations. Environmental Justice Council directed to provide recommendations about new programs.
- Expands, evolves, and adds to grant programs administered by WSDOT’s Active Transportation and Public Transportation divisions
- Reports due Dec. 1 and every year after on all programs to report on past funding/activities, recommend future funding





# Move Ahead Washington

- **More local projects:** \$568M
  - 2022 call for projects nearly tripled [Safe Routes to School](#) + [Pedestrian/Bicyclist Program](#) (compared with 2020 baseline; includes funding from existing state + federal sources + new \$\$)
  - SRTS: \$290M over 16 years; expect to award ~\$54M for 23-25
  - PBP: \$278M over 16 years; expect to award ~\$51.9M for 23-25
  - Competitive applications
  - 2-year cycle; call for projects early in even-numbered years
- **Connecting Communities pilot program:** 5-year, \$50M
  - Locations in overburdened communities where legacy state transportation facilities disrupted the active transportation network
  - Extensive list of criteria including access to transit, community services
  - Not an application process
  - WSDOT will do analysis to identify + prioritize locations meeting legislative criteria, connect with those places to identify needs
  - Can fund planning through construction

# Move Ahead Washington

- [43 community pedestrian/bicyclist projects:](#) \$317M
  - WSDOT to prioritize in 3 tiers
- [TIB Complete Streets grants:](#) \$146M over 16 years
- **Bigger, better statewide bike safety education:** \$216M over 16 years
  - Elementary grades through high school, school-based and after-school programs
  - WSDOT will contract with statewide nonprofit, which will then have subcontracts with schools and local partners

- **Complete Streets directive for state transportation projects:** WSDOT projects \$500K or more that go into design from July 1, 2022

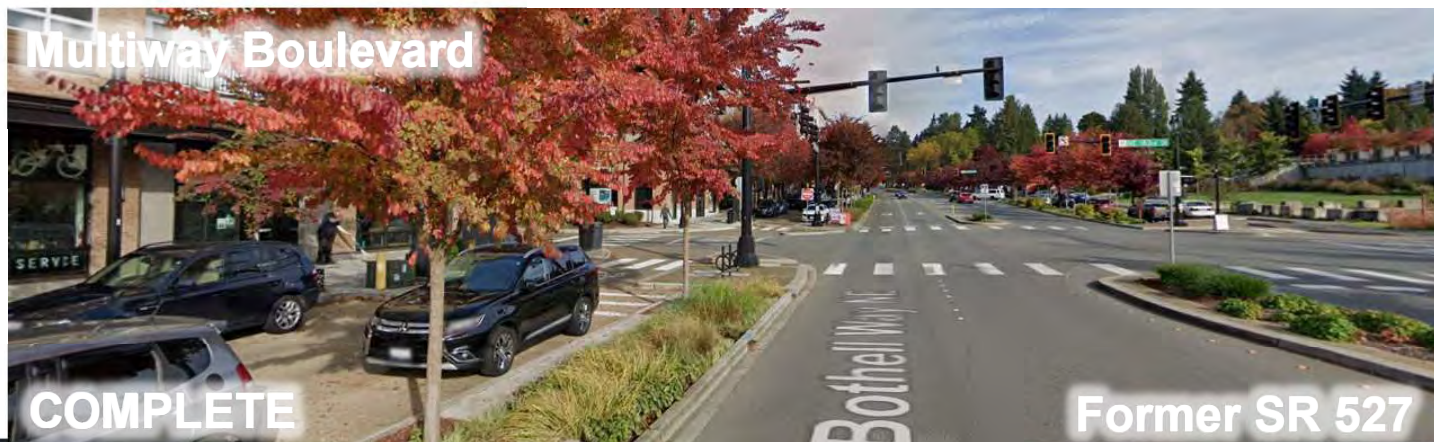


# Complete Streets Requirement

Added to Chapter 47.24 RCW - CITY STREETS AS PART OF STATE HIGHWAYS

Purpose: “(1) In order to improve the safety, mobility, and accessibility of state highways, it is the intent of the legislature that the department must incorporate the principles of complete streets with facilities that provide street access with all users in mind, including pedestrians, bicyclists, and public transportation users, notwithstanding the provisions of RCW 47.24.020 concerning responsibility beyond the curb of state rights-of-way.”

Applies to “state transportation projects starting design on or after July 1, 2022, and that are \$500,000 or more”



# Complete Streets Requirement

“[M]ust: (a) Identify those locations on state rights-of-way that do not have a complete and Americans with disabilities act accessible sidewalk or shared-use path,”





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# Complete Streets Requirement

“[M]ust: (a) Identify those locations on state rights-of-way ... that have such facilities on a state route within a population center that has a posted speed in excess of 30 miles per hour and no buffer or physical separation from vehicular traffic for pedestrians and bicyclists”





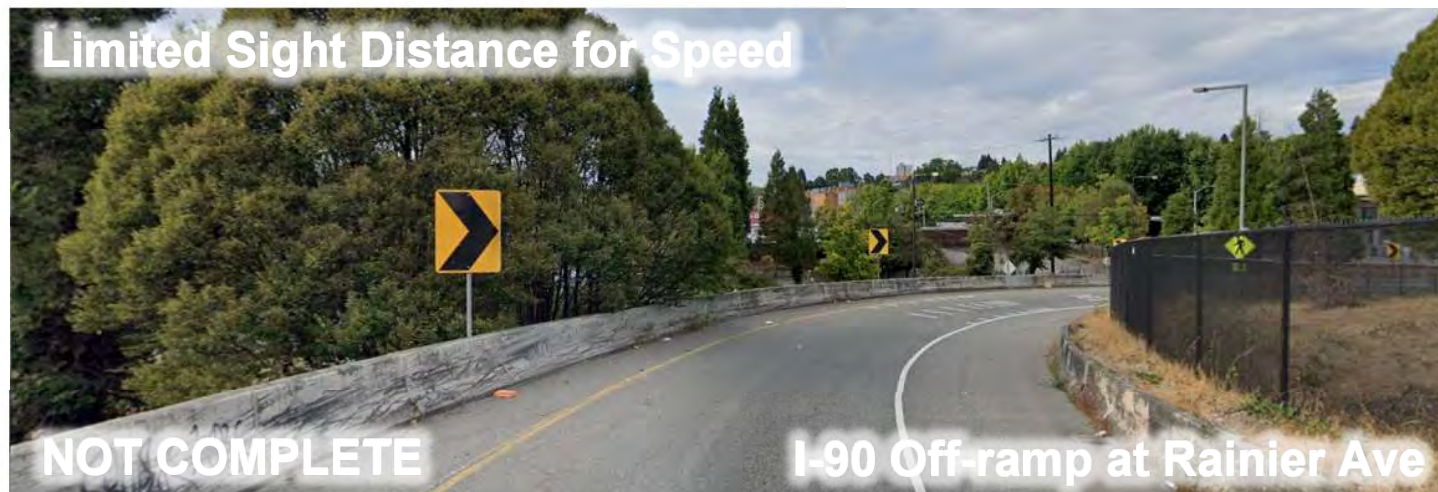
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# Complete Streets Requirement

“[M]ust: (a) Identify those locations on state rights-of-way ... that have a design that hampers the ability of motorists to see a crossing pedestrian with sufficient time to stop given posted speed limits and roadway configuration;”



# Complete Streets Requirement

“[M]ust: (a) Identify those locations on state rights-of-way ... that have a design that hampers the ability of motorists to see a crossing pedestrian with sufficient time to stop given posted speed limits and roadway configuration;”



# Implementing the New Complete Streets Requirement



# Complete Streets Implementation as of 10/17/22

- July 1, 2022 effective date
- Policy and process guidance
- Project Delivery Memo: <https://wsdot.wa.gov/publications/fulltext/ProjectDev/ProjectDeliveryMemos/Memo22-03.pdf>

AS General Posts Files Sharepoint Home 2 more + Meet

Page details Analytics Published 9/21/2022 Edit

### News See all

**Complete Streets Trainings Galore!**  
Upcoming Trainings Register now for the free, virtual Bike,...  
Gilman, Celeste September 21

**FHWA Complete Streets Training**  
Presented by FHWA for the Washington Stat...  
Gilman, Celeste August 9

**Got questions?**  
Do you have questions about Complete...  
Gilman, Celeste August 5

**Complete Streets Training Resources**  
Will you be working on Complete Streets...  
Gilman, Celeste July 22

### Guidance

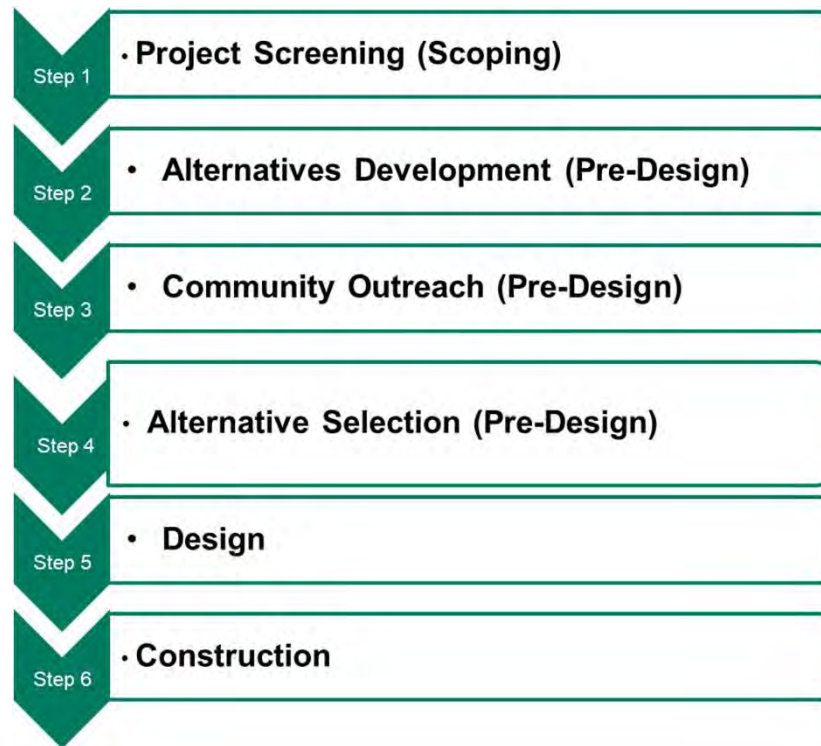
#### Quick links

- Complete Streets Model Process
- Scoping Instructions
- Complete Streets Worksheets
- Pre-Design Guidance
- Community Engagement Plan | WSDOT
- Complete Streets Project Delivery Memo



# Complete Streets

## *Process Overview*



# Complete Streets Implementation as of 10/17/22

- Screening of all projects over \$500,000
- Focus on projects
  - in incorporated cities,
  - and other population centers where active transportation gaps have been identified in WSDOT or local plans, or projects touch overburdened communities
- ~300 projects over the next 6+ years
- Complete Streets applies to some portion of ~56% of projects

# Goals for Complete Streets

## Project Delivery Memo:

### “Projects implementing Complete Streets:

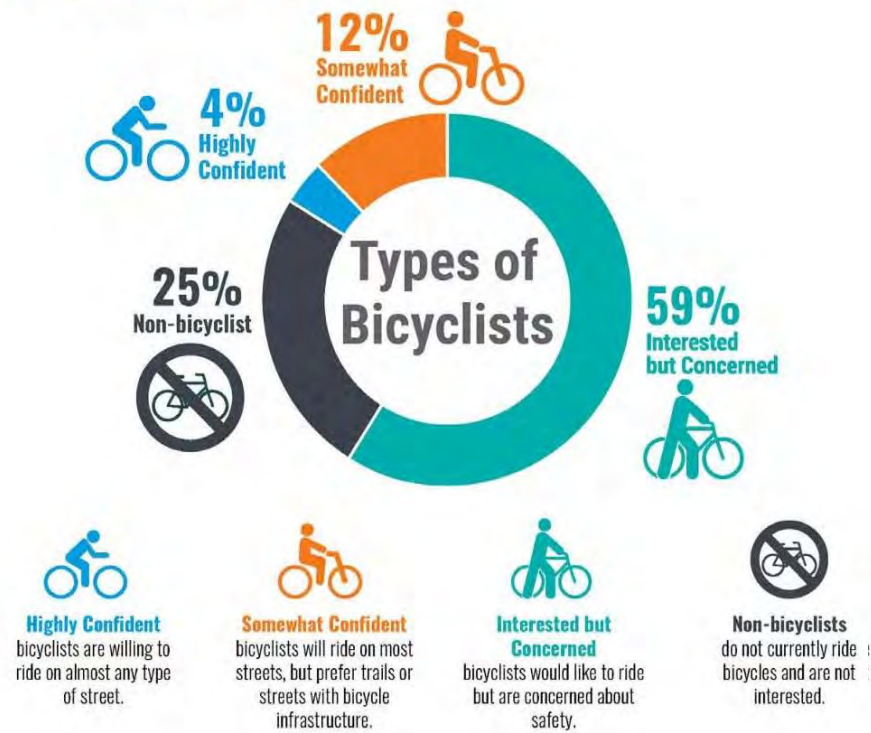
- Are developed in cooperation with the affected community through active public engagement.
- Address unique concerns, related to Complete Streets, of overburdened communities.
- Address active transportation network gaps that have been identified through a WSDOT or local plan and/or through public engagement.
- Eliminate bicycle and pedestrian network gaps within the project limits.
- Provide bicycle and pedestrian facilities that offer LTS 1 or 2 in alignment with ‘Design Bulletin #2022-01: Designing for Level of Traffic Stress’. \*
- Provide a separation from vehicular traffic when it is determined that a posted speed must be maintained at greater than 30 mph. See ‘Design Bulletin #2022- 01: Designing for Level of Traffic Stress’ for more information. \*

\*A Design Analysis is required for projects that are determined to be subject to the Complete Streets requirement and do not meet these criteria.”

# Understanding Bicyclist Stress: Interest in Riding

Level of interest in riding among the adult general population

Types of Bicyclists in the Denver Region



(graphic source: Toole Design)

# Understanding Bicyclist Stress: Level of Traffic Stress (LTS)

## LEVEL OF TRAFFIC STRESS

Level of traffic stress (LTS) is a way to evaluate the stress a bike rider will experience while riding on the road. It is used to categorize roads by the types of riders above who will be willing to use them based on:



- LTS 1** Most children can feel safe riding on these streets.
- LTS 2** The mainstream "interested but concerned" adult population will feel safe riding on these streets.
- LTS 3** Streets that are acceptable to "enthused and confident" riders who still prefer having their own dedicated space.
- LTS 4** High-stress streets with high speed limits, multiple travel lanes, limited or non-existent bikeways, and long intersection crossing distances.

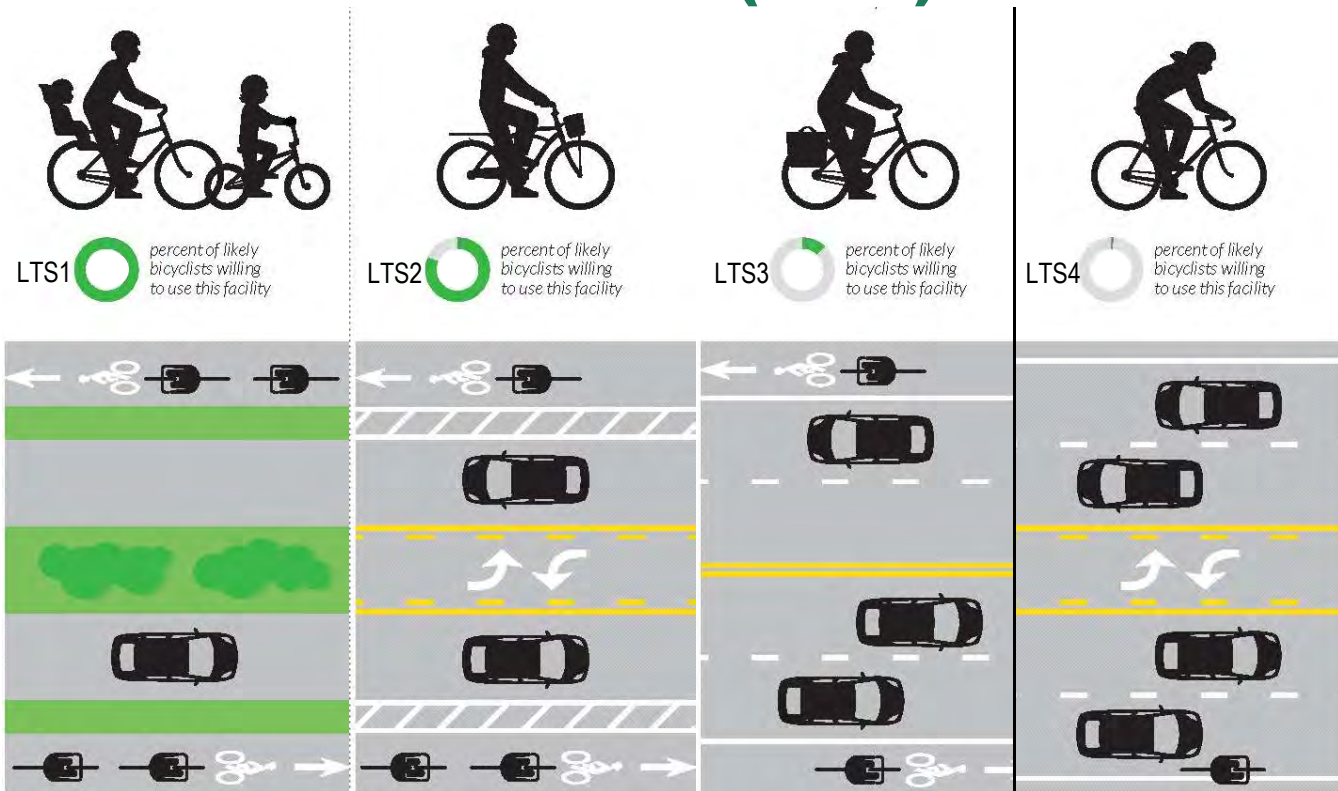
## THE FOUR TYPES OF BICYCLISTS



(graphic source: Redwood City, CA)



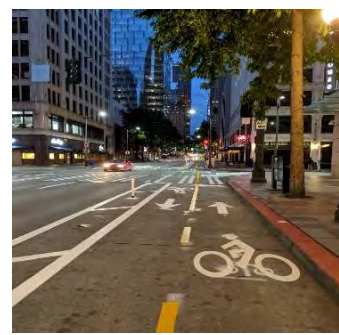
# Understanding Bicyclist Stress: Level of Traffic Stress (LTS)



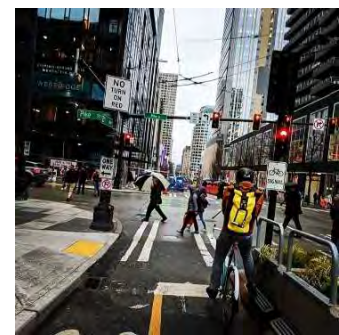
# Safe System Approach - Safer Roads



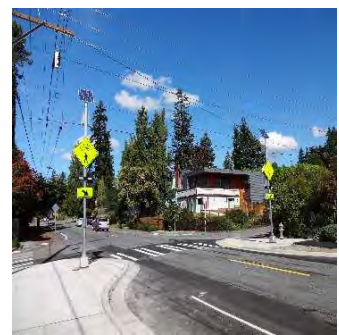
Avoiding crashes involves:



Separating users in space



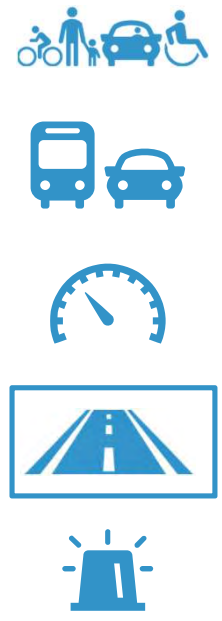
Separating users in time



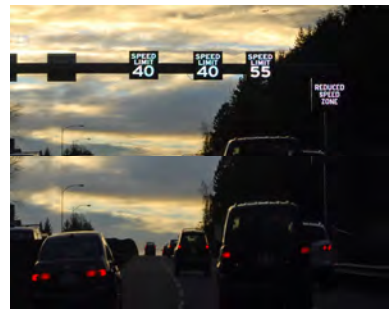
Increasing attentiveness and awareness

Equitable and explicit consideration of modal decisions

# Safe System Approach - Safer Roads



Managing crash kinetic energy:



Managing speed



Manage Mass difference



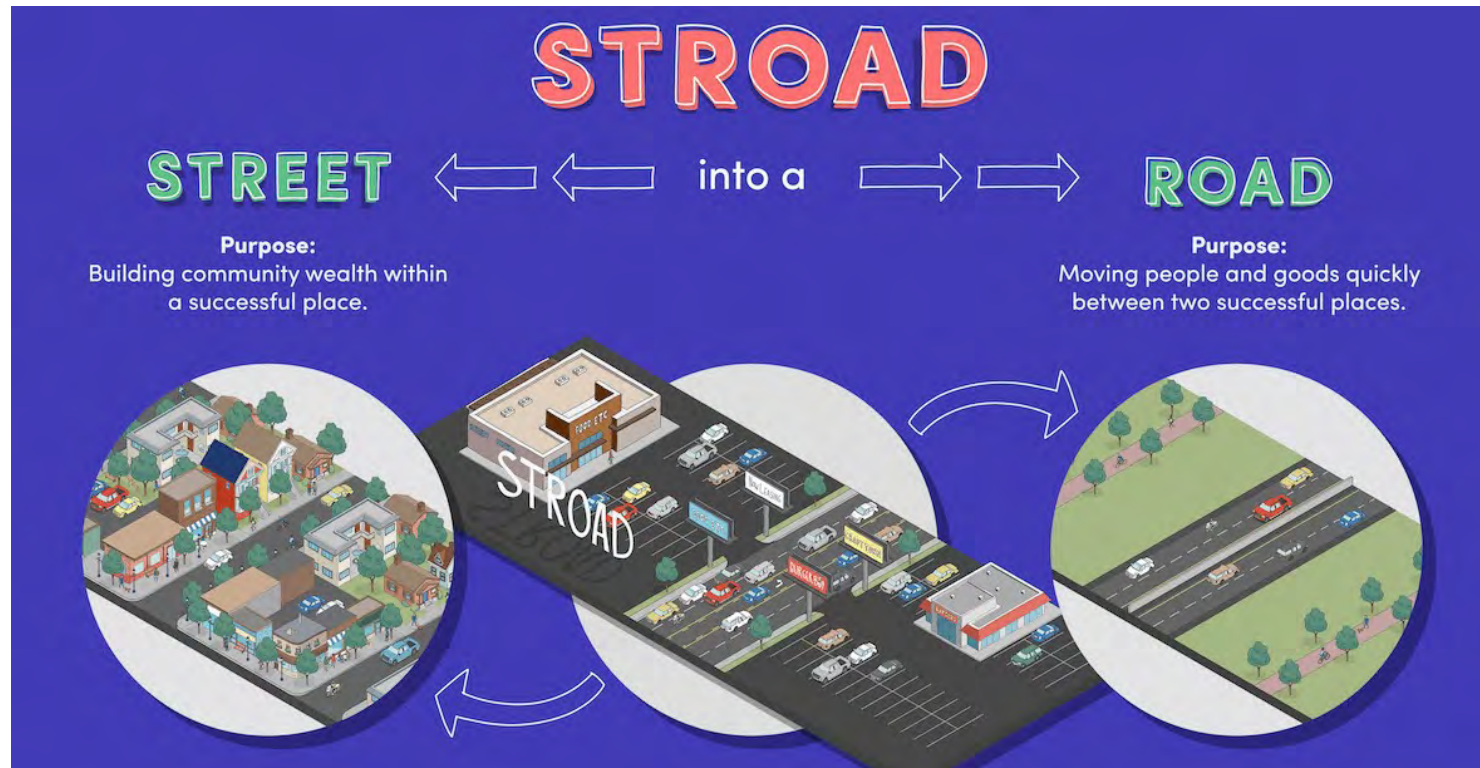
Manage crash angles

# Allowable Solutions

## Project Delivery Memo:

“Include a design option in the Basis of Design alternatives analysis that limits the expansion of the roadway footprint (road diet). Potential modifications to the highway’s layout (e.g., narrowing of lanes, road diet or elimination of lanes) may reduce the highway’s vehicular Level of Service (LOS), but provide for the introduction of Complete Streets design features at lower cost. Options that reduce vehicle LOS are acceptable on a case-by-case basis in cooperation with the local agency. Consult with your ASDE to assess the potential for mode shift as part of this analysis.”

# Converting “Stroads” to Streets or Roads



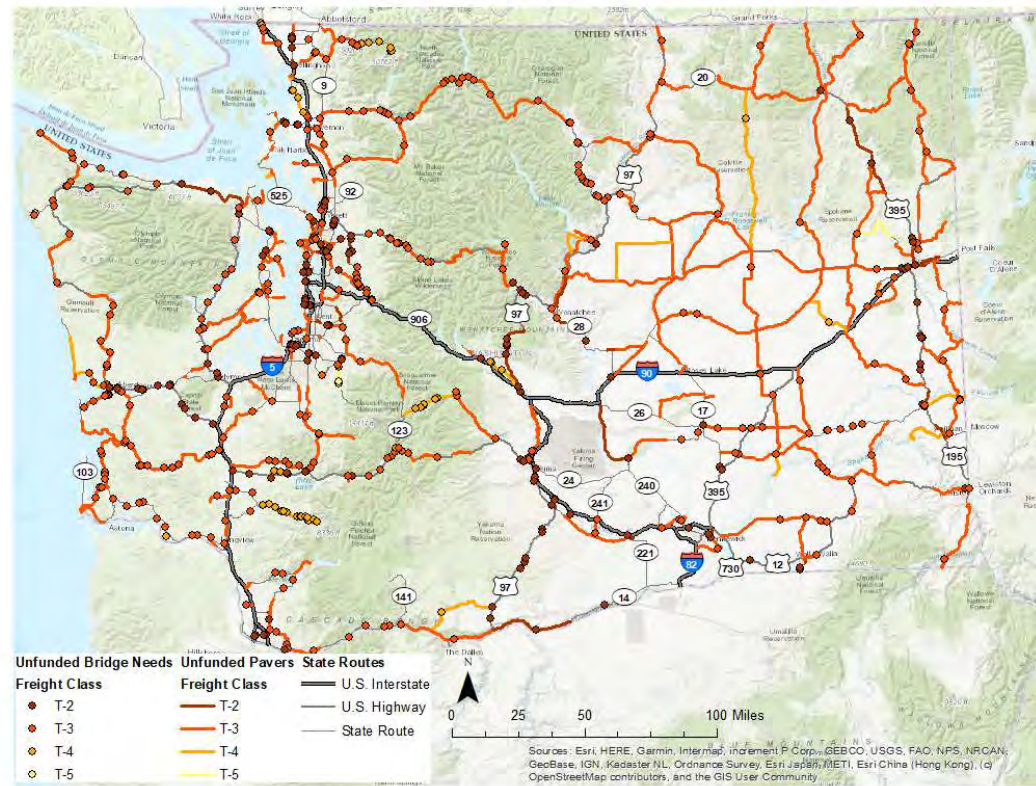
*Cultivate Collaborative via Strong Towns*



# Funding

- In contexts applicable to the Complete Streets requirement, completing the walking and bicycling network becomes a baseline requirement.
- This means that these needs will be addressed using existing project funds.
- Move Ahead Washington included a down payment on catching up on preservation needs, but no separate source of funding was provided for Complete Streets.
- We will implement the new requirement and communicate our ongoing funding needs with decision makers.
- Cost-effective solutions within existing ROW will stretch our dollars further.

# Preservation Needs – We’ve got a backlog



# Investment needed for State of Good Repair

## *Delivering Complete Streets w/highway preservation dollars*

Asset Category	Replacement Value	Average Annual Need	Current plan annual average spending	Proposed new revenue annual average funding	Average annual funding shortfall
Highways	\$123,425	\$1,055	\$580	\$125	\$350
Deliver Complete Streets with Preservation	N/A	\$210	\$0	\$70	\$140
Multimodal (i.e. Aviation, Public Transportation, Rail)	\$685	\$115	\$25	\$35	\$55
Intra-Agency (i.e. IT, Facilities, Fleet, Real Estate)	\$70,245	\$185	\$80	\$0	\$105
Ferries	\$5,325	\$510	\$215	\$115	\$180
<b>TOTAL</b>	<b>\$199,680</b>	<b>\$2,130</b>	<b>\$900</b>	<b>\$345</b>	<b>\$830</b>

Notes: Figures in millions of dollars, rounded to the nearest \$5M.

State of Good Repair funding need is Preservation and Maintenance funding numbers combined.

It is assumed that approximately 50% of the additional Highways Preservation dollars provided by Move Ahead Washington, excluding the funding provided for Highway Maintenance, will be needed to implement the Complete Streets proposal in conjunction with those projects.

The funding numbers above (excluding Replacement Value) represent 10-year annual averages.

# More value from our public investments

- Efficiencies of one design and construction cycle to address multiple deficiencies.
- Stewarding our mature highway system while adding to our under-developed active transportation system.
- Building infrastructure that aligns with our state and community goals.





# Preparing for a WSDOT Complete Streets Project in Your Community

# Partnership

- Implementing improvements communities want
- Advance planning to develop community visions
- Contributing to active transportation networks
- Creativity within existing space
- Trio:
  - Transportation efficient land use
  - Complete multimodal networks
  - Street design appropriate to context



# Community Engagement

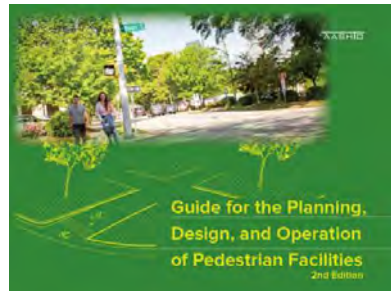
## *What to Expect*

- Scaling and building off local efforts
- WSDOT Community Engagement plan
- Close coordination with local agencies



# Best Practice Guides

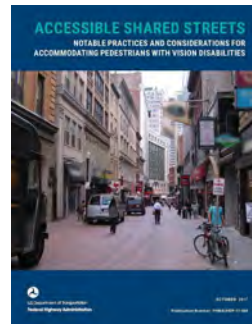
## Pedestrian Facility Design



AASHTO Pedestrian Design Guide  
(new edition issued Dec. 2021)



PBOT Pedestrian Design Guide (2022)



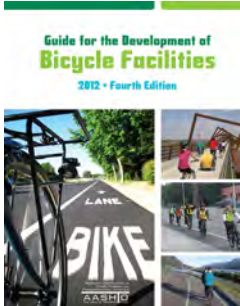
FHWA Accessible Shared Streets Guide (2017)



SDOT Streets Illustrated (2017)

# Best Practice Guides

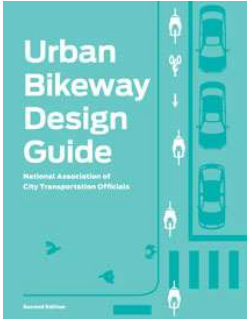
## Bicycle Facility Design



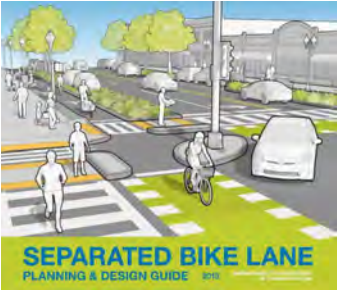
2012 AASHTO Bike Guide (current)



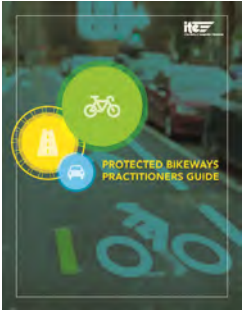
2023(?) AASHTO Bike Guide (future)



NACTO Bikeway Design Guide (2012)



MassDOT Separated Bike Lane Guide (2015)



ITE Protected Bikeways Guide (2017)



FHWA Bikeway Selection Guide (2019)



# Best Practice Guides

## Multimodal Accommodation Design



FHWA Achieving Multimodal Networks (2016)



NACTO Transit Streets Guide (2016)

# Best Practice Guides

## Multimodal Accommodation Design



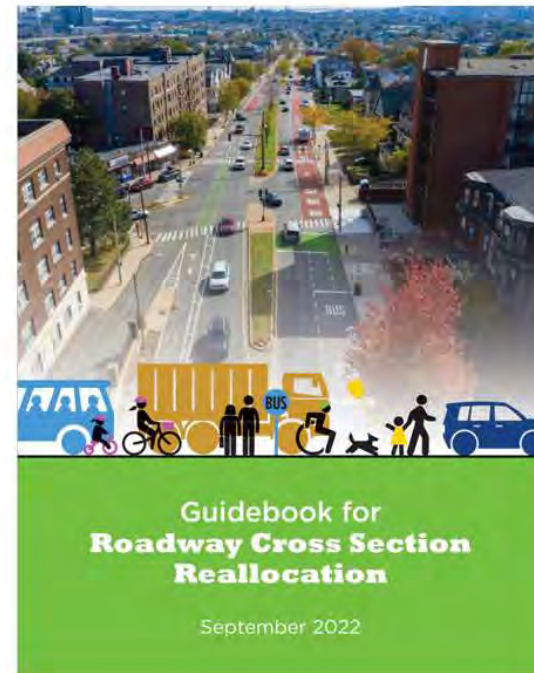
Ohio DOT Multimodal Design Guide (April 2022)

- Brand-new as of April
- Very comprehensive
- Compiles a range of different best-practice material from a variety of sources

# NCHRP 15-78: Guidebook for Roadway Cross Section Reallocation

## GUIDEBOOK CONTENT

1. Introduction
2. Choosing a cross section that serves your vision
3. Opportunities to change a cross section
4. Planning context
5. Safety for everyone
6. Overcoming barriers to safe design
7. Cross section elements
8. Making and evaluating cross section changes



**Guidebook and cross section reallocation tool coming soon to:**  
<https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4767>

# Tools

## Traffic Calming Tools

Traffic Calming Measure	Segment or Intersection
<b>Horizontal Deflection</b>	
Lateral Shift	Segment
Chicane	Segment
Realigned Intersection	Intersection
Traffic Circle	Intersection
Small Modern & Mini-Roundabout	Intersection
Roundabout	Intersection
<b>Vertical Deflection</b>	
Speed Hump	Segment
Speed Cushion	Segment
Speed Table	Segment
Offset Speed Table	Segment
Raised Crosswalk	Both
Raised Intersection	Intersection
<b>Street Width Reduction</b>	
Corner Extension	Intersection
Choker	Segment
Median Island	Both
On-Street Parking	Segment
Road Diet	Both



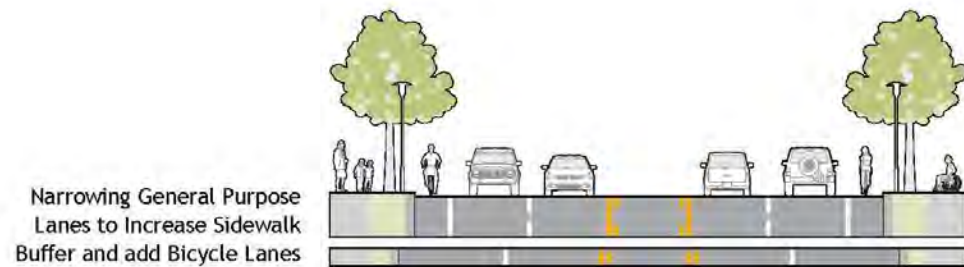
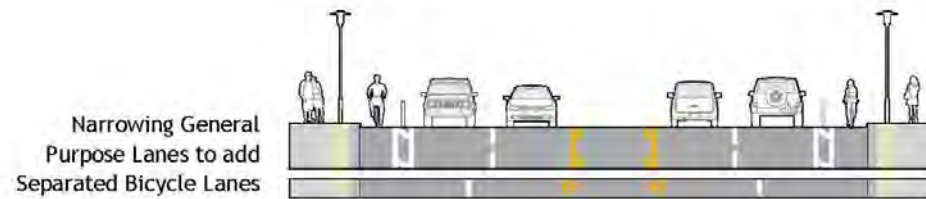
<b>Routing Restriction</b>	
Diagonal Diverter	Intersection
Full Closure	Both
Half Closure	Intersection
Median Barrier	Intersection
Forced Turn Island	Intersection

# Tools

## Tool: Lane Narrowing

Lane narrowing provides opportunity to both:

- Help control vehicle speeds
- Provide space for dedicated bicycle facilities





# Tools

Tool: Lane Reduction (aka “Road Diet” or “Road Buffet”)

Four Lanes w/o center turn lanes



center turn lanes, bike lanes, ped refuge island at bus stop



# Example

Case Study: Small Town – Duvall, Washington



# Example

Case Study: Small Town – Duvall, Washington



## Want to Learn More?

Complete Streets webpage: <https://wsdot.wa.gov/construction-planning/complete-streets>

Complete Streets Project Delivery Memo:  
<https://wsdot.wa.gov/publications/fulltext/ProjectDev/ProjectDeliveryMemos/Memo22-03.pdf>

[ITS WA Annual Conference & Exhibition](#)

December 13-15, Tacoma Convention Center

Celeste Gilman – Overall Statewide Coordination  
gilmanc@wsdot.wa.gov, 206.492.0993



## **REGION COMPLETE STREETS TEAMS**

### ***Team Leads and Contact Information***

Region	Lead	Contact Email
Olympic Region	Ashley Carle	<a href="mailto:OR_CSteam@wsdot.wa.gov">OR_CSteam@wsdot.wa.gov</a>
Southwest Region	Kelly Smith	<a href="mailto:swrcompletestreets@wsdot.wa.gov">swrcompletestreets@wsdot.wa.gov</a>
South Central Region	Paul Gonseth	<a href="mailto:gonsetp@wsdot.wa.gov">gonsetp@wsdot.wa.gov</a>
North Central Region	Kathy Murray	<a href="mailto:murraka@wsdot.wa.gov">murraka@wsdot.wa.gov</a>
Eastern Region	Shea Suski	<a href="mailto:wsdotercompletestreetsteam@wsdot.wa.gov">wsdotercompletestreetsteam@wsdot.wa.gov</a>
Northwest Region	April Delchamps (SnoKing)	<a href="mailto:NWRCompleteStreetsTeam@wsdot.wa.gov">NWRCompleteStreetsTeam@wsdot.wa.gov</a>
	Elizabeth Sjostrom (Mt Baker Area)	<a href="mailto:MBACompleteStreetsSupport@wsdot.wa.gov">MBACompleteStreetsSupport@wsdot.wa.gov</a>



# Vote for Active Transportation!

Our Active Transportation Plan is one of 12 finalists for AASHTO's 2022 America's Transportation Awards

- WSDOT will split \$10,000 award between:
  - Disability Rights Washington
  - Cascade Bicycle Club
  - WSDOT Memorial Foundation
- Online voting for People's Choice Award until 8:59 p.m. PT Oct. 21.
- Vote once daily from each device
- Use QR code and then select: "Active Transportation Plan 2020 and Beyond"  
*(hint: look for bicycling photo)*

