

# Safe System Approach for Speed Management: A Handbook for Local Agencies in Washington State

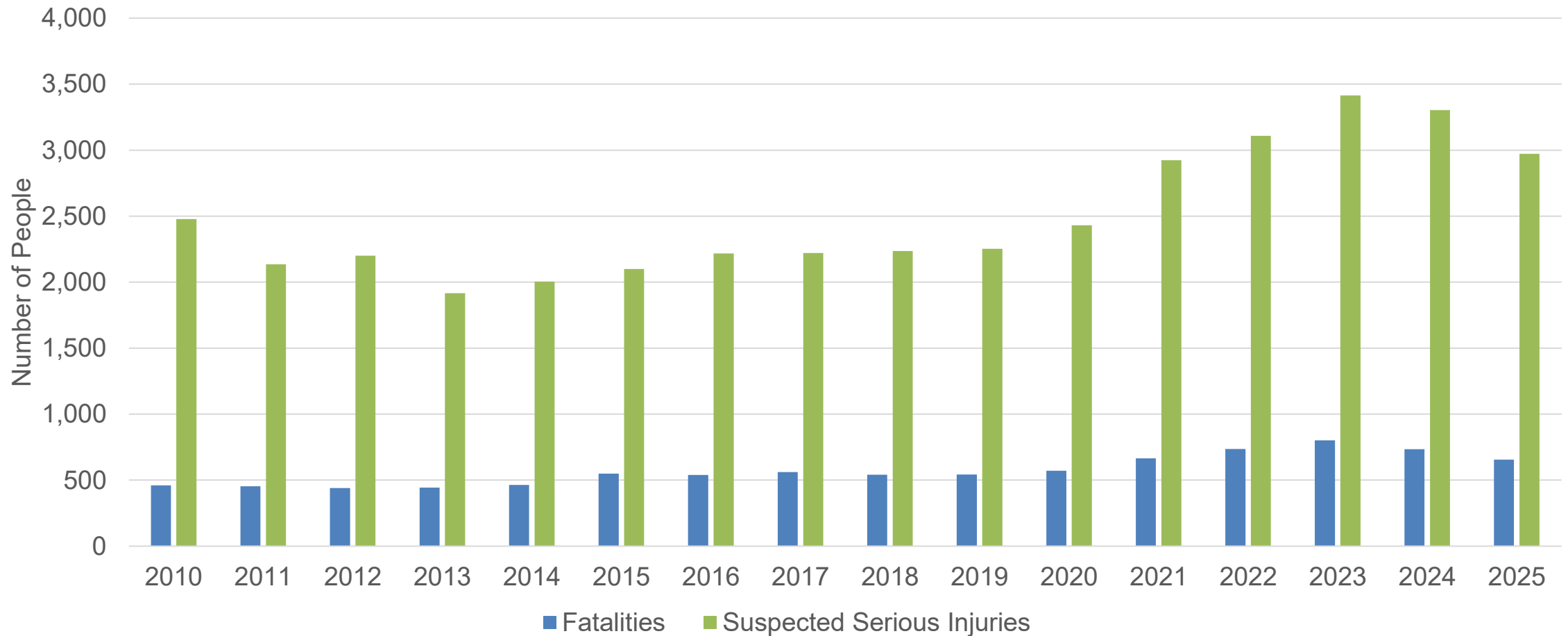
**ITE Western District Meeting**

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Washington State Department of Transportation

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# Suspected fatal and serious injuries resulting from crashes in WA state from 2010-2025



# Speed emphasis for Target Zero

- Crash forces increase exponentially with speed
- Increased likelihood of crashes at higher speeds
- Around 1/3 of all fatalities involve a speeding driver
- 86% of pedestrian & bicyclist fatalities occurred on roads with a posted speed over 25 mph from 2010-2019



# Speeding is typically addressed as a behavioral issue, though this is merely the tip of the iceberg

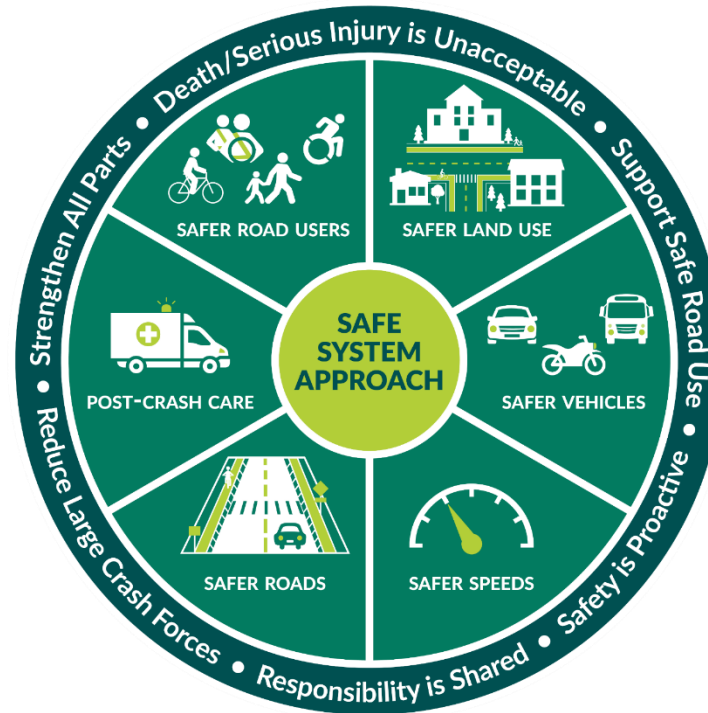
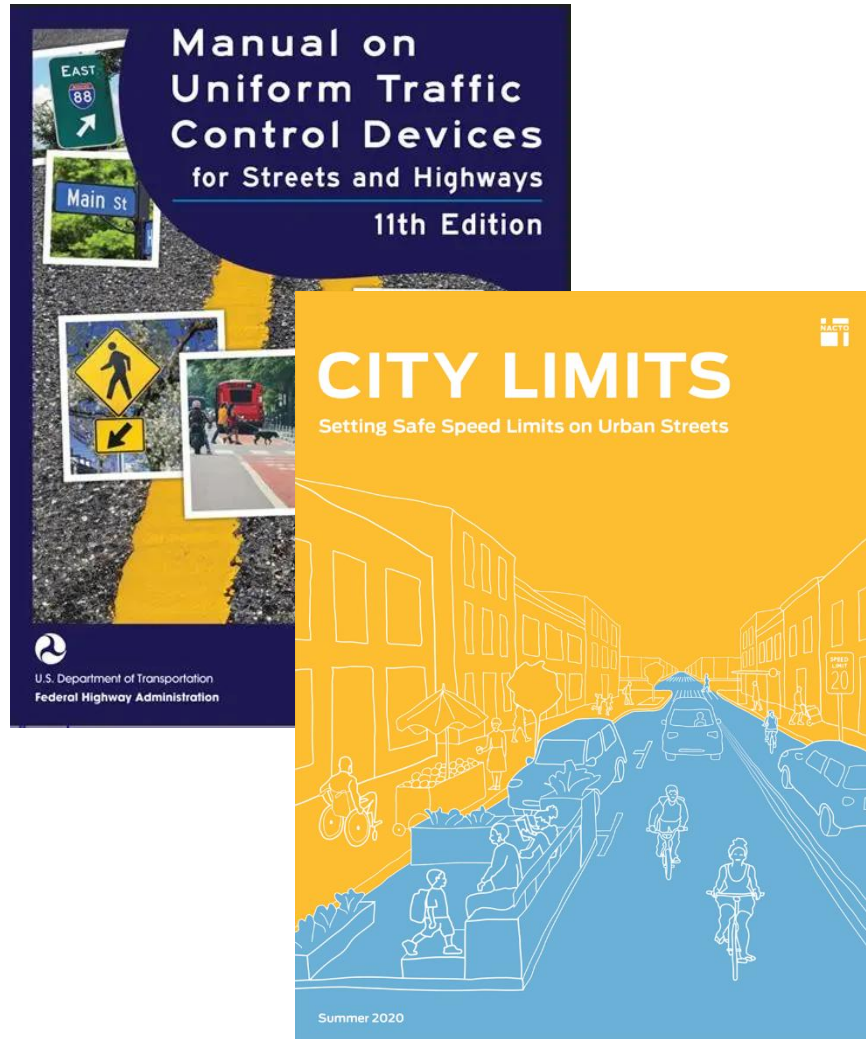
Reckless behavior

An iceberg diagram with a blue outline. The tip of the iceberg is above a horizontal yellow line and is labeled 'Reckless behavior'. The much larger submerged part of the iceberg is below the line and contains the text 'Inappropriate posted speed limits', 'Road design that encouraging unsafe speeds', and 'Vehicle capabilities increasing speeds'.

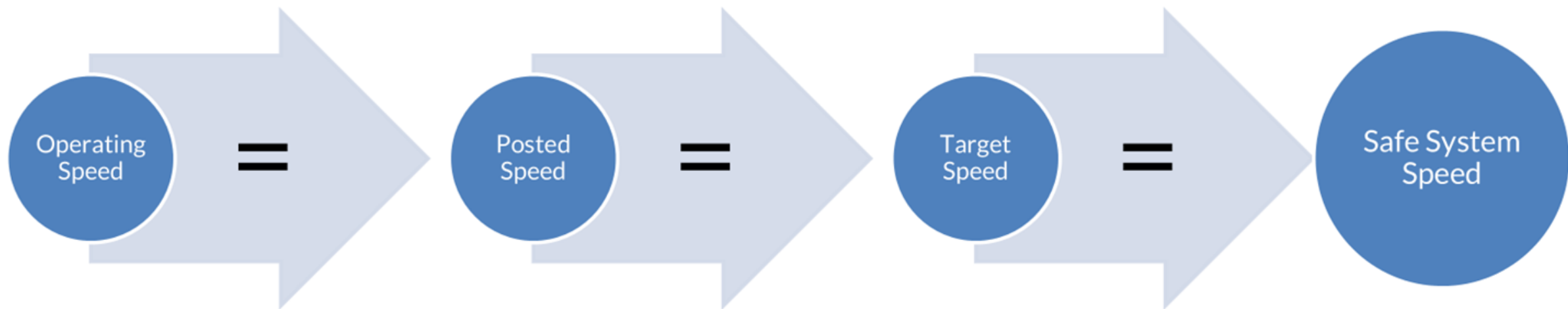
Inappropriate posted speed limits  
Road design that encouraging unsafe speeds  
Vehicle capabilities increasing speeds

Source: Vision Zero Network

# State of speed in Washington

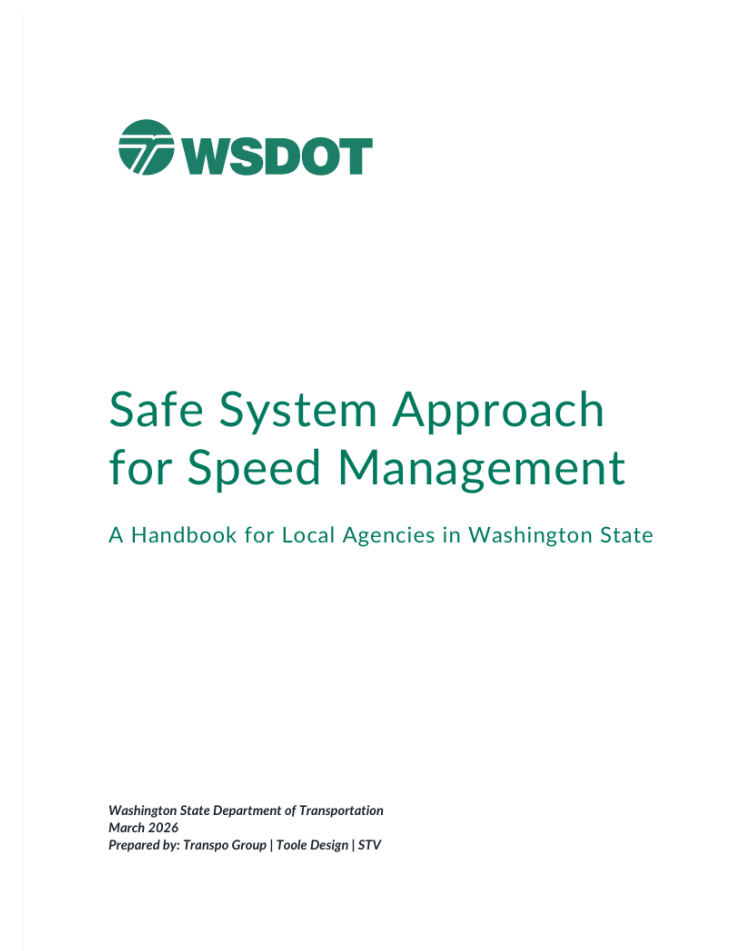


Source: City of Spokane



# Safe system speed limit handbook for local agencies

- Joint effort between
  - WSDOT Active Transportation funding programs
  - WSDOT City and County Safety programs
  - Transportation Improvement Board
- Consultant support
- Guidance for local agencies to implement safe system speeds
- Based on local agency examples and the safe system approach
- Scalable for local agencies based on resources available



# Safe system speed limit study guidance

- Safe System speed basics
- Communication tools for elected officials and the public
- How to conduct a safe system speed limit study
- How to implement speed management
- Community engagement
- Coordination with other departments (emergency services, schools, etc.)
- Changes to agency policies and practices to support safe system speeds



*Source: Craig Schoenberg*

# Tacoma's target speed approach

| SPEED                     |                          |                       |                       | PACE                  |                        |           | METRICS                                   |               |                           |
|---------------------------|--------------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------|-------------------------------------------|---------------|---------------------------|
| Reduced Speed Limit (mph) | Posted Speed Limit (mph) | 50th Percentile Speed | 85th Percentile Speed | Pace Range Low (mph)* | Pace Range High (mph)* | % In Pace | Operating Speed vs. Reduced Speed Limit** | # KSI Crashes | Max Sliding Windows Score |
| 25                        | 30                       | 29.8                  | 35.2                  | 25                    | 35                     | 60.9      | Operating >> Reduced                      | 1             | 27                        |
| 20                        | 25                       | 24.3                  | 29.4                  | 19                    | 29                     | 67.5      | Operating > Reduced                       | 0             | 5                         |
| 25                        | 35                       | 32.2                  | 37.7                  | 28                    | 38                     | 63.2      | Operating >> Reduced                      | 5             | 24                        |
| 25                        | 30                       | 30.9                  | 38.3                  | 28                    | 38                     | 48.6      | Operating >> Reduced                      | 2             | 45                        |
| 25                        | 30                       | 31.4                  | 37.4                  | 27                    | 37                     | 60.4      | Operating >> Reduced                      | 4             | 46                        |
| 25                        | 30                       | 22.8                  | 28.3                  | 18                    | 28                     | 63.3      | Operating < Reduced                       | 0             | 12                        |
| 25                        | 30                       | 24.6                  | 29.4                  | 20                    | 30                     | 70.3      | Operating < Reduced                       | 0             | 12                        |

# Beyond speed limits

- Traffic calming with speed humps, chicanes, and other tools
- Roundabouts to lower driver speeds at crossing locations
- Chicanes prior to crossings
- Raised crosswalks



Source: City of Walla Walla



Source: Craig Schoenberg

# How 20 MPH speed limits can benefit you and your community

## Safer roads

Research has found that introducing speed limits of 20 MPH led to reductions of 25% in road crash fatalities, 23% in road crashes, and 38% in injuries.

## Reduced noise pollution

Calmer traffic creates a more pleasant and less stressful urban environment.

## Increased active transportation

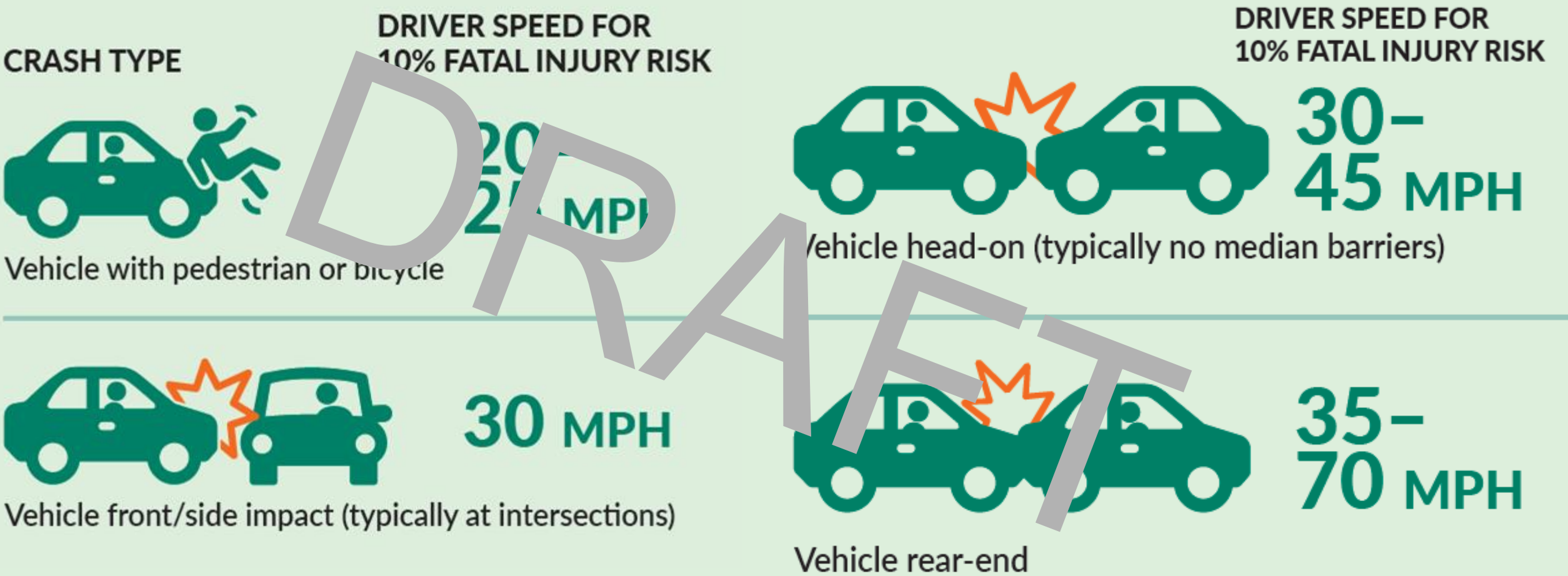
Safer roads promote more walking, biking, and use of public transportation, leading to a safer and more environmentally sustainable urban environment.

## Improved air quality

Research has shown an 18% reduction in emissions in cities where 20 MPH speed limits were introduced.



Source: [www.mdpi.com/2071-1050/16/11/4382](http://www.mdpi.com/2071-1050/16/11/4382)



## People driving have more time to stop at lower speeds

Higher speeds compound driver reaction time and braking distance.



20  
MPH



66 ft

30  
MPH



110 ft

40  
MPH



164 ft

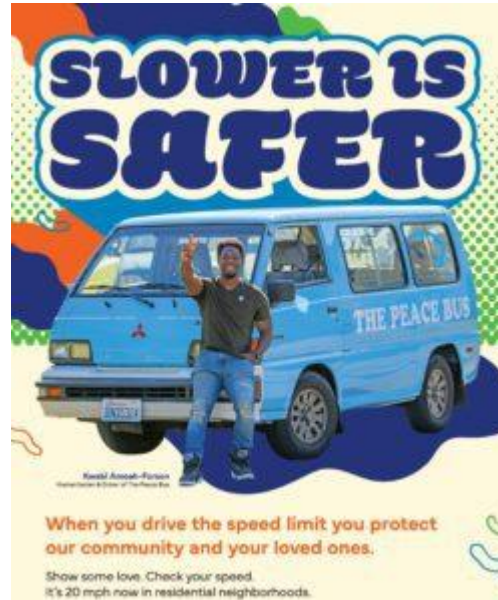
Reaction distance

Braking distance

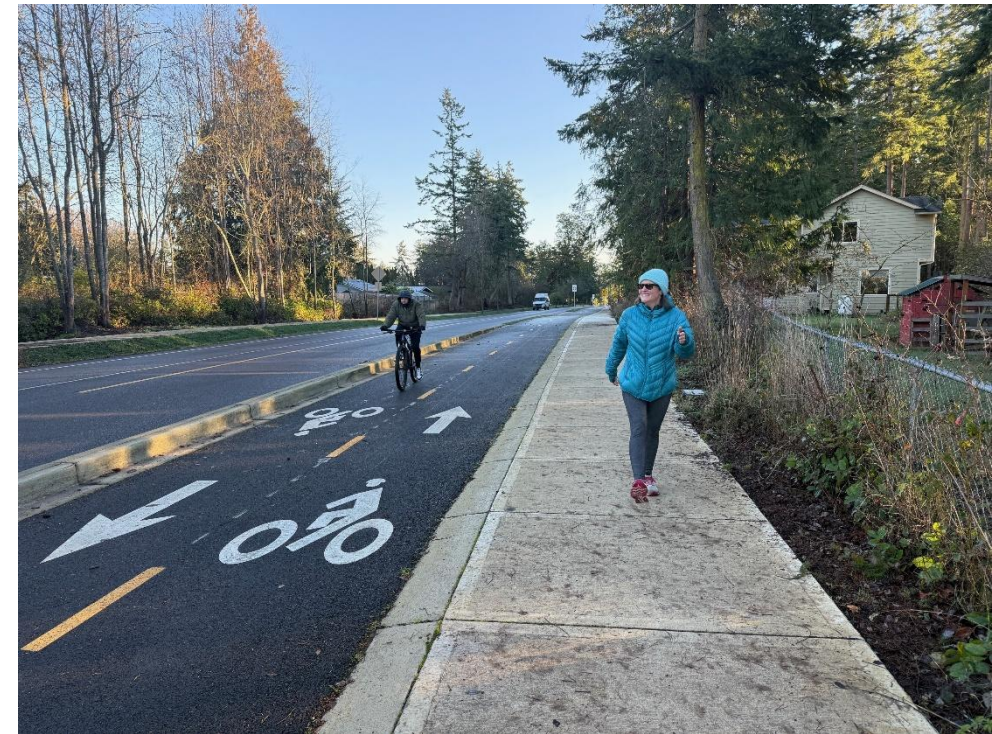
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# Many cities and counties have started this work

- Bainbridge Island
- Battle Ground
- Bellingham
- Bellevue
- Bothell
- Lake Forest Park
- King County
- Kirkland
- Okanogan County
- Seattle
- Spokane
- Tacoma
- White Salmon
- And more!



*Source: City of Tacoma*



*Source: Laura Parsons,  
City of Port Townsend*

# Contact

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## WSDOT Resources

- [Safe System Approach for Speed Management: A Handbook for Local Agencies in Washington State](#)
- [WSDOT Active Transportation Funding Programs](#)
- [Active Transportation Programs Design Guide](#)
- [Active Transportation Programs Quick Build Guide](#)
- [WTSC Street Lighting and Safety Study](#)
- [Active Transportation Planning Basics](#)

