

PROGRAMMATIC APPROACH *to Modifying Speed Limits*

APWA Fall Conference
October 9-10, 2024



PRESENTATION OVERVIEW

1. **Relationship** between Speed and Injury Severity.
2. **Case** studies of speed limit changes.
3. **Approach** to comprehensive speed limit changes
4. **Successes** of local communities utilizing this approach.
5. **Barriers** to implementation.
6. **Findings** and Recommendations.

APWA LEARNING OBJECTIVES

- Recognize the relationship between vehicle speeds and injuries/fatalities
- Learn about the latest research regarding new approaches to setting of speed limits
- Understand what successes local communities have experienced
- Identify the barriers to overcome challenges to modifying speed limits

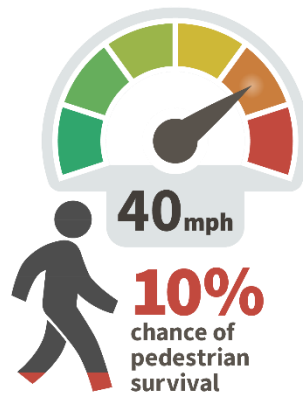
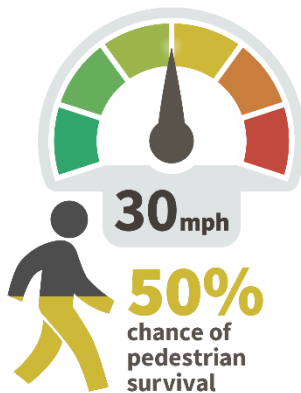
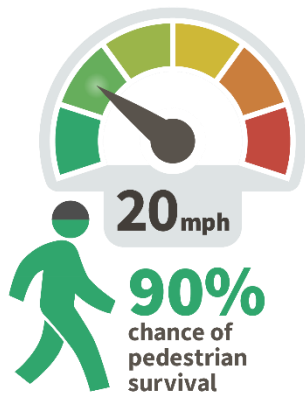
BASED UPON WORK OF THE COOPER JONES ACTIVE TRANSPORTATION COUNCIL

- Created by the State Legislature in 2019
- Supported by staff in the office of the Washington Traffic Safety Commission



Purpose: *Support and enhance existing and pending transportation safety efforts to reduce and eventually eliminate transportation-related fatalities and serious injuries involving people who walk, ride bicycles, or use other forms of active transportation in Washington State.*

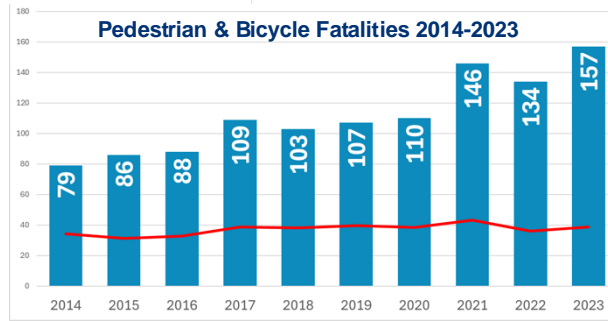
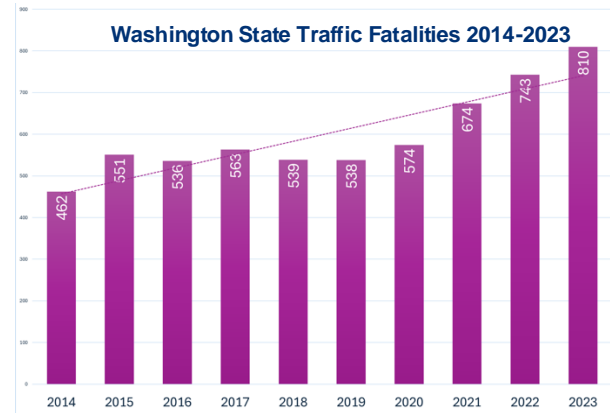
THE CASE FOR LOWER VEHICLE SPEEDS



- Vehicle speed is directly linked to crash severity
- Risks for walkers and cyclists increase exponentially as speeds increase

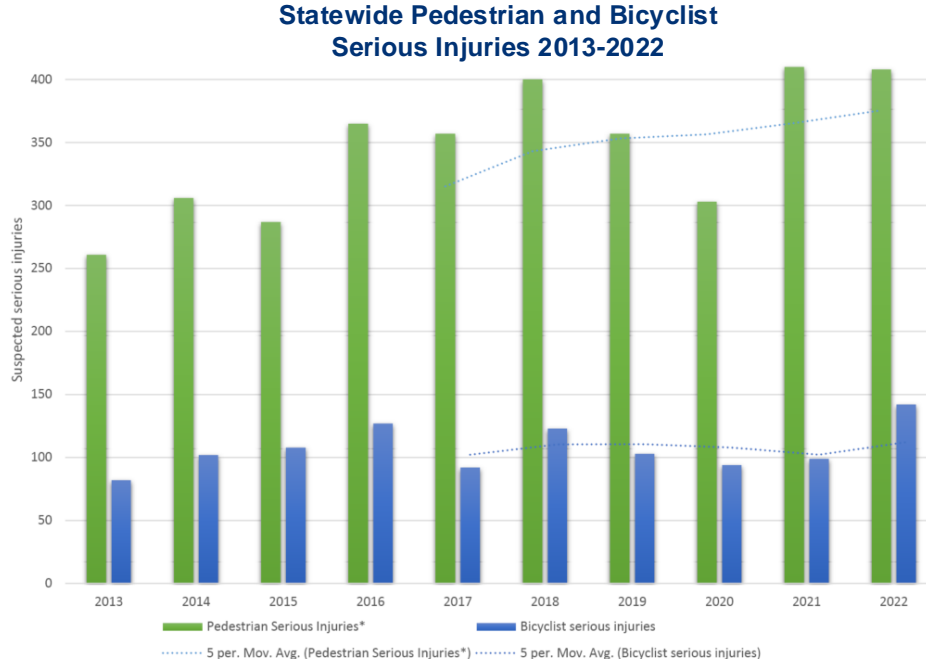
WHAT DOES THE CRASH DATA SHOW?

- Traffic related fatalities have increased significantly since 2019 in Washington
- Ped/bike fatalities have also increased significantly since 2020



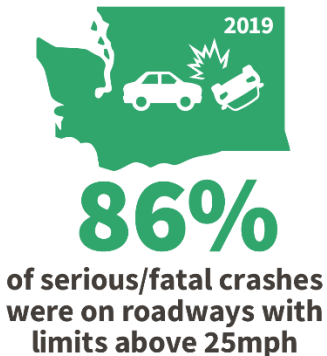
WHAT DOES THE CRASH DATA SHOW?

- Ped/bike related serious injuries also have increased significantly in 2020



CORRELATION TO SPEED LIMITS

Data supports the need to rethink how speed limits are set, especially in population centers where there is a higher mix of vulnerable users.



City of Shoreline



LAND USE AND TRAVEL CHOICES ARE CHANGING

- The land use context along our roadways has evolved since speed limits were first set
- More people are choosing to travel by other modes such as bus, foot, or bicycle



Speed limits have largely stayed unchanged for several decades

BUILDING ON RECENT WORK

Recent Publications focused on Reducing Speeds and Modifying Speed Limits

Washington State Injury Minimization and Speed Management Policy Elements and Implementation Recommendations

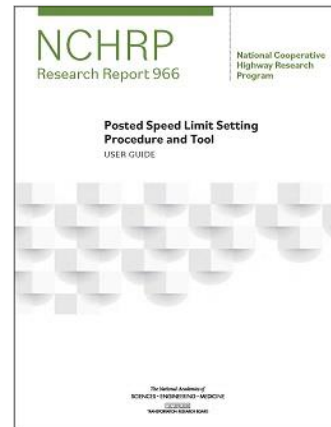
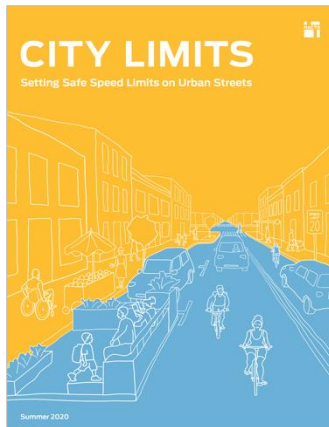
Prepared and Reviewed by:

Washington Injury Minimization and Speed Management Policy and Guidelines Workgroup

Members

Andrew Beagle, P.E. City of Olympia
Charlotte Claybrooke, WSDOT, Active Transportation Division (Facilitator)
Scott Davis, P.E. WSDOT, Headquarters (HQ) Traffic Operations, Formerly with Thurston County
Josh Diskmann, P.E. PTOE City of Tacoma (Active Transportation Safety Council Member)
John Deskins, P.E. City of Richland
Dangho Chang, P.E. Traffic Engineer, City of Seattle (Active Transportation Safety Council Member)
Mike Donfield, WSDOT, HQ Traffic Operations
Peter Eun, Transportation Safety Engineer, Federal Highway Administration, Resource Center, Safety and Design Team, Pedestrian Safety
Matthew Enders, P.E. WSDOT, HQ Local Programs
Will Hitchcock, Washington State Department of Health
Colleen Jollie, Retired WSDOT Tribal Liaison
Scott Linger, P.E. WSDOT Southwest Region, Assistant Region Traffic Engineer
Katherine Miller, P.E. City of Spokane
John Milton, Ph.D., P.E., RSP2, PTOE, WSDOT, HQ Transportation Safety & Systems Analysis, State Safety Engineer
Gabe Phillips, AICP WSDOT, HQ Multimodal Planning
Chris Schroedel, WSDOT, HQ Design Office & Lead for WSDOT Multimodal Technical Forum
Jeff Shea, P.E. Kitsap County
Ida Van Schalkwyk, Safety Engineer, WSDOT, HQ Design Office
Kirk Vinish, AICP Lummi Tribe
Scott Walker, Washington Traffic Safety Commission
Rayn Whitewolf, City of Blaine (WA City Design Standards Committee Member)
Chris Workman, P.E. Washington Transportation Improvement Board

October 2020



EXAMPLE CASE STUDIES

City of Boston

- Default citywide speed limit reduced from 30 MPH to 25 MPH in 2017
- Dramatically decreased high-end speeding – the number of vehicles traveling greater than 35 MPH declined by 30%



30%
decrease in
+35mph speeders

EXAMPLE CASE STUDIES

City of Toronto

- Speed limits lowered from 40 KPH to 30 KPH
- 28% decrease in the number of collisions between pedestrians and motor vehicles and a 67% decline in the number of fatal and serious injuries



EXAMPLE CASE STUDIES

City of Seattle

- Default citywide speed limit reduced to 25 MPH in 2020
- Case studies conducted in 2018 supported the change



CRASHES

22%

decrease
in all crashes

18%

decrease in
injury crashes

SPEEDS



10%

decrease
in 50th percentile

7%

decrease in
85th percentile

54%

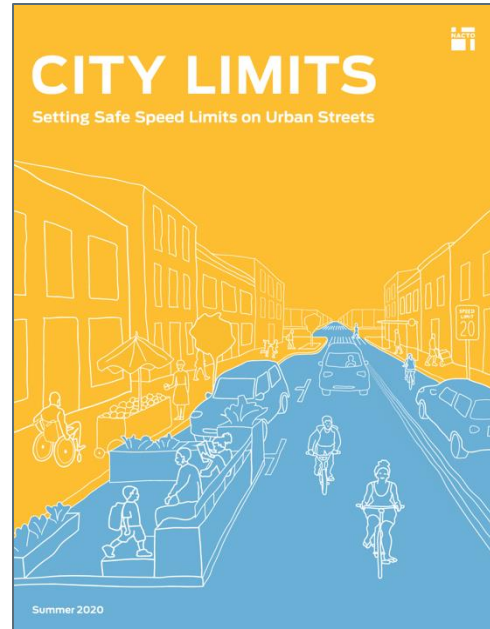
decrease in
40mph speeders

USING RESEARCH FROM *NACTO CITY LIMITS**

Provides a useful methodology
to approach programmatic speed
limit changes

- Set speed limits based on a methodology that measures conflict density and activity level
- Can be modified to fit the context of a community

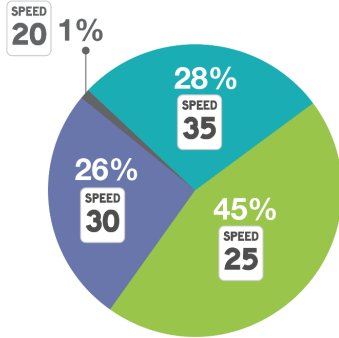
** Used as a starting point, but should be modified for each community*



**NACTO = National Association of
City Transportation Officials**

LOCAL EXAMPLE - BAINBRIDGE ISLAND

- Speed limits have not been set consistently in the past
- Similar roadways have different speed limits



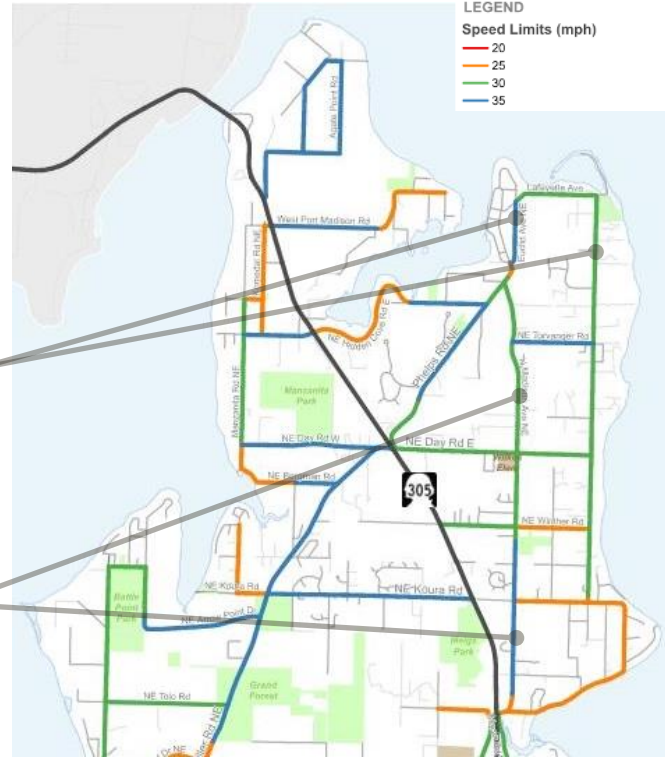
Posted speed limits on Bainbridge Island arterials/collectors

Example #1







Euclid Ave is 35 MPH and Sunrise Dr is 30 MPH, but they have similar roadway characteristics

Example #2

N Madison Ave is 35 MPH on southern segment, but 30 MPH to the north



ADOPTED SPEED LIMIT SETTING METHODOLOGY FOR BAINBRIDGE ISLAND

Multimodal Safety Index	Roadway Context		
	 A	 B	 C
 1	SPEED 20	SPEED 25	SPEED 25
 2	SPEED 25	SPEED 25	SPEED 30
 3	SPEED 25	SPEED 30	SPEED 35

Multimodal / Safety Index

- History of safety issues
- Ped/bike activity

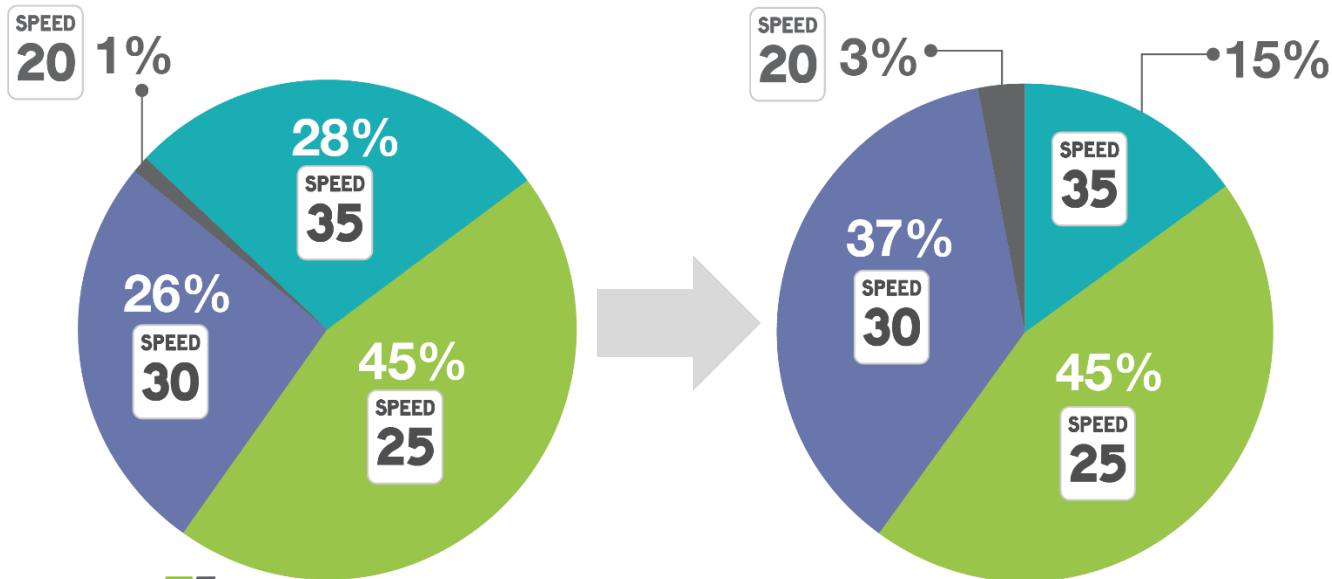
Roadway Context*

- Adjoining land uses, urban/rural character
- Roadway geometrics and topography
- Driveway density and intersection spacing

**Arterials & Collectors Only*

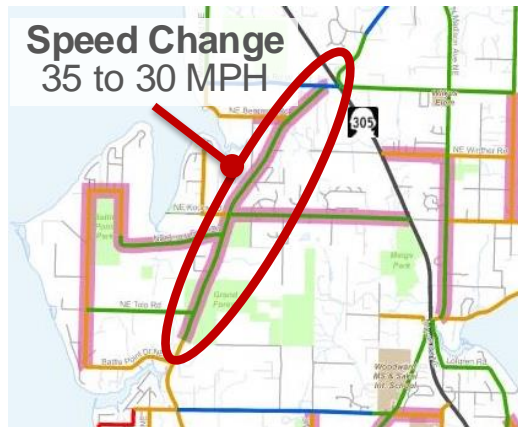
OVERVIEW OF THE CHANGES

Secondary Arterials & Collectors (92 miles)



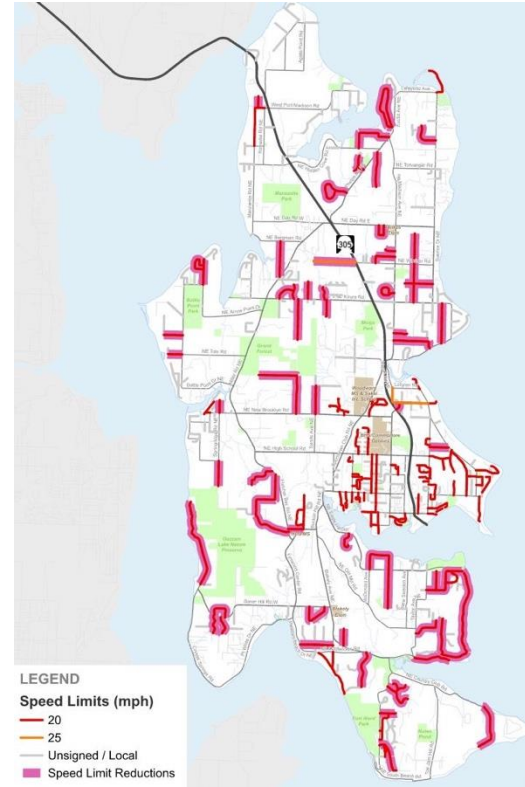
EXAMPLE – MILLER ROAD NE

Multimodal Safety Index	Roadway Context		
	A	B	C
			
	1	2	3
	SPEED 20	SPEED 25	SPEED 25
	SPEED 25	SPEED 25	SPEED 30
	SPEED 25	SPEED 30	SPEED 35



LOCAL ACCESS STREETS

- Roadways not designated as secondary or collectors, are “local access” streets
- Primarily serve residential areas, are low volume and low speed
- Approximately 58 miles of local access streets on the island
- RCW 46.61.415 allows local jurisdictions to “*establish a maximum speed limit of 20 MPH*” and may do so without an engineering and traffic investigation



BAINBRIDGE ISLAND RESULTS



- **Adopted a new speed limit setting methodology** based on the NACTO City Limits.
- **Modified the posted speed limits** on secondary and collector arterials based on the new speed limit setting procedures.
- Set the default speed limit to 20 MPH for all public streets classified as “local access,” as allowed under RCW 46.61.415

CITY OF LAKE FOREST PARK

Local Context

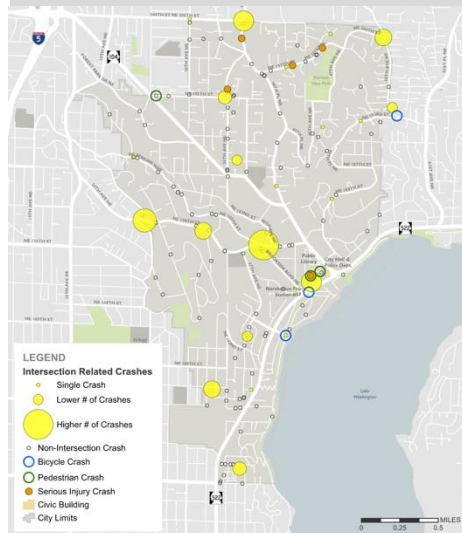
- 13.2 miles of designated arterials and collectors
- Posted speed limits range from 25 to 30 MPH on City arterials and collectors
- 20 MPH on some local streets
- Collected and reviewed traffic and speed data throughout the City



APPROACH TO THE STUDY

Considered a range of different data sets

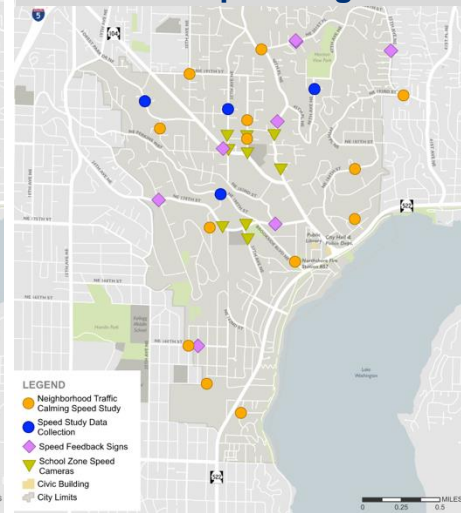
Crash History



Functional Classification



Enforcement Cameras & Radar Speed Signs

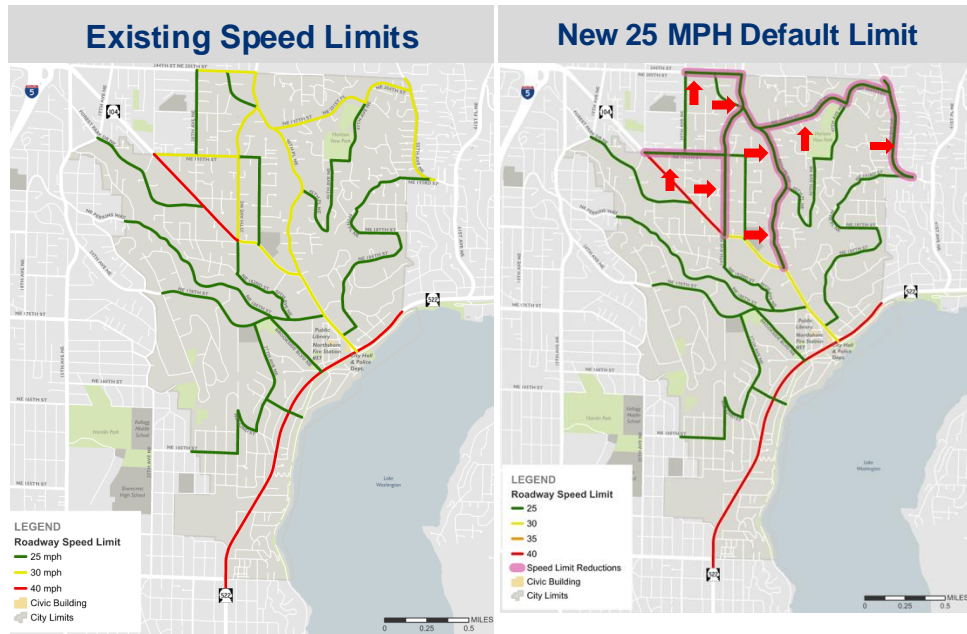


CONSIDERED 3 OPTIONS FOR MODIFYING SPEED LIMITS

1. Use methodology based primarily on 85th percentile speeds and other speed related data
2. Use tailored *City Limits* methodology based on a variety of roadway segment data
3. Set default speed limit on all arterial and collector roadways, and provide guidelines for exceptions, if needed

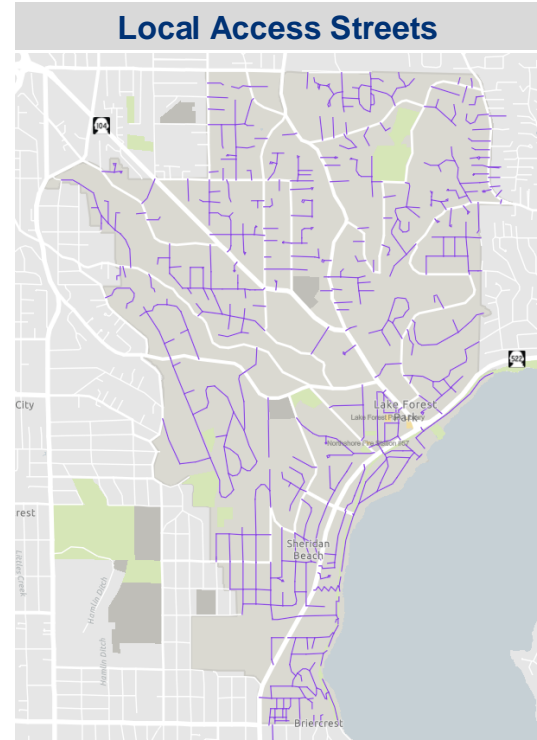
CHOSE OPTION 3 – DEFAULT 25 MPH LIMIT ON ARTERIALS/COLLECTORS

- Speed limit lowered from 30 to 25 MPH on all existing 30 mph roadways
- Additional enforcement and traffic calming recommended for a couple segments before modifying speed limit



LAKE FOREST PARK RESULTS

- Adopted a default 25 MPH speed limit for arterials/collectors.
- Modified the speed limit to 20 MPH for all public streets classified as “local access,” as allowed under RCW 46.61.415



IMPLEMENTATION STEPS TAKEN IN LAKE FOREST PARK



1. Broad community outreach to inform users about the revised speed limits
2. Increased enforcement with warnings for a period of time after implementation
3. Considered traffic calming measures or automated enforcement at problem locations
4. Currently monitoring results and could make additional changes

Photo: Mayor of Salt Lake City after passage of legislation changing the speed limit on local streets to 20 MPH

BARRIERS TO MODIFYING SPEED LIMITS



Costs / Resources

- Agency fiscal constraints, difficult to maintain existing transportation system
- Capacity of staff to manage changes
- Need for extensive education and outreach



Public Opinion / Internal Support

- Concern about increasing travel times for the public and emergency responders
- Lack of priority by elected officials due to controversial nature of the subject

BARRIERS TO MODIFYING SPEED LIMITS



Existing Codes, Standards, and Policies

- Outdated design standards and policies
- Authority to modify speed limits typically at political level
- Guidelines and standards have not embraced all contextual factors



Enforcement

- Belief that speeding is inevitable without enforcement
- Concern that speed limit changes are driven by revenue goals
- Limited capacity of police
- Automated speed enforcement not widely accepted

BARRIERS TO MODIFYING SPEED LIMITS



Educating the Transportation Community

- Limited awareness of relatively new guidance and research
- Overreliance on speed data



Lack of Data / Supporting Research

- Little published data on the impact of comprehensive speed limit changes alone
- Outdated studies that indicate no benefits from posted speed limit reduction

KEY FINDINGS



- Despite Target Zero and other efforts to reduce fatalities and serious injury crashes, **numbers are not decreasing fast enough**
- Speed limit signage alone can **make a difference in lowering speed limits** if performed in a comprehensive manner
- Many cities and counties in Washington State are already **re-thinking how they set speed limits**

RECOMMENDATIONS



- Encourage agencies to **adopt regulations and policies** that give greater consideration to land use context in setting of speed limits
- **Provide training and develop guidance and standards** to support city/county wide speed limit changes, rather than case-by-case

RECOMMENDATIONS



- Develop statewide **access to collision, traffic volume, and speed data** tools for local agencies to utilize
- Create **funding options or modify existing grant programs** to allow projects that examine **areawide speed limit changes** or within school/walking zones, or business districts

CONTACT

Jon Pascal
Principal at Transpo Group



jon.pascal@transpogroup.com



[wtsa.wa.gov/programs-priorities/
active-transportation-safety-council/](https://wtsa.wa.gov/programs-priorities/active-transportation-safety-council/)



Q&A

