



TARGET ZERO

SEAT BELT USE IN WASHINGTON STATE – RESULTS FROM THE 2018 SURVEY

STACI HOFF, PHD, RESEARCH DIRECTOR

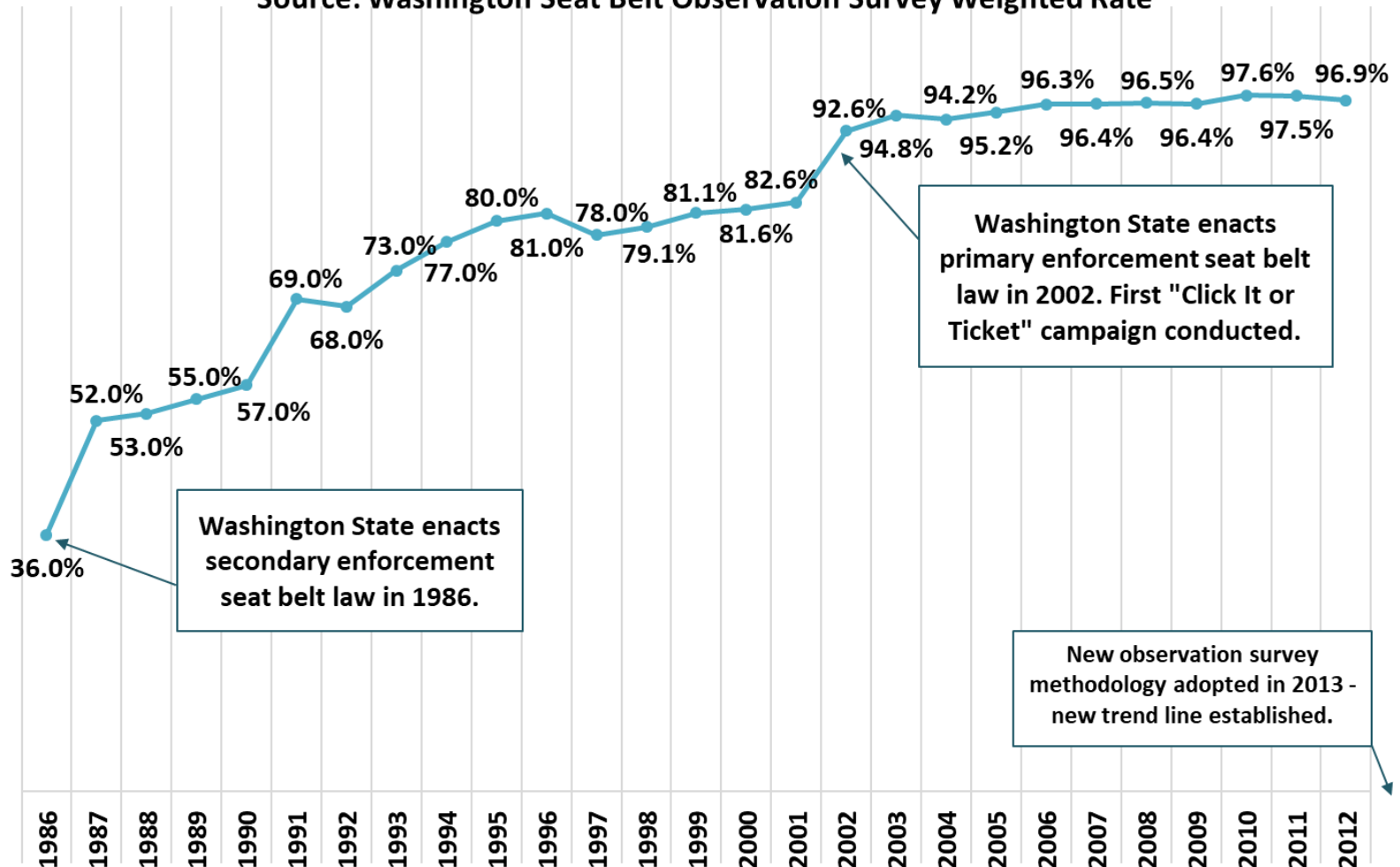
WASHINGTON HAS CONDUCTED A SEAT BELT USE SURVEY ANNUALLY SINCE 1986



Seat Belt Use Rates in Washington State 1986-2012

Percent of Front Seat Motor Vehicle Occupants Using Seat Belts

Source: Washington Seat Belt Observation Survey Weighted Rate



THE DESIGN WAS UPDATED EFFECTIVE 2013



Limitations of the method through 2012:

- The survey had been conducted at the same sites since 1986 (with the exception of Franklin county being added to the sample in 1996).
- The survey was designed for State Routes and “all others” road type categorizations only – sampling was based on an assumed 60/40 VMT split that had not been verified since 1986.
- No minimum thresholds for standard errors, data collection QA visits, or non-response.



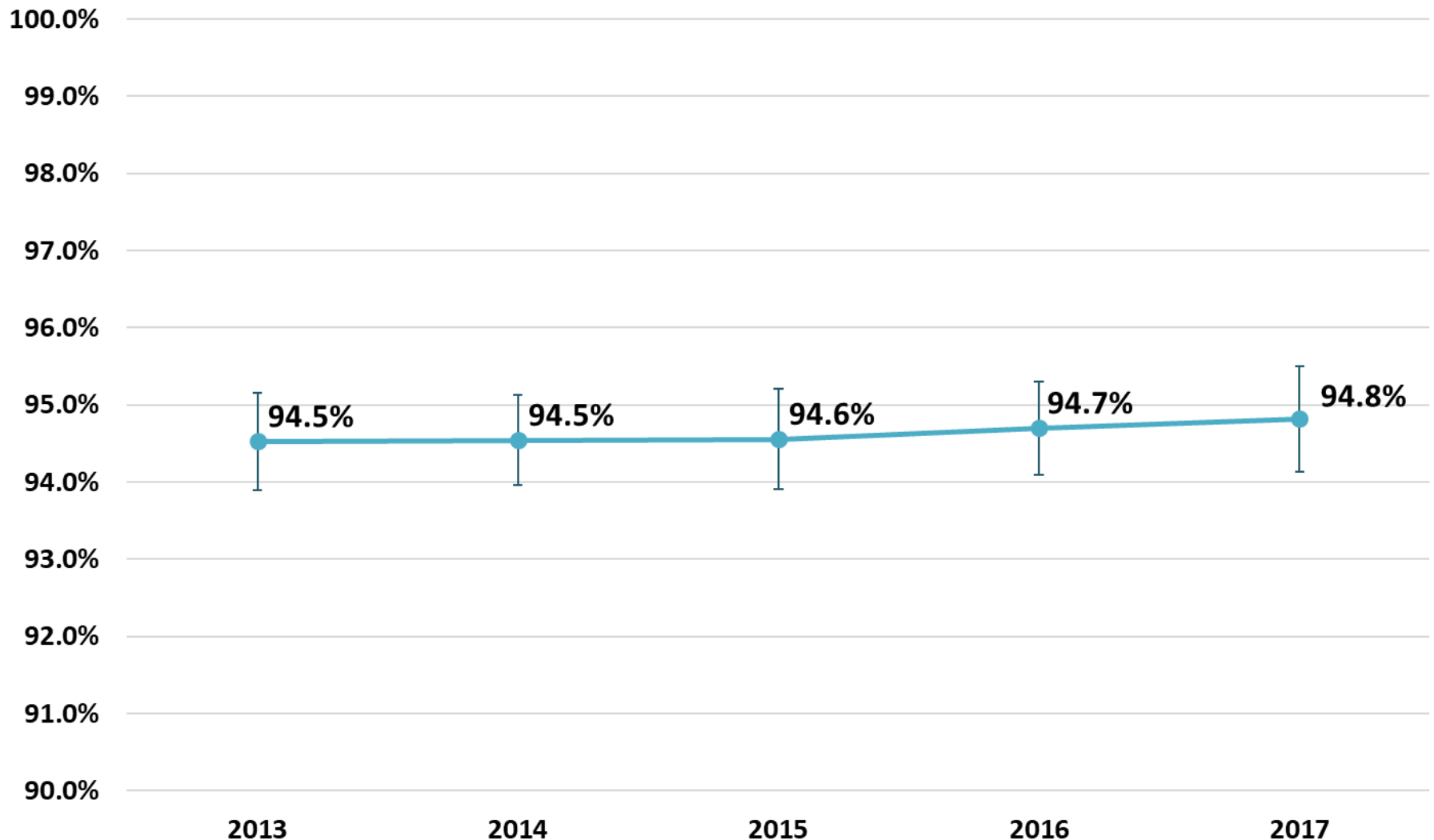
Required Upgrades to the survey effective 2013:

- New site sample every five years (in counties comprising at least 85% of all traffic fatalities).
- Standard error (variance estimation) threshold not to exceed 2.5%.
- QA Monitors must visit at least 5% of the survey sites to observe data collection.
- Limits non-response to 10% or less.
- Prior to collecting data in 2013, the WTSC and NHTSA agreed that a NEW TREND would be established due to the significant changes in methodology (NHTSA only uses our survey for single year funding decisions)

Seat Belt Use Rates in Washington State 2013-2017

Percent of Front Seat Motor Vehicle Occupants Using Seat Belts

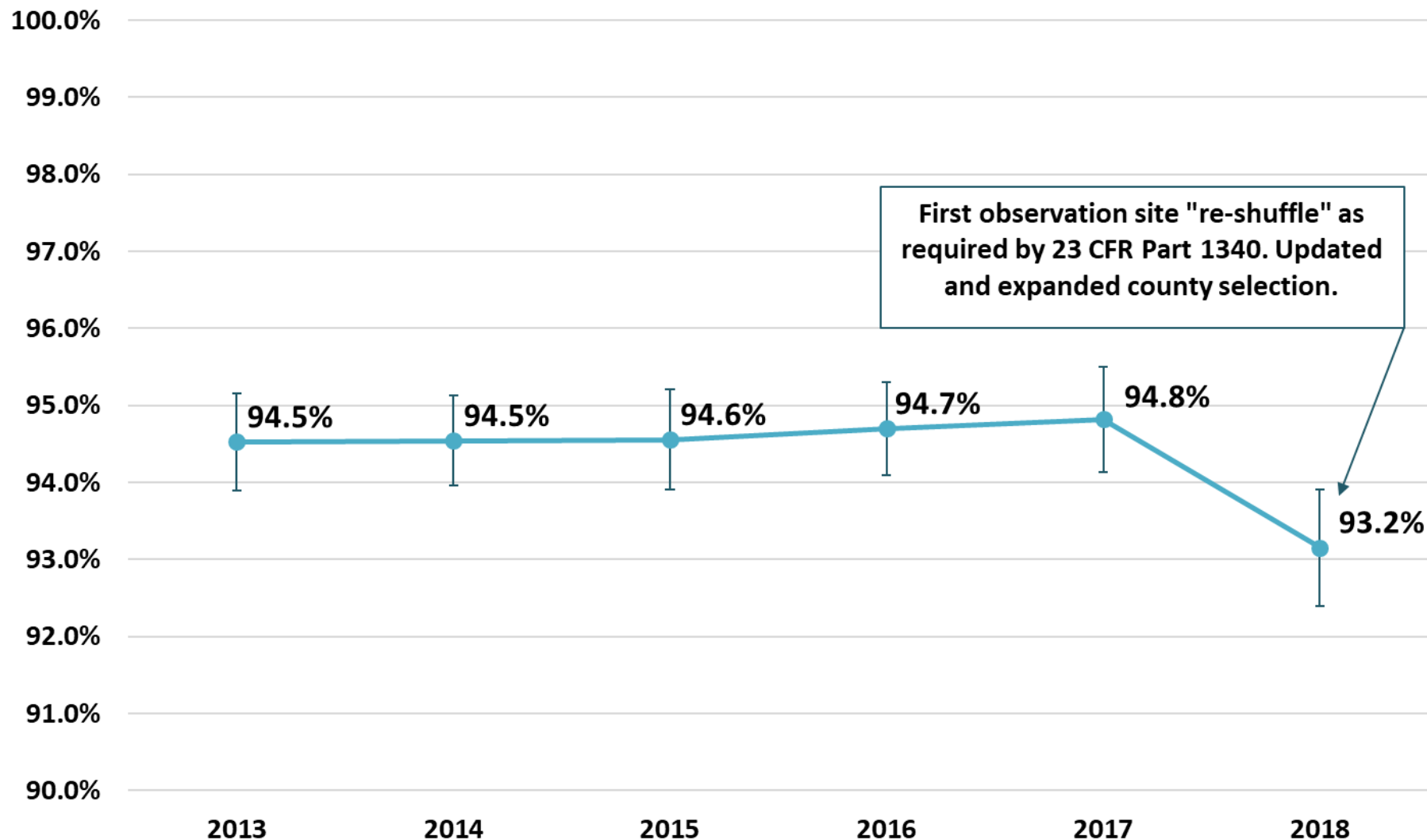
Source: Washington Seat Belt Observation Survey Weighted Rate



Seat Belt Use Rates in Washington State 2013-2018

Percent of Front Seat Motor Vehicle Occupants Using Seat Belts

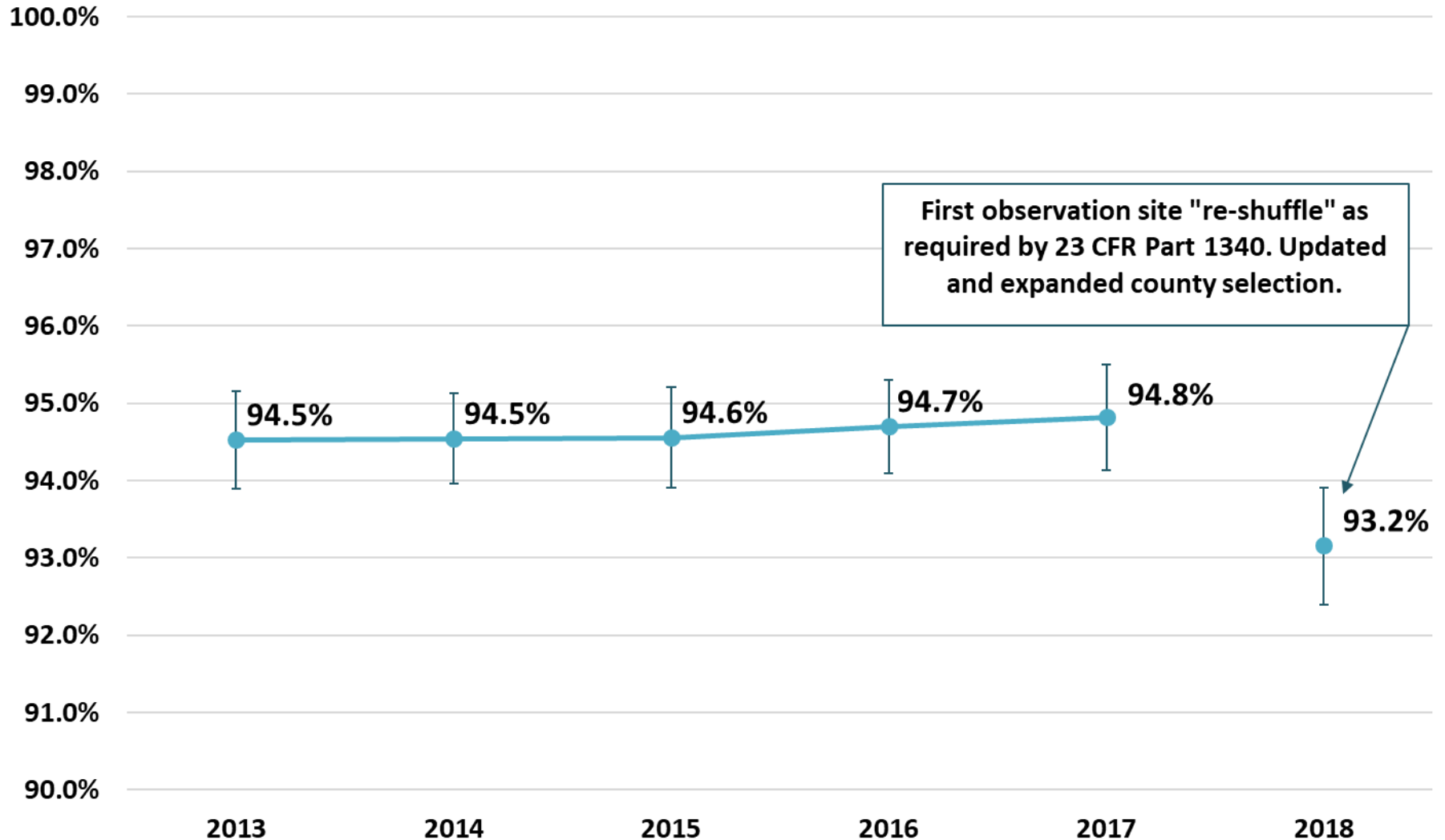
Source: Washington Seat Belt Observation Survey Weighted Rate



Seat Belt Use Rates in Washington State 2013-2018

Percent of Front Seat Motor Vehicle Occupants Using Seat Belts

Source: Washington Seat Belt Observation Survey Weighted Rate



NEW SAMPLE FOR 2018-2022



Minimum Req – Include counties that account for 85% of statewide passenger vehicle occupant traffic fatalities

WA Optional – Include counties with 1) more than 10 or more than 1% of statewide UNRESTRAINED fatalities and SERIOUS INJURIES then b) with a county proportion of unrestrained fatalities + serious injuries greater than 20%

County 2012-2016	Unrestrained Fatalities and Serious Injuries	Percent of Statewide Total Unrestrained Fatalities and Serious Injuries	Percent of Total County Fatalities and Serious Injuries	
Island	15	0.9%	11.5%	2) Exclude counties a) comprising less than 1% of statewide unrestrained fatalities and serious injuries AND b) have a county unrestrained proportion of less than 20%.
Klickitat	14	0.9%	16.7%	
Adams	14	0.9%	13.7%	
Douglas	14	0.9%	12.7%	
Lincoln	13	0.8%	27.7%	
Clallam	12	0.7%	8.6%	
Whitman	11	0.7%	11.2%	
Skamania	10	0.6%	16.1%	
Pacific	7	0.4%	14.0%	1) Exclude counties with less than 10 total unrestrained fatalities and serious injuries in the most recent five years.
Wahkiakum	5	0.3%	38.5%	
San Juan	3	0.2%	14.3%	
Asotin	3	0.2%	11.5%	
Columbia	1	0.1%	4.3%	
Garfield	0	0.0%	0.0%	

INCREASED THE NUMBER OF SAMPLE COUNTIES FROM 21 TO 26



DROPPED Whitman County (11 total, 0.7% of state, 11.2% county proportion)

ADDED Chelan, Ferry, Jefferson, Lincoln, Pend Oreille, Walla Walla

Results for all surveyed counties from 2013 now included in the appendix

INCREASED ROAD SAMPLING CATEGORIZATION

Through 2017 = Major (state roads) and Non-major/Minor (City and County Roads) – sampled 60%/40% based on presumed VMT split

2018 and Later = State (56%), City Streets (27%), and County Roads (17%)

USED A SINGLE ROAD SEGMENT DATA SOURCE

No need for the less than accurate spatial join between local and national data

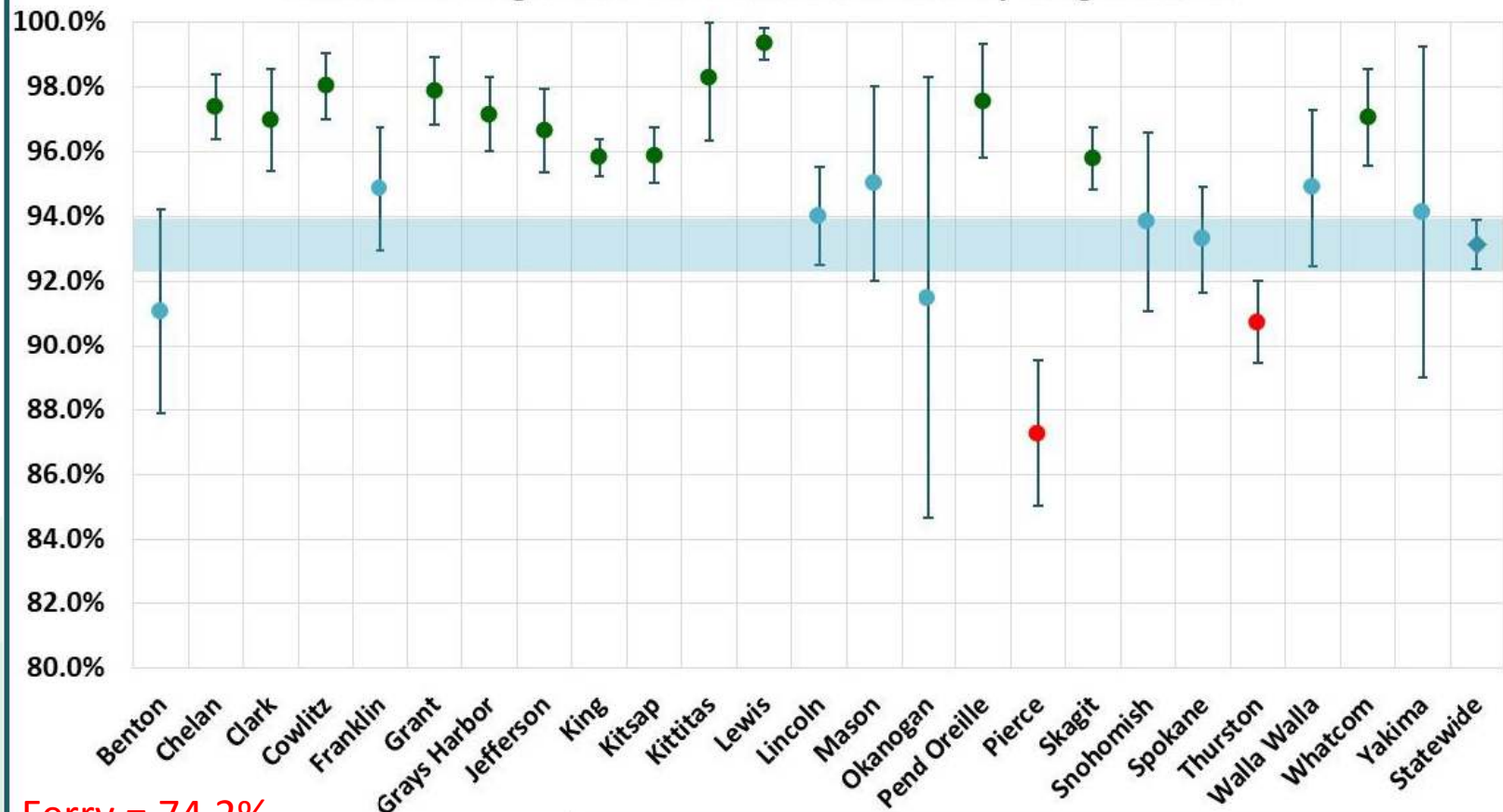
Better able to execute exclusion criteria (non-public roads, unnamed roads, unpaved roads, vehicular trails, access ramps, cul-de-sacs, traffic circles, and service drives).

Increased site accuracy means less sites, decreased number of sites from 452 to 375 (plus two-person data collection teams means more lanes can be observed).

INCREASED THE NUMBER OF COUNTIES



Seat Belt Use Rates in Washington State by Sampled County, 2018
Percent of Front Seat Motor Vehicle Occupants Using Seat Belts
Source: Washington Seat Belt Observation Survey Weighted Rate



Ferry = 74.2%

Estimates for Ferry and Stevens County are not included on the chart due to a standard error >5%.

The shaded area shows the range of the statewide estimate within a 95% confidence interval. Counties with GREEN dots have higher than state average seat belt use rates and counties with RED dots have lower than state average seat belt use rates.

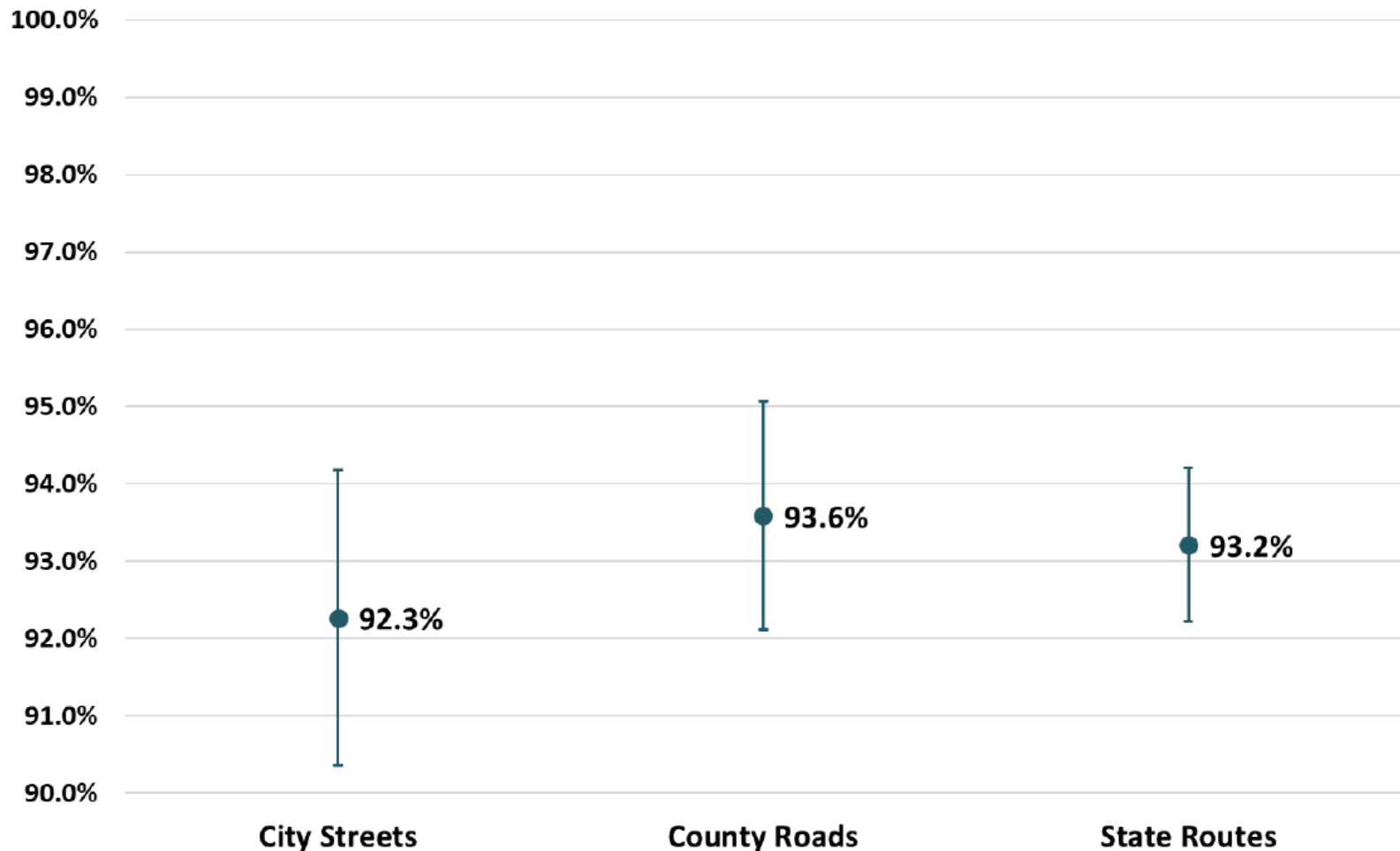
ROAD SAMPLE CATEGORIZATION



Seat Belt Use Rates in Washington State by Road Type, 2018

Percent of Front Seat Motor Vehicle Occupants Using Seat Belts

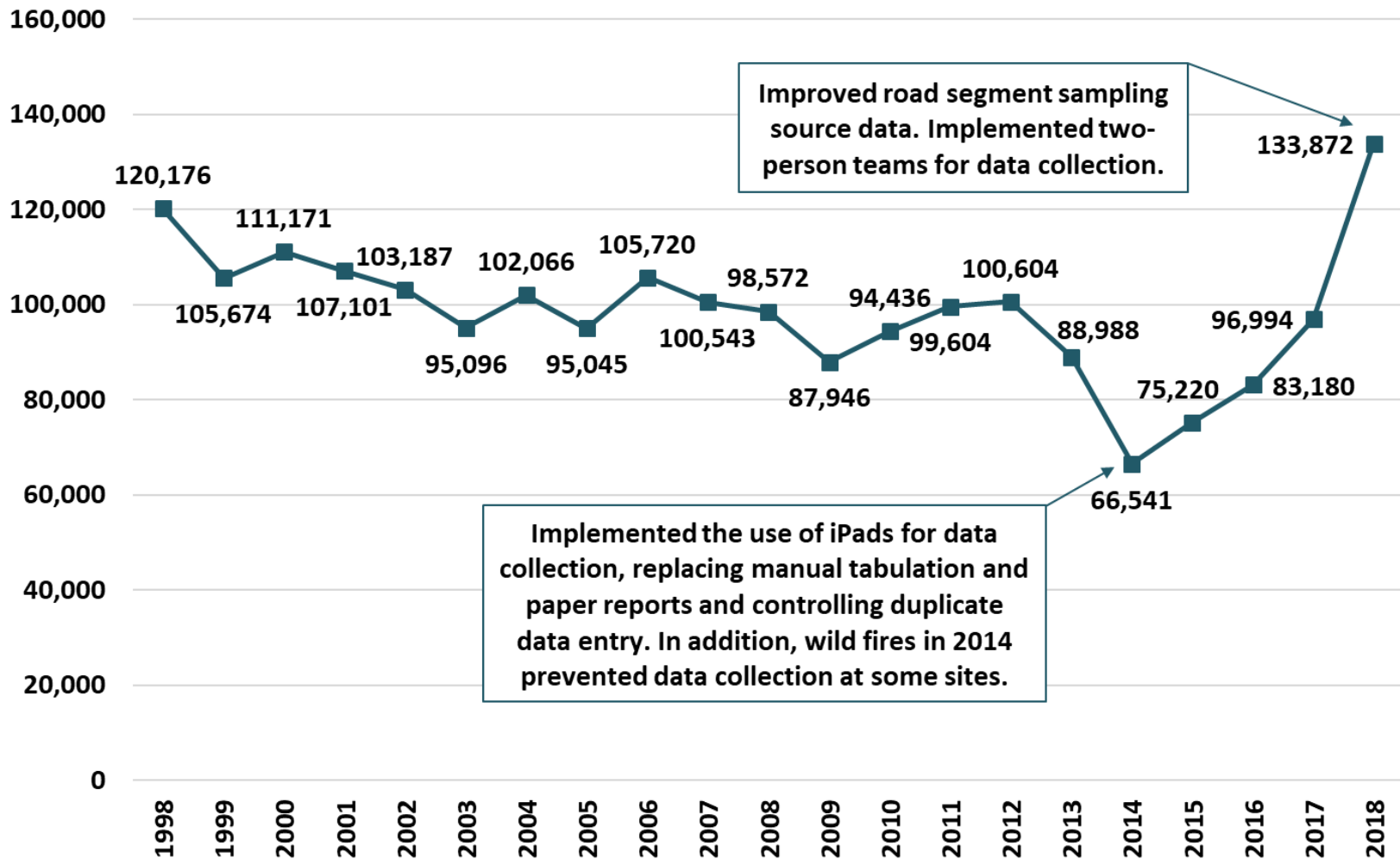
Source: Washington Seat Belt Observation Survey Weighted Rate



ROAD SEGMENT DATA + TWO-PERSON TEAMS



Total Number of Front Seat Motor Vehicle Occupant Seat Belt Observations Collected During the Annual Washington State Seat Belt Observation Surveys, 1998-2018



HOW DO WE COMPARE?



Ranking	State	2017 Seat Belt Use Rate
Highest Seat Belt Use Rates in the U.S.		
1	Georgia	97.1%
2	Hawaii	96.9%
3	Oregon	96.8%
4	California	96.2%
5	Washington	94.8%
U.S. Rate		89.7%
Lowest Seat Belt Use Rates in the U.S.		
52	Mississippi	78.8%
53	Montana	78.0%
54	South Dakota	74.8%
55	Massachusetts	73.7%
56	New Hampshire	67.6%

Total U.S. comparisons include the 50 United States, the District of Columbia (D.C.), Puerto Rico, American Samoa, Guam, No. Mariana Islands, and the U.S. Virgin Islands

FOR MORE INFORMATION:



Full 2018 Report http://wtsc.wa.gov/wp-content/uploads/dlm_uploads/2018/08/Washington-2018-Seat-Belt-Use-REPORT.pdf

WTSC Program Page <https://wtsc.wa.gov/programs-priorities/seat-belts-child-restraints/>

Seat Belt Use in 2017 – Rates in the U.S. and Territories (2018 expected ~June 2019)
<https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812546>

CDC – MV Safety, Seat Belts
<https://www.cdc.gov/motorvehiclesafety/seatbelts/index.html>

CDC MVPICCS <https://www.cdc.gov/motorvehiclesafety/calculator/index.html>

EVERY YEAR WASHINGTON'S PRIMARY ENFORCEMENT SEAT BELT LAW PREVENTS 26 DEATHS AND 2,478 INJURIES, RESULTING IN AN ESTIMATED MONETARY BENEFIT OF \$104.84M EVERY YEAR! WHEN COMBINED WITH THE ANNUAL SEAT BELT ENFORCEMENT CAMPAIGN, AN ADDITIONAL 20 LIVES ARE SAVED AND 1,912 INJURIES PREVENTED (\$185.63M MONETARY BENEFIT).

THAT IS 46 LIVES SAVED IN WASHINGTON EVERY YEAR!

TARGET ZERO

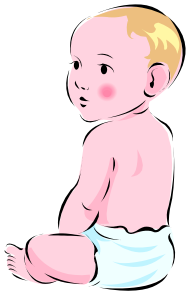
The graphic for the word 'ZERO' features a stylized road with white dashed lines curving through a green circular background.

WASHINGTON STATE
CHILD PASSENGER SAFETY

Structure

- * National Highway Traffic Safety Administration (NHTSA)
 - * Washington Traffic Safety Commission (WTSC)
 - * Washington Child Passenger Safety (CPS) Program
 - * Bonney Lake Police Department
 - * Project Manager

A Crash



10 lbs

(weight of object)

30 mph

(rate of speed)

300 lbs

(energy/crash force)

Washington Data

In Washington, between 2010 and 2017

- * 67 child vehicle occupants ages 12 and younger died in traffic crashes
- * 14 of those children were unrestrained
- * 21 were restrained with only the seat belt system (whereas a booster seat may have improved occupant protection)
- * 10 were riding in an illegal position (front seat or cargo area).

Washington Data – car seat use errors

Results from 1,346 car seat inspections conducted in Washington State

- * 30% child restraint direction
- * 73% harness
- * 55% recline angle
- * 78% lower anchors
- * 93% tether
- * 80% seat belt

Washington Data – car seat use errors

- * Regardless of the car seat being used installation is basically the same.
- * ***What locks?***
- * A child restraint is installed with a seat belt or the **L**ower **A**nchors and/or **T**ether (LATCH) system.

Washington Data – car seat use errors

78% lower anchors
93% tether
80% seat belt



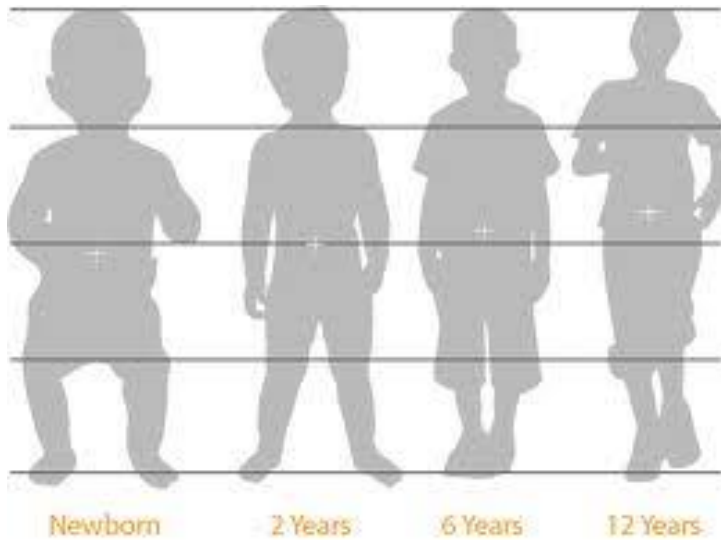
A concern...

Nationwide, car crashes are a leading killer of children 1 through 13. Many times deaths and injuries can be prevented by proper use of car seats, booster seats, and seat belts.

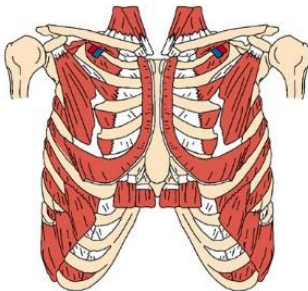


A concern... cont'd

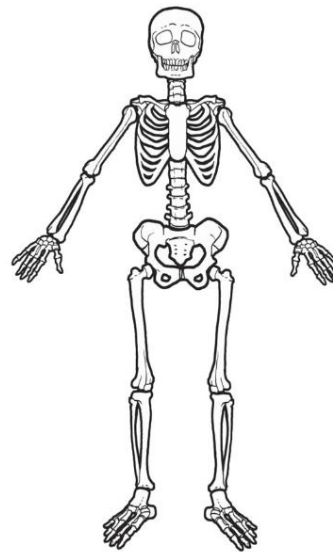
Size of Head



Muscles



Bones



Internal Organs



Addressing the Concern

CHILD RESTRAINTS – when used correctly

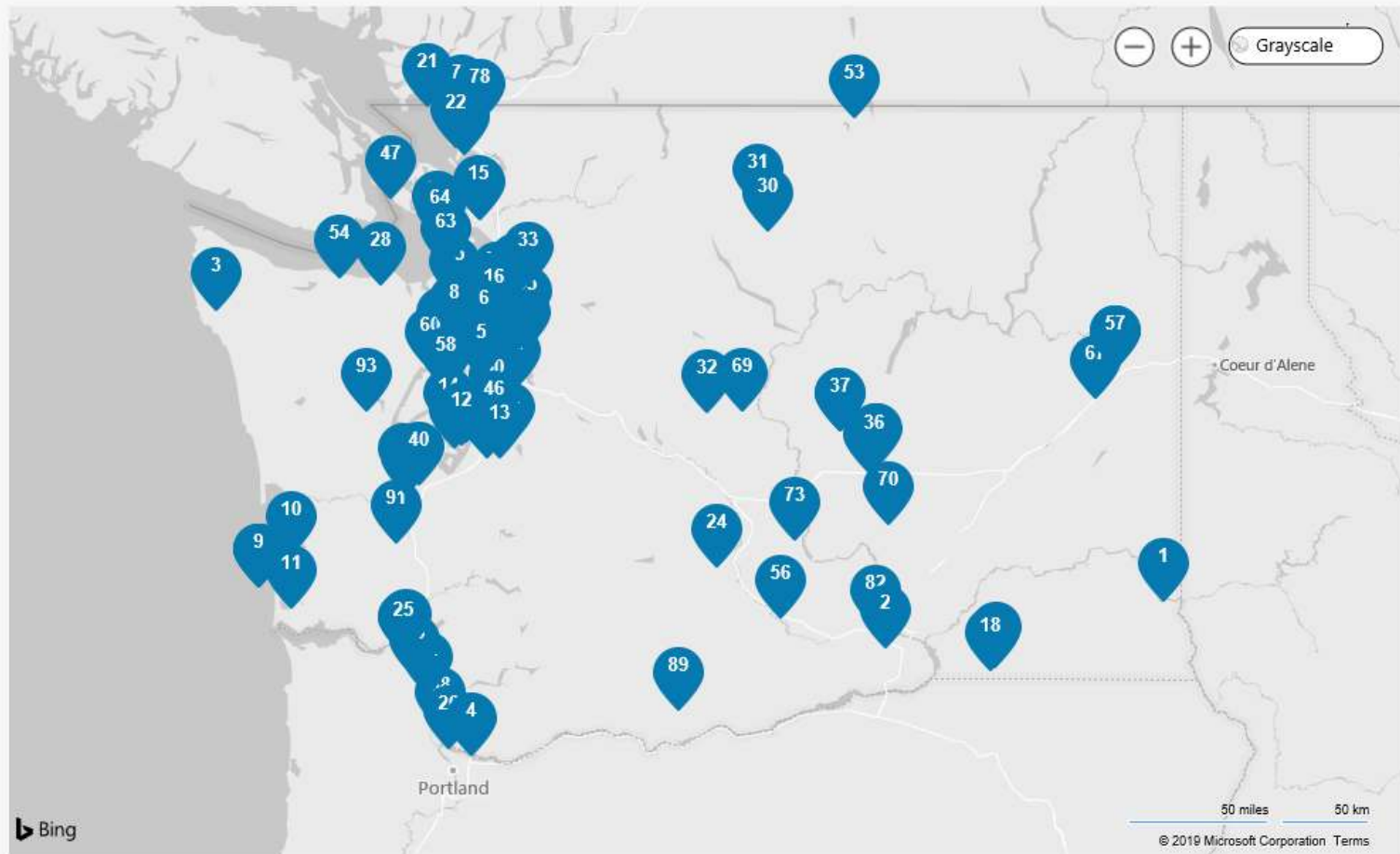
- * 71% effective in reducing deaths for infants
- * 54% effective in reducing deaths for toddlers
- * 69% reduction in need for hospitalization

Addressing the Concern

- * **WASHINGTON CHILD RESTRAINT LAW RCW 46.61.687**
- * **Vehicle occupants of any age and size must be restrained properly.** The driver is held responsible for properly securing all passengers under the age of 16.
- * **Children under age 13 must ride in the back seat,** whenever practical to do so.
- * **Children must ride in an appropriate car safety seat until they reach age 8 or 4'9" tall,** whichever comes first. Car and booster seats must be used according to the manufacturer's instructions.
- * **Children who have reached age 8 or 4'9" tall may ride in an adult seat belt if it fits properly.** If the seat belt cannot be adjusted properly on the child's body, continue to use a car safety seat until it does.
- * **Under age 2, rear-facing; under age 4, harness seat; under 4'9" tall; referencing 8 to 12 years for booster seat use until proper fit is accomplished from the seat belt**

Addressing the Concern

Network of car seat inspection stations



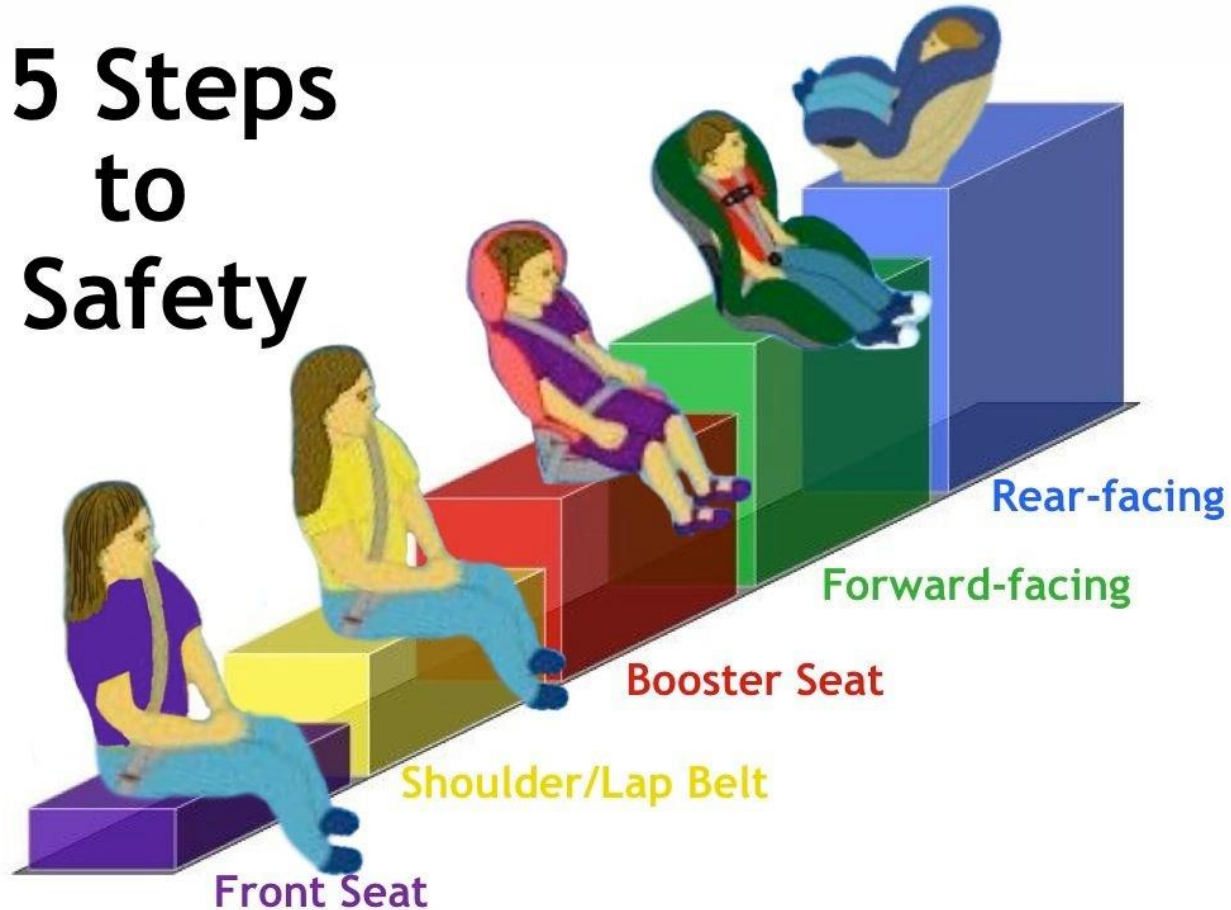
Addressing the Concern

Car seats efforts in 2018

- * 14 CPST courses
- * 136 car seat technicians trained
- * 7,225 car seats inspected
- * 3679 car seats distributed

Addressing the Concern

5 Steps to Safety



Addressing the Concern



Base with Load Leg

ANTI-REBOUND BAR
protects baby by minimizing forces in case of a rear collision

An ENERGY MANAGEMENT FOOT at the bottom of the Load Leg activates during a crash by crumpling and absorbing energy from baby



Addressing the Concern



Five Steps to Safety...



Step 1: Rear-facing Car Seat



Five steps of best practice...



Step 2: Forward-facing car seat

Five steps of best practice...



Step 3: Booster seat

Five steps of best practice...

A child can ride **safely**
with**out** a booster
when they pass the 5 Step Test



(C) TheCarSeatLady.com

Most kids are 10-12 years old before they pass

Five steps of best practice...



Step 4: Lap-and-shoulder seat belt in the **back seat**

Five steps of best practice...

Step 5: Lap-and-shoulder seat belt in the **front seat**
(age 13+)



Resources

Car Seat Safety



Need some car seat help?
VISIT

<https://www.safercar.gov/>



Learn how to:

- Find the right car seat
- Install it correctly
- Keep your child safe in their car seat
- Locate car seat inspection services

**TARGET
ZERO**
WASHINGTON STATE
CHILD PROTECTION OFFICE



I love my
Car Seat



NHTSA
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Resources

Online Training for Law Enforcement

Do You Feel Comfortable
Addressing Child Restraint Use?



This online training provides an overview of
correct child restraint use and a review of
Washington's Child Restraint Law RCW 46.61.687

<http://carseatawarenessforle.com>



- No Cost -

- Takes Less than an Hour -

- Provides in-Service Training Credit -



REAR-FACING



FORWARD-FACING



BOOSTER SEAT



SEAT BELT

Casi Velez, Project Manager
velezc@ci.bonney-lake.wa.us • 253-447-3257

Resources

Continued from Front

To determine if the child restraint system in use is appropriate for the child's individual height, weight, and age.

- (3) A person violating subsection (1) of this section may be issued a notice of traffic infraction under chapter 46.63 RCW. If the person to whom the notice was issued presents proof of acquisition of an approved child passenger restraint system or a child booster seat, as appropriate, within seven days to the jurisdiction issuing the notice and the person has not previously had a violation of this section dismissed, the jurisdiction shall dismiss the notice of traffic infraction.

- (5) **This section does not apply to:** (a) For hire vehicles, (b) vehicles designed to transport sixteen or less passengers, including the driver, operated by auto transportation companies, as defined in RCW 81.68.010, (c) vehicles providing customer shuttle service between parking, convention, and hotel facilities, and airport terminals, and (d) school buses.

- (7) The requirements of subsection (1) of this section do not apply in any seating position where there is only a lap belt available and the child weighs more than forty pounds.

To locate a child passenger safety technician in your community visit
www.safercar.gov

Washington's Child Passenger Safety Law

RCW 46.61.687 (not in its entirety)
Covers all passengers under 16 years of age.
Driver receives notice of infraction.

- (1)(a) A child must be restrained in a child restraint system, if the passenger seating position equipped with a safety belt system allows sufficient space for installation, until the child is eight years old, unless the child is four feet nine inches or taller. The child restraint system must comply with standards of the United States department of transportation and must be secured in the vehicle in accordance with instructions of the vehicle manufacturer and the child restraint system manufacturer.

- (b) A child who is eight years of age or older or four feet nine inches or taller shall be properly restrained with the motor vehicle's safety belt properly adjusted and fastened around the child's body or an appropriately fitting child restraint system.

- (c) The driver of a vehicle transporting a child who is under thirteen years old shall transport the child in the back seat positions in the vehicle where it is practical to do so.

- (2) Enforcement of subsection (1) of this section is subject to a visual inspection by law enforcement.

Continued on Back

Ages	Birth	1	2	3	4	5	6	7	8	9	10	11	12	13+
Rear-Facing														
Forward-Facing with Harness														
Booster Seat														
Seat Belt														

This is a guide for law enforcement. Always refer to vehicle and car/booster seat manufacturer's instruction.



REAR-FACING

- Child's head more than 1" from top of seat
- Harness;
 - straps at or **below** shoulders
 - clip at armpit level
 - snug
- Installed with seat belt or lower anchors & tether
- Appropriate angle



FORWARD-FACING with Harness

- Head support
- Harness;
 - straps at or **above** shoulders
 - clip at armpit level
 - snug
- Installed with seat belt or lower anchors & tether
- Forward facing belt path used for installation



BOOSTER SEAT

- Head support
- Proper seat belt fit
 - lap belt low
 - shoulder belt across mid chest and shoulder
- Lap **and** shoulder seat belt used; can **not** be used with lap-only belt



SEAT BELT

- Proper seat belt fit
 - lap belt low
 - shoulder belt across mid chest and shoulder
- Sit without slouching
- Back against vehicle seat
- Knees bent naturally over edge of seat
- Feet on floor

Washington Traffic Safety Commission, Child Passenger Safety Program, 253-447-3257, veleto@ccl.bonney-lake.wa.us 3/18 RCW 46.61.687

Myprint.wa.gov

Resources

Target Zero Manager

Safe Kids Coalition Coordinator

Local Child Passenger Safety Leader

Resources

Cesi Velez

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www.citybonneylake.org/childpassengersafety