

# GNB

## GRAY NOTEBOOK



Washington State  
Department of Transportation

Quarterly performance analysis of WSDOT's  
multimodal systems and programs

*Roger Millar, Secretary of Transportation, PE, FASCE, FAICP*

Edition 79 ■ September 2020

# BUILDING BRIDGES

## WSDOT BRIDGE IMPROVEMENT AND PRESERVATION EFFORTS FORGE AHEAD DURING PANDEMIC

### Flight plans

WSDOT Aviation looks  
into airports' vital roles  
as economic boosters

### Better water

WSDOT improves water  
quality as it completes  
projects in Washington

### Eye on travel

WSDOT monitors travel  
trends as COVID-19  
pandemic continues

# 79 TABLE OF CONTENTS

COVID-19 Effects on Washington Transportation and WSDOT <sup>1</sup>	<a href="#">3</a>
WSDOT's Strategic Plan	<a href="#">5</a>
Statewide Transportation Policy Goals	<a href="#">6</a>
Transportation Performance Management	<a href="#">7</a>

## Preservation

Bridge Preservation Annual Report	<a href="#">9</a>
Aviation Annual Report	<a href="#">17</a>

## Safety

Highway Safety Annual Report <sup>1</sup>	<a href="#">22</a>
---	--------------------

## Mobility

Washington State Ferries Quarterly Update	<a href="#">28</a>
Incident Response Quarterly Update	<a href="#">31</a>

## Environment

Water Quality Annual Report	<a href="#">34</a>
-----------------------------	--------------------

## Stewardship

Capital Project Delivery Programs Quarterly Updates	<a href="#">35</a>
Current Legislative Evaluation & Accountability Program	<a href="#">36</a>
Completed Projects & Contracts	<a href="#">37</a>

Advertisement Record & Change Orders	<a href="#">39</a>
Pre-existing Funds	<a href="#">41</a>
Statewide Transportation Policy Goals & Gray Notebook Information Guide	<a href="#">43</a>

## The Gray Notebook team

WSDOT's Gray Notebook is produced by the Performance Management and Strategic Management offices of the Transportation Safety & Systems Analysis Division: Hide Aso, Elena Brunstein, Hui Dong, Sreenath Gangula, Helen Goldstein, Mani Gourdarzi, Joe Irwin, Dustin Motte and Yvette Wixson. TSSA is directed by John Milton.

Note: <sup>1</sup> Due to the pandemic's effects on statewide restrictions and travel, the GNB is using updated data that does not align with the quarter ending September 2020.

## PERFORMANCE HIGHLIGHTS reported for the quarter ending September 30, 2020

# 292 BRIDGES



owned by WSDOT  
are currently over  
80 YEARS OLD

# 35 PERCENT

decrease in  
**Thanksgiving Day**  
travel volumes on  
state highways from  
2019 due to response  
to the COVID-19  
pandemic

# 106

stormwater **treatment facilities**  
were constructed by WSDOT in fiscal  
year 2020

# \$20.5 MILLION

in economic benefit  
provided by WSDOT's  
**Incident Response**  
teams clearing  
11,254 incidents  
during the quarter

# 6

additional **Connecting Washington**  
projects and contracts completed by  
WSDOT during the fifth quarter of the  
2019-2021 biennium

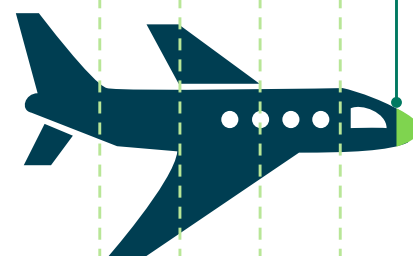
# 59 PERCENT

farebox recovery  
rate by **WSDOT-**  
**sponsored Amtrak**  
**Cascades** in fiscal  
year 2019

Construction projects  
completed with  
**Nickel** or  
**Transportation**  
**Partnership**  
**Account** funds

# 383

## WSDOT SURPASSED ITS 95% GOAL



## FOR REGISTRATION COMPLIANCE WITH 6,733 WASHINGTON AIRCRAFT RENEWED

# 79 COVID-19 EFFECTS ON STATE TRANSPORTATION AND WSDOT

## Washington travel trends take a step back as new pandemic restrictions are put into place

Statewide travel is again trending down following Gov. Jay Inslee's most recent restrictions attempting to reduce the spread of COVID-19 in Washington. The changes—which placed restrictions on for indoor and outdoor social gatherings, closed dine-in service at restaurants and bars, and closed gyms, bowling alleys, theaters and museums—went into effect November 18. These changes are planned through early January 2021.

Following Gov. Inslee's June 1 "Safe Start" plan, travel on highways, Washington State Ferries and public transportation began trending up from early pandemic lows as businesses and activities began reopening in phases before stabilizing somewhat. Since July 2020, highway travel has generally been about 11% to 15% below 2019 pre-pandemic levels but was down 35% on Thanksgiving Day due to the new restrictions (see table below).

WSDOT tracks the [effects of COVID-19 on multimodal transportation system performance](#) through an interactive online dashboard.

### Thanksgiving Day travel lower in 2020 than in 2019 across all modes except walking

November 26, 2020<sup>1</sup> compared to November 28, 2019

Percentage Change	Mode
<b>-35%</b>	<b>Highway travel</b> - Highway travel was down 35% from Thanksgiving Day 2019 following the most recent restrictions
<b>-51%</b>	<b>Tolling</b> - Washington's five tolled facilities saw an average of 51% less travel due to decreased travel on state highways
<b>-65%</b>	<b>Washington State Ferries</b> - System-wide ridership on Washington State Ferries was 65% below Thanksgiving Day 2019
<b>-47%</b>	<b>Transit</b> - Ridership at 10 of Washington's largest transit agencies was down an average of 47% from Thanksgiving Day 2019
<b>-91%</b>	<b>Amtrak Cascades</b> - Passenger Rail continued to be the mode hit hardest by the pandemic, with ridership down 91% from Thanksgiving Day 2019
<b>-6%, 43%</b>	<b>Active Transportation</b> - WSDOT's permanent counters recorded 6% fewer bicyclists and 43% more pedestrians than on Thanksgiving Day 2019
<b>-68%</b>	<b>Aviation</b> - Seattle-Tacoma International Airport saw 68% fewer passengers on Thanksgiving Day 2020 than on Thanksgiving Day 2019

Note: 1 Due to the pandemic's effects on statewide restrictions and travel, the GNB is using updated data that does not align with the quarter ending September 2020.

## Notable results

- There were 61% more traffic fatalities in Washington in August 2020 than in August 2019
- Thanksgiving Day travel decreased from 2019 to 2020 across all modes except walking, which increased 43%
- Domestic air travel in October 2020 was 59.7% below October 2019, an increase of 10.2 percentage points from July 2020, when it was 69.9% below July 2019 levels

## Impact on Traffic Safety

- **Decreased traffic volumes mean fewer total crashes.** Each month since the pandemic began has seen between 18% and 55% fewer total crashes than in the corresponding month in 2019.
- **Fatalities and serious injuries have increased.** There were more traffic fatalities between April and September of 2020 than in the corresponding months of 2019, and more serious injuries in July through October. There were also 61% more fatalities in August 2020 than in August 2019.
- **The cause of the increase in fatalities and serious injuries is uncertain.** Possibilities include increased driving speeds and the increase in walking and bicycling (pedestrians and bicyclists are more vulnerable to injuries and higher impact speeds lead to higher numbers of fatalities).

## Travel patterns starting to level out in Washington

As of December 1, 2020, highway travel was 15% below 2019 levels, Washington State Ferries ridership was down 45% and public transit ridership at 10 of Washington's largest transit agencies was down an average of 63% (see chart below). While use of these three travel

modes was much higher than the extreme lows experienced in March and April, all three were still below their September 1, 2020 levels. Amtrak Cascades ridership—at 89% below 2019 levels on December 1, 2020—was up slightly from both September 1 and its low in April.

Early in the pandemic, active transportation experienced large

increases in the percentages of people walking and bicycling, with both modes frequently up more than 100% from 2019 levels. While active modes are no longer seeing such dramatic increases, they remain well above 2019 levels, with pedestrian travel up 51% and bicycling up 54% as of December 1, 2020.

Both domestic and international air travel were closer to 2019 levels in October 2020 than in July 2020, with domestic air travel increasing 10.2 percentage points and international air travel increasing 4.7 percentage points. Despite these increases, domestic air travel was 59.7% lower in October 2020 than in October 2019, and international air travel was 88.6% lower.

### Statewide travel decreases slightly since September

Percentages from select dates compared to on Sept. 1, 2020 and Dec. 1, 2020; Percentage point change; Safety fatality rate per 100 million vehicle miles traveled

Transportation mode	Percent or rate low (date) <sup>1</sup>	Sept. 1, 2020 <sup>2</sup>	Dec. 1, 2020 <sup>2</sup>
Highway travel	-63% (3/29)	-12%	-15%
Tolling	-80% (3/28)	-33%	-40%
WSF	-87% (3/28)	-36%	-45%
Transit	-77% (4/22)	-52%	-63%
Amtrak Cascades	-98% (4/19)	-92%	-89%
Freight			
Snohomish	-78% <sup>3</sup> (4/12)	-19%	-15%
King	-88% (4/5) <sup>3</sup>	-14%	-18%
Pierce	-89% <sup>3</sup> (4/5)	-5%	-10%
Thurston	-44% (4/12)	3%	-3%
Lewis	-65% (4/4)	-8%	-9%
Clark	-71% <sup>3</sup> (4/4)	-11%	-11%
Benton	-57% (4/5)	-11%	-17%
Franklin	-62% (4/12)	-6%	-3%
Active Transportation			
Pedestrians	-58% (3/13)	+70%	+51%
Bicyclists	-60% (3/14)	+53%	+54%
Safety <sup>4</sup>	0.8 <sup>3</sup> (Mar)	1.1 (Jul)	0.9 (Oct)
Aviation			
Domestic <sup>5</sup>	-93.1% (Apr)	-69.9% (Jul)	-59.7% (Oct)
International <sup>5</sup>	-97.1% (Apr)	-93.3% (Jul)	-88.6% (Oct)

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: 1 Dates compared to corresponding days in 2019. 2 Tuesday, September 1, 2020 compared to Tuesday, September 3, 2019. Tuesday, December 1, 2020 compared to Tuesday, December 3, 2019. Due to the pandemic's effects on statewide restrictions and travel, the GNB is using updated data that does not align with the quarter ending September 2020. 3 Some percentages and numbers have been updated from GNB 77 and as a result, corresponding dates may have also changed. 4 Crash rate per 100 million vehicle miles traveled. 5 Total passengers.

## WSDOT continues to put health and safety first

WSDOT has been working closely with the state Department of Health, the Governor's Office, Labor and Industries and the state Emergency Management Division since the COVID-19 pandemic started.

Since April—following direction from the Governor's Office—WSDOT began a safe restart to construction, ensuring that these workers, along with Ferries and maintenance employees in the field follow stringent safety guidelines, including temperature checks, handwashing, physical distancing and wearing of proper personal protective equipment, including masks.

All WSDOT employees who are able to telework have done so since March; they recently were told to continue to do so for the foreseeable future.

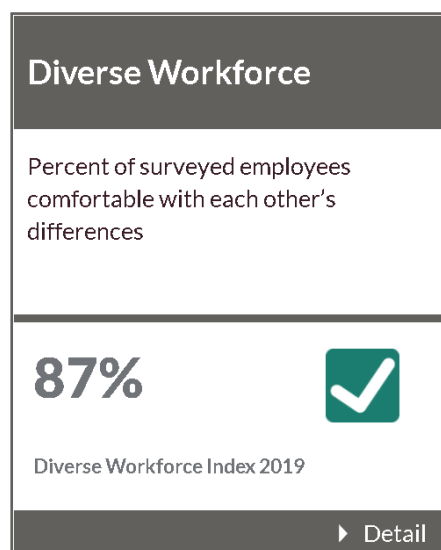
# 79 WSDOT'S STRATEGIC PLAN

WSDOT's Strategic Plan has three goals, Inclusion, Practical Solutions and Workforce Development. This plan continues WSDOT's focus on how the agency makes investments and delivers projects with limited resources.

Under the strategic plan, WSDOT's engages employees, communities and partners to collaboratively delivers its Inclusion goal. Practical Solutions allows WSDOT to leverage finite funding to get the most capacity and safety out of the entire multimodal transportation system. WSDOT's focus on Workforce Development ensures the agency attracts and retains a quality workforce to meet its legislative, regulatory, service and public expectations.

The agency's [online interactive strategic plan dashboard](#) contains leading indicators for the plan's 15 strategies—five for each goal—and details progress on the plan's work.

WSDOT strives to reflect, be sensitive to and understand the communities it serves while valuing a diverse workforce. One way this is measured is through an annual employee survey. "Diverse Workforce Index" measures the success of WSDOT's inclusion efforts. The index gives equal weight to two statements WSDOT employees score in an annual engagement survey, "I am comfortable seeking perspectives from people who are different from me," and "People I work with treat others with dignity and respect."



The agency scored 87% positive response to these two statements in 2019, an increase of three percentage points from 2018 results. WSDOT continues to assess ways to integrate diversity, equity and inclusion into its policies, development and leadership training and work culture.

Click the box at left to learn more about WSDOT's Diverse Workforce strategy, part of the agency's Inclusion Goal.

## WSDOT's Vision

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

## WSDOT's Mission

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

### ■ Inclusion Goal

Strengthen commitment to diversity and engagement in every aspect of our work.

### ■ Practical Solutions Goal

Prioritize innovative, timely and cost-effective decisions, with our stakeholders and partners.

### ■ Workforce Development Goal

Be an employer of choice by hiring, training and retaining skilled workers to meet Washington's transportation needs.

## WSDOT's Values

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

# 79 STATEWIDE TRANSPORTATION POLICY GOALS DASHBOARD

Statewide policy goal/ WSDOT performance measure	Previous period	Current period	Goal	Goal met	Five-year trend (unless noted)	Desired trend
<b>Safety</b>						
Rate of <b>traffic fatalities</b> per 100 million vehicle miles traveled statewide <sup>1</sup> (Annual measure: calendar years 2018 & 2019)	0.87	0.84	<1.00	✓		↓
Rate of <b>recordable incidents</b> for every 100 full-time WSDOT workers (Annual measure: calendar years 2018 & 2019)	5.0	4.7	<5.0	✓		↓
<b>Preservation</b>						
Percentage of state <b>highway pavement</b> in fair or better condition by vehicle miles traveled (Annual measure: calendar years 2017 & 2018)	91.8%	91.4%	≥ 90%	✓		↑
Percentage of <b>state bridges</b> in fair or better condition by bridge deck area (Annual measure: fiscal years 2019 & 2020)	92.9%	93.8%	≥ 90%	✓		↑
<b>Mobility<sup>2</sup> (congestion relief)</b>						
<b>Highways:</b> Vehicle Miles Traveled (VMT) on state highways (Annual measure: calendar years 2018 & 2019)	35.4 billion	35.4 billion	*	N/A		Not applicable
<b>Highways:</b> Average <b>incident clearance times</b> for all Incident Response program responses (Calendar quarterly measure: Q3 2019 & Q3 2020)	13.3 minutes	14.6 minutes	*	N/A		↓
<b>Ferries:</b> Percentage of trips departing on time <sup>3</sup> (Fiscal quarterly measure: year to year Q1 FY2020 & Q1 FY2021)	85.5%	80.3%	≥ 95%	—		↑
<b>Rail:</b> Amtrak Cascades on-time performance <sup>4</sup> (Annual measure: calendar years 2018 & 2019) <sup>5</sup>	50%	58%	≥ 88%	—		↑
<b>Environment</b>						
Number of WSDOT <b>stormwater management facilities</b> constructed (Annual measure: fiscal years 2019 & 2020)	66	106	*	N/A		Not applicable
Cumulative number of WSDOT <b>fish passage improvement projects</b> constructed (Annual measure: calendar years 2018 & 2019)	345	329	*	N/A		↑
<b>Stewardship</b>						
Cumulative number of Nickel and TPA <b>projects completed<sup>5</sup> and percentage on time<sup>6</sup></b> (Biennial quarterly measure: Q4 2019-2021 & Q5 2019-2021, trendline for percentage on time)	383/ 86%	383/ 86%	≥ 90% on time	—	 (Five-quarter trend)	↑
Cumulative number of Nickel and TPA <b>projects completed<sup>5</sup> and percentage on budget<sup>6</sup></b> (Biennial quarterly measure: Q4 2019-2021 & Q5 2019-2021, trendline for percentage on budget)	383/ 91%	383/ 91%	≥ 90% on budget	✓	 (Five-quarter trend)	↑
Variance of total project costs <sup>5</sup> compared to <b>budget expectations<sup>6</sup></b> (Biennial quarterly measure: Q4 2019-2021 & Q5 2019-2021)	Under budget by 1.5%	Under budget by 1.5%	On or under budget	✓	 (Five-quarter trend)	Not applicable

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: (\*) = goal has not been set. Dash (—) = goal was not met in the reporting period. **1** The Statewide Transportation Policy Goal for this performance measure is different than the federal Transportation Performance Management goal for the same measure. The separate goals for reducing pedestrian/bicyclist fatalities to zero were not met (see [p. 7](#)) as the five-year rolling average trend line is moving upward even with some decline in 2019. **2** Mobility does not yet include goals for people walking/biking for transportation. **3** Washington State Ferries' on-time departures include any trip recorded by automated tracking as leaving the terminal within 10 minutes of scheduled time. **4** Amtrak Cascades' on-time performance includes any trip arriving within 10 or 15 minutes, depending on the route, of scheduled arrival time. **5** Construction projects only. **6** Projects are on time if they are completed within the quarter planned in the last approved schedule, and on budget if costs are within 5% of the budget set in the last approved state transportation budget.

# 79 TRANSPORTATION PERFORMANCE MANAGEMENT

## WSDOT reports its federally-mandated 2021 TPM highway safety baselines, targets

WSDOT reported its Transportation Performance Management (formerly MAP-21) highway safety baselines and targets for 2021 to the Federal Highway Administration on August 31, 2020.

FHWA previously determined WSDOT did not make significant progress toward achieving its 2019 targets for highway safety (also referred to as PM1). States that did not make significant progress on PM1 must develop a strategic Highway Safety Implementation Plan and obligate federal HSIP funds based on the previous year's allocations. WSDOT outlines how it will address these efforts in the 2020 HSIP.

Washington's Strategic Highway Safety Plan (Target Zero) aims to achieve the goal of zero fatalities and serious injuries by 2030, differing from federal targets. For more information on Highway Safety and Target Zero, see [p. 22](#).

WSDOT established its federally-required TPM baselines and targets for bridges and pavement (PM2), and highway system performance, freight, and Congestion Mitigation and Air Quality (PM3) on May 20, 2018. Like the PM1 targets, WSDOT is required to show significant progress toward meeting PM2 and PM3 targets.

WSDOT and Metropolitan Planning Organizations collaborated to establish four-year targets for PM2 and PM3, which they submitted to FHWA on October 1, 2018. This began a four-year reporting cycle for PM2 and PM3 performance measures, which included WSDOT producing a Mid-Performance Period Progress Report (due October 1, 2020) as well as a Full-Performance Period Progress Report (due October 1, 2022).

### TPM safety reporting on annual cycle

Targets for the highway safety rules (included in PM1) are on an annual reporting cycle, which differs from the two-year and four-year reporting cycles for PM2 and PM3. The safety targets established for 2021 represent the third annual reporting cycle since the initial reporting of TPM safety targets for 2018.

MAP-21 performance measures by program area		2015-2019 baseline	2021 target <sup>1</sup>	Penalty <sup>2</sup>
<b>Highway Safety (PM1)</b>	<b>23 CFR Part 490 ID No. 2125-AF49</b>			
Number of traffic fatalities on all public roads <sup>3</sup>		≤ 542.8	≤ 444.1	Yes
Rate of traffic fatalities per 100 million vehicle miles traveled (VMT) on all public roads <sup>3</sup>		≤ 0.885	≤ 0.724	Yes
Number of serious traffic injuries on all public roads <sup>3</sup>		≤ 2,208.6	≤ 1,807.0	Yes
Rate of serious traffic injuries per 100 million VMT on all public roads <sup>3</sup>		≤ 3.599	≤ 2.944	Yes
Number of non-motorist traffic fatalities plus serious injuries		≤ 577.0	≤ 472.1	Yes
<b>MAP-21 Special Rules (Safety)</b>				
Rate of per capita traffic fatalities for drivers and pedestrians 65 or older		Show yearly progress		No
Rate of fatalities on high-risk rural roads <sup>3</sup>		Show yearly progress		Yes
Highway-railway crossing fatalities <sup>4</sup>		Show yearly progress		No

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: The PM1 targets for 2021 were submitted on August 31, 2020, using the five-year rolling average of 2015-2019 for current baseline data. <sup>1</sup> The Strategic Highway Safety Plan for Washington (Target Zero) aims to achieve the goal of zero fatalities and serious injuries by 2030. <sup>2</sup> Penalties will not be assessed if WSDOT shows significant progress on four of five PM1 targets. Significant progress is achieved if the five-year rolling average is less than or equal to the target or less than or equal to the baseline level. <sup>3</sup> Performance metric includes all individuals (for example, pedestrians and bicyclists) who died or were seriously injured as a result of a crash with a motorist in Washington. <sup>4</sup> Includes bicyclists and pedestrians.

The 2020 mid-performance period progress report on PM2 and PM3 included updates on two-year condition/performance and investment strategy discussions as well as target adjustment discussions. WSDOT had the option to adjust four-year targets at that time but determined they did not need adjusting and should remain unchanged.

In 2022, FHWA will use the full-performance period progress report to determine whether WSDOT has made significant progress toward its PM2 and PM3 targets. Not showing significant progress toward targets requires an explanation to FHWA of what WSDOT will do to make progress in the future, and may also trigger a financial penalty if targets are not met (see table below). These penalties require redistributing

federal monies to help ensure significant progress toward specific targets in the future.

### TPM folios helping stakeholders

WSDOT has developed [informational folios](#) to ensure the agency and its partners are aligned as TPM work progresses.

MAP-21 performance measures by program area		Current data/ 2-year actuals	2-year target <sup>1,2</sup>	4-year target <sup>1,2</sup>	Penalty
<b>Pavement and Bridges (PM2) 23 CFR Part 490 ID No. 2125-AF53</b>					
<b>Pavement</b>					
Percent of Interstate pavement on the NHS in good condition		39.8% <sup>3</sup>	N/A	30%	No
Percent of Interstate pavement on the NHS in poor condition		1.7% <sup>3</sup>	N/A	4% <sup>4</sup>	Yes
Percent of non-Interstate pavement on the NHS in good condition		45.2% <sup>3</sup>	45%	18%	No
Percent of non-Interstate pavement on the NHS in poor condition		17.4% <sup>3</sup>	21%	5%	No
<b>Bridges</b>					
Percent of NHS bridges classified in good condition (weighted by deck area)		32.8%	30%	30%	No
Percent of NHS bridges classified in poor condition (weighted by deck area)		7.8%	10%	10% <sup>4</sup>	Yes
<b>Highway System Performance, Freight, and Congestion Mitigation &amp; Air Quality (PM3) 23 CFR Part 490 ID No. 2125-AF54</b>					
<b>Highway System Performance (Congestion)</b>					
Percent of person-miles traveled on the Interstate System that are reliable		77%	70%	68%	No
Percent of person-miles traveled on the Non-Interstate NHS System that are reliable		80.8%	N/A	61%	No
<b>National Freight Movement Program</b>					
Truck Travel Time Reliability (TTTR) Index		1.54	1.70	1.75	No
<b>Congestion Mitigation &amp; Air Quality Program</b>					
Non-Single Occupancy Vehicle (SOV) travel in Seattle urbanized area (NHS)		33.1%	32.8%	33.2%	No
Peak hours of Excessive Delay per capita in Seattle urbanized area (NHS)		23.2	N/A	28	No
All Pollutants (kg/day) <sup>2</sup>		1,222.870	366.285	658.300	No
Carbon Monoxide (CO) (kg/day) <sup>2</sup>		714.710	309.000	309.060	No
Particulate Matter less than 10 microns (PM <sub>10</sub> ) (kg/day) <sup>2</sup>		274.640	0.305	224.000	No
Particulate Matter less than 2.5 microns (PM <sub>2.5</sub> ) (kg/day) <sup>2</sup>		56.750	2.100	8.700	No
Nitrogen Oxides (NOX) (kg/day) <sup>2</sup>		176.770	54.880	116.540	No

Data sources: WSDOT Pavement Office, WSDOT Bridge and Structures Office, WSDOT Transportation Safety & Systems Analysis, WSDOT Rail, Freight, and Ports Division, WSDOT Environmental Services Office.

Notes: Federal rule allows state and MPOs to adjust four-year targets during the mid-performance period progress report. **1** Two-year and four-year reports for PM2 and PM3 are due October 1, 2020, and October 1, 2022. **2** Base emissions are for the four-year period 2013-2016 as reported in the CMAQ Public Access System. **3** Current data refers to 2019. **4** The National Highway Performance Program (NHPP) targets require the percentage of Interstate pavement on the NHS in poor condition not exceed 5% and the percentage of NHS bridges classified in poor condition (weighted by deck area) not exceed 10%. **5** Current data refers to 2-year actuals.

# 79 BRIDGES ANNUAL REPORT

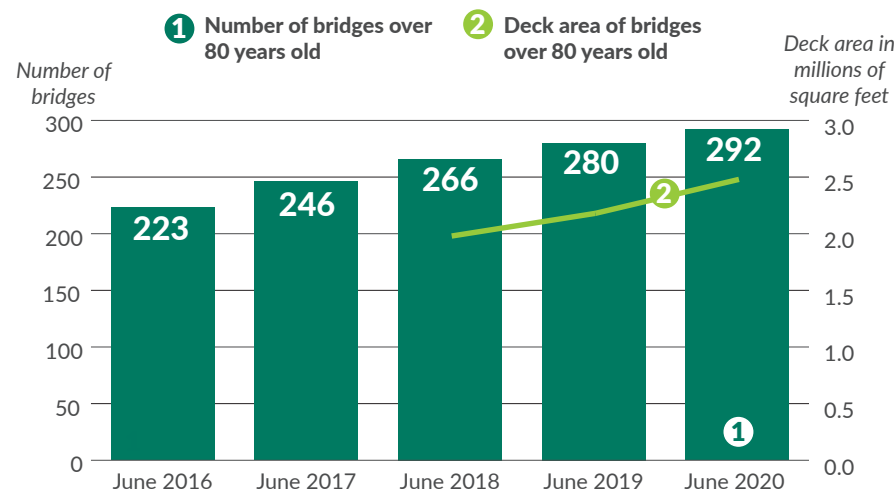
## WSDOT owns 292 bridges over 80 years old, expects a future of difficult tradeoffs

As of June 2020, 292 of WSDOT's 3,342 bridges were 80 years old or older. These bridges had over 2.5 million square feet of deck area—approximately 4.5% of the total 56.5 million square feet of deck area on WSDOT-owned bridges (see box at right). Of the 292 bridges over 80 years old, 79 (with 1.3 million square feet of deck area) were located on strategic freight corridors (see box on p. 10).

Between June 2019 and June 2020, the number of WSDOT-owned bridges over 80 years old increased by 12 bridges (4.3%) and approximately 300,000 square feet of deck area (13.65%). Over the five-year period June 2016 through June 2020, the number of WSDOT-owned bridges over 80 years old increased by 30.9%, going from 223 bridges in June 2016 to 292 bridges in June 2020 (see graph below).

### WSDOT-owned bridges over 80 years old continue multi-year growth trend, reach 292 bridges with 2.5 million square feet of deck area as of June 2020

June 2016 through June 2020; Number of bridges;  
Deck area in millions of square feet



Data source: WSDOT Bridge and Structures Office

Note: Deck area of bridges over 80 years old was not calculated prior to 2018.

As its infrastructure assets continue to age, WSDOT forecasts a future of difficult asset management decisions, each with an associated tradeoff. For example, funding construction of a new section of highway may mean delaying needed concrete bridge deck rehabilitation elsewhere. Such delays can be costly; if a bridge deck deteriorates to the point where replacement is the only option, the cost of restoring it to good condition may triple.

## Notable results

- WSDOT owned 292 bridges over 80 years old as of June 2020, an increase of 12 bridges (4.3%) from 280 in June 2019
- There were 130 state-owned bridges and 551 locally owned bridges that were load posted or load restricted in June 2020, up from 111 and 419 in June 2019
- As of June 2019, WSDOT had 116 steel bridges in need of repainting; six were under contract to be painted during the 2019-2021 biennium

## WSDOT reports bridge conditions by deck area

Reporting bridge conditions by deck area provides a clearer picture of WSDOT's bridge network than reporting numbers of bridges alone. For example, as of June 2020, 164 (4.9%) of WSDOT's 3,342 bridges were in poor condition. However, these 164 bridges had 3.5 million square feet of deck area—6.2% of the 56.5 million square feet of deck area on WSDOT-owned bridges (see chart on p. 14). Reporting bridge conditions by deck area allows WSDOT to clearly communicate that 6.2% of its bridge assets are in poor condition. This reporting method also aligns with federal reporting requirements (see p. 7).

## Strategic Freight Corridor Classifications

WSDOT classifies highway segments, or corridors, by how much freight travels on them. Corridors which see the most freight, referred to as T-1 freight corridors, see over 10 million tons of truck freight per year. Highway corridors that see between 4 million and 10 million tons of truck freight annually are classified as T-2 corridors. Both T-1 and T-2 corridors are considered strategic freight corridors under the definition established in [RCW 47.06A.020](#).

For additional information, see: <https://wsdot.wa.gov/freight/fgts>

## National Highway System

The National Highway System is a network of strategic highways in the United States that includes both state and local highways as well as roads serving major airports, ports, rail and/or truck terminals, and other transport facilities. Washington's NHS network includes 2,564 bridges with 53.0 million square feet of bridge deck area, of which 90.7% is state-owned and 9.2% is owned by local agencies.

## Washington sees increase in load restricted and load posted bridges

As of June 2020, a total of 130 WSDOT-owned bridges longer than 20 feet were load restricted or load posted, a 17% increase from 111 in June 2019 and a 3% increase from 126 in June 2016 (see chart below). Approximately 46% (60) of these bridges were over 80 years old, 50% (65) were on the National Highway System and 32% (42 bridges) were on a T-1 or T-2 freight corridor (see boxes at left).

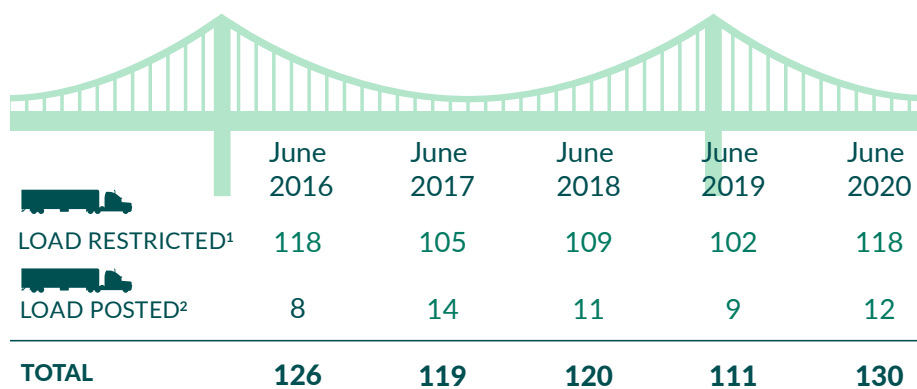
There were 551 locally owned bridges in Washington that were load posted or restricted as of June 2020 (of which 20 were on the NHS), a 30% increase from 419 in June 2019. This was also a 6,787% increase from eight locally owned load posted or load restricted bridges in June 2016; this large increase was primarily due to a change in the federal regulations that govern load ratings (see [Gray Notebook 70, p. 21](#)).

As part of the bridge inspection program, WSDOT performs load rating evaluations to verify whether bridges can safely carry the weight of traffic. If a load rating evaluation result shows a structure cannot safely carry certain loads because of bridge deterioration, damage or because a bridge was designed and built when standard truck weights were lower than they are now, WSDOT implements weight restrictions to reduce the risk of further damage and to ensure bridges are safe for the traveling public.

Except when bridges are load posted due to changes in regulations, a bridge is typically load restricted, making it illegal for any overloaded truck to use the bridge, before it is load posted. If the bridge's condition worsens and its capacity to carry heavy loads decreases, then the bridge will be load posted. This limits the allowable weight of trucks to below typical legal weights and requires any trucks over the posted weight limit to take an alternate route. Structural improvements are required to correct load restricted or posted bridges.

### WSDOT has 130 load restricted or load posted bridges

June 2016 through June 2020; Number of bridges with weight restrictions



Data sources: WSDOT Bridge and Structures Office, WSDOT Local Programs Office.

Notes: **1** A "load restricted" bridge cannot be legally used by an overloaded truck. **2** A "load posted" bridge limits the allowable weight of trucks to below typical legal weights.

## WSDOT needs to replace 12 bridges, rehabilitate 18

As of June 2020, there were 12 WSDOT-owned bridges (with 104,464 square feet of deck area) in need of replacement (see chart below). This represents an improvement from June 2019, when there were 15 bridges in need of replacement. The number of bridges in need of replacement also decreased from June 2016 to June 2020, going from 16 to 12.

WSDOT also owned an additional 18 bridges (with 540,608 square feet of deck area) that were in need of structural rehabilitation as of June 2020. This was an improvement from June 2019, when there were 19 bridges in need of rehabilitation. However, between June 2016 and June 2020 the number of bridges in need of rehabilitation increased from 16 to 18.

Six of the bridges in need of rehabilitation as of June 2020, and one of those in need of replacement, were located on T-1 freight corridors. Another bridge needing rehabilitation was among the 11 border bridges for which WSDOT shares responsibility with Oregon or Idaho.

As of June 2020, WSDOT also had six active contracts underway to replace or rehabilitate bridges, including the agency's oldest bridge—the SR 290 Trent Avenue bridge in Spokane—which was constructed in 1910.

WSDOT projections indicate an additional 81 bridges (with 405,578 square feet of deck area) will need to be replaced or rehabilitated over the next 10 years. The longer these bridges are left in need of rehabilitation or replacement, the more likely it is that they will need to be load restricted, load posted, or closed.

### WSDOT expects an additional 81 bridges to need replacement or structural rehabilitation within the next 10 years

*As of June 2020; Deck area in square feet*

Bridge status	Number of bridges	Deck area
Contract work - Active	6	63,838
Replacement currently needed	12	104,464
Rehabilitation currently needed <sup>1</sup>	18	540,608
Border Bridges <sup>2</sup>	1	102,700
Rehabilitation or replacement to be needed within 10 years	81	405,578
<b>Total 10-year needs<sup>3</sup></b>	<b>117<sup>3</sup></b>	<b>1.1 million<sup>3</sup></b>

Data source: WSDOT Bridge and Structures Office.

<sup>1</sup> Includes one border bridge <sup>2</sup> WSDOT funds 50% of preservation for 11 border bridges that cross state lines. <sup>3</sup> Does not include bridges with with active contract work.

## WSDOT leases eight bridges to Sound Transit for light rail project

As of June 2020, WSDOT had leased eight bridge structures associated with the Interstate 90 Homer Hadley Floating bridge to Sound Transit. These structures, which include several approaches to the bridge, will carry light rail trains across Lake Washington between Seattle and Bellevue as part of [Sound Transit's East Link Extension light rail project](#). The project will be the first in the world to send an electric train across a floating bridge.

## Prioritizing Steel Bridge Painting

WSDOT uses the following criteria to prioritize its steel bridge painting:

- Is the bridge a border bridge (does it cross a state line)?
- Is the bridge movable?
- Is the bridge on a strategic freight route?
- What is the bridge's type?
- What condition is the bridge in?
- How much truck traffic does the bridge receive daily?

## WSDOT expects to paint 10 of its 116 steel bridges due or past due for painting by the end of the 2019-2021 biennium

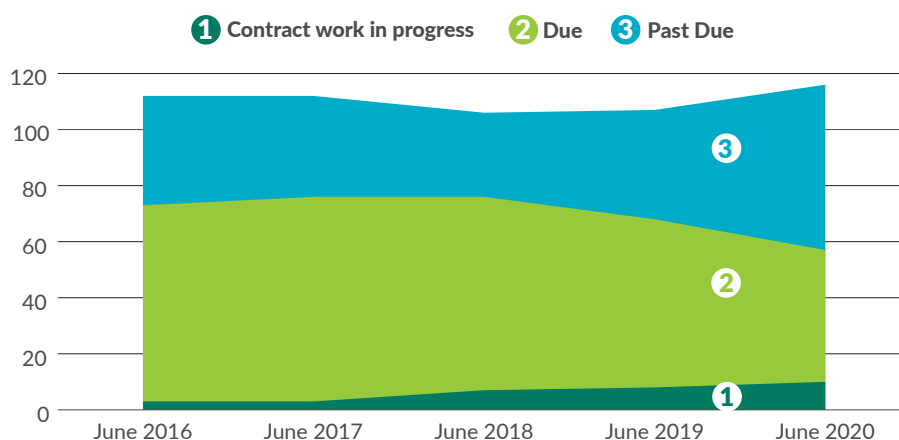
As of June 2020, 47 WSDOT-owned steel bridges (with 4.1 million square feet of steel surface area) were due for painting, while 59 (with 3.7 million square feet of steel surface area) were past due. The total of 7.8 million square feet of steel either due or past due for painting is an increase from June 2019, when 7.0 million square feet of steel surface area on 99 bridges was either due or past due for painting (see chart below). WSDOT classifies steel bridges as due for painting when between 2% and 5% of their steel surface area is exposed; when more than 5% of a bridge's steel surface area is exposed, it is classified as past due for painting.

The total number of steel bridges either due for painting, past due for painting or under contract to be painted was similar in June 2016 (112) and June 2020 (116); however, there were 51% more bridges past due for painting in June 2020 (59 bridges) than in June 2016 (39 bridges; see chart below).

WSDOT also had 10 steel bridges (with 1.6 million square feet of steel surface area) under contract to be painted as of June 2020. These 10 bridges were the only steel bridges WSDOT expected to be able to paint during the remainder of the 2019-2021 biennium. All 10 were steel truss bridges, and six were on T-1 freight corridors. The average age of the paint on these bridges was 25 years. The new paint being applied was expected to protect the steel for another 25 years.

### The number of WSDOT-owned steel bridges past due for painting increased 51% from 39 in June 2016 to 59 in June 2020

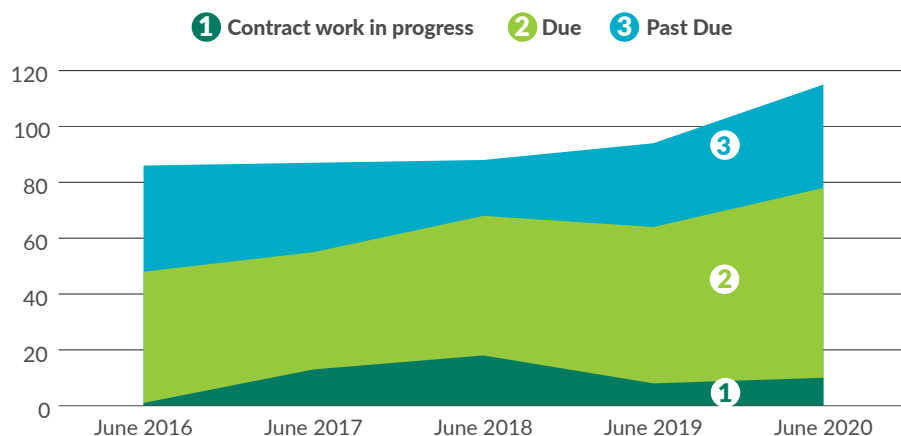
2016 through 2020; Number of bridges by status of repair need



Data source: WSDOT Bridge and Structures Office.

## WSDOT has 105 concrete bridge decks either due or past due for repair as of June 2020, an increase of 24% from 85 in June 2016

2016 through 2020; Number of bridges by status of repair need



Data source: WSDOT Bridge and Structures Office.

## WSDOT has 68 concrete bridge decks due for repair, an increase of 20% from 56 in 2019

As of June 2020, 68 of WSDOT's bridges (with 2.5 million square feet of deck area) were due for concrete bridge deck repairs. This is a 20% increase from 56 bridges (with 1.6 million square feet) due for repair in June 2019, and a 45% increase from the 47 concrete bridge decks that were due for repair in June 2016.

In addition, 37 bridges (with 325,060 square feet of deck area) were past due for concrete bridge deck repair—an increase of 23% from 30 (with 210,000 square feet of deck area) in June 2019 and an increase of 3% from 38 bridges in June 2016. These increases are largely attributable to the aging of WSDOT's bridges combined with the comparatively small numbers of concrete bridge decks WSDOT has had the funding to repair over the last five years (see chart above).

Repairing due and past due concrete bridge decks requires an ever-increasing percentage of WSDOT bridge crew resources, and comes at the expense of structural repairs. For example, WSDOT bridge maintenance crews performed extensive deck repair to the eastbound left lane on the I-90 Vantage Bridge in the summer and fall of 2020 (see photograph at right). These repairs provide a temporary fix until the 58-year-old deck can be rehabilitated again. The bridge has an existing concrete overlay that was applied in 1982.

As of June 2020, two WSDOT-owned bridges (with 29,550 square feet of deck area) were under contract to have their bridge decks repaired.

## Due vs. past due for bridge deck repair

WSDOT classifies bridges with between 2% and 5% of their deck area patched or spalled (potholed) as due for deck repair. The agency classifies bridges with more than 5% of deck area patched or spalled as past due for deck repair.



WSDOT bridge maintenance crews repair the deck of the I-90 Vantage Bridge over the Columbia River between Kittitas and Grant counties while adhering to COVID-19 safety measures.

## Bridge Condition Ratings

**Good** - Bridges in good condition range from those with no problems to those having some minor deterioration of structural elements.

**Fair** - The primary structural elements of bridges in fair condition are sound; such bridges may have minor section loss, deterioration, cracking, spalling or scour.

**Poor** - Bridges in poor condition have advanced deficiencies such as section loss, deterioration, scour, or seriously affected structural components. Bridges in poor condition may have weight restrictions, but are safe for travel.

## Statewide bridge conditions improve slightly in 2020

Statewide, 6.3% (4.7 million square feet) of Washington's 74.7 million square feet of bridge deck area was on structures considered to be in poor condition as of June 2020 (see table below). This was a slight improvement from June 2019, when 4.9 million square feet (7.1%) of bridge deck area was located on bridges in poor condition.

The reduction in the percentage of bridge deck area located on bridges in poor condition was almost entirely due to the removal of the SR 99 Alaskan Way Viaduct, which was replaced with a tunnel that opened on February 4, 2019. The viaduct, which was removed from WSDOT's bridge inventory in January 2020, had approximately 612,000 square feet of deck area and was in poor condition prior to its removal from the inventory.

## NHS bridges in poor condition stay below 10% in 2020

In June 2020, there were 124 bridges with 2,564 square feet of deck area in poor condition on the National Highway System (see box at left) in Washington state. These 124 bridges had 3.5 million square feet of deck area—approximately 6.6% of all deck area on the NHS in Washington (see table below). This represents an improvement from June 2019, when 7.3% of bridge deck area on the NHS in Washington was in poor condition. It also meets the performance target for the federal Transportation Performance Management Act, which mandates that total bridge deck area in poor condition on the NHS not exceed 10%. As of the publication of its

## About 6.3% of all Washington bridges by deck area are in poor condition

As of June 2020; Percent of bridge deck area on bridges in poor condition (Poor); Deck area in square feet

	National Highway System		Statewide	
	Deck area in millions <sup>1</sup>	Number of bridges	Deck area in millions <sup>1</sup>	Number of bridges
<b>WSDOT-owned</b>	48.1	2,354	56.5	3,342
Amount Poor (%)	3.1 (6.4%)	106	3.5 (6.2%)	164
<b>Locally owned<sup>2</sup></b>	4.9	210	18.2	4,149
Amount Poor (%)	0.4 (8.2%)	18	1.2 (7.0%)	190
<b>Total</b>	<b>53.0</b>	<b>2,564</b>	<b>74.7</b>	<b>7,491</b>
<b>Total Poor (%)</b>	<b>3.5 (6.6%)</b>	<b>124</b>	<b>4.7 (6.3%)</b>	<b>354</b>

Data sources: WSDOT Bridge and Structures Office and WSDOT Local Programs Office.

Notes: For locally owned bridges, Poor also includes load-restricted bridges, even if those bridges are in fair or better condition. **1** Due to rounding, some totals are not computable based on the numbers in the table. **2** Bridges owned by counties and cities.

[Transportation Asset Management Plan](#) in June 2019, WSDOT expected the state to continue to meet this target through 2022, but to fall short of it by 2028.

### WSDOT meets target for bridges in fair or better condition in 2020

As of June 2020, 93.8% of WSDOT-owned bridges by deck area were in fair or better structural condition, improving from June 2019 when 92.9% of bridges by deck area were in fair or better condition (see table below). The improvement was largely due to the removal of the Alaskan Way Viaduct from WSDOT's bridge inventory. The agency met its goal of having at least 90% of its bridges by deck area in fair or better condition.

### WSDOT meets performance goal with 92.9% of bridges in fair or better condition as of June 2019; percent of bridges in good condition increases

*June 2016 through June 2020; Condition categories; Deck area in millions of square feet; Percent of bridges by deck area; Number of bridges*

Structural condition rating	June 2016	June 2017	June 2018	June 2019	June 2020	
Good	Bridge deck area	19.8	20.3	20.9	21.3	21.2
	Percent of deck area	36.9%	37.3%	38.4%	37.1%	37.5%
	Number of bridges	1,678	1,699	1,701	1,729	1,726
Fair	Bridge deck area	29.1	29.7	29.4	32.0	31.8
	Percent of deck area	54.3%	54.5%	54.1%	55.7%	56.3%
	Number of bridges	1,462	1,450	1,456	1,457	1,452
Fair or better <sup>1</sup>	Bridge deck area	48.9	49.9	50.3	53.3	53.0
	Percent of deck area	91.2%	91.8%	92.5%	92.9%	93.8%
	Number of bridges	3,140	3,149	3,157	3,168	3,178
Poor	Bridge deck area	4.7	4.5	4.1	4.1	3.5
	Percent of deck area	8.8%	8.2%	7.5%	7.1%	6.2%
	Number of bridges	154	163	165	158	164
Total	Bridge deck area	53.6	54.4	54.4	57.4	56.5
	Number of bridges	3,294	3,312	3,332	3,326	3,336

Data source: WSDOT Bridge and Structures Office.

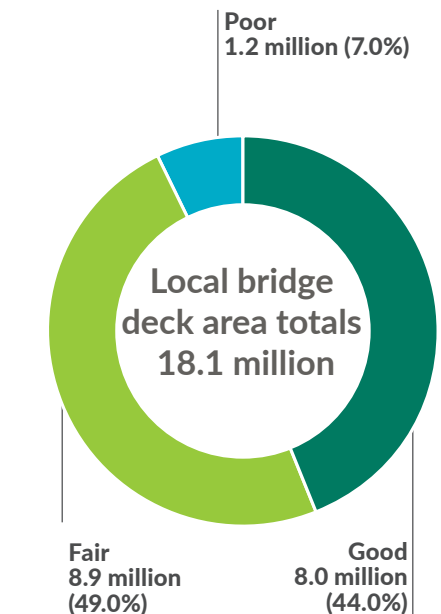
Notes: The above data shows WSDOT-owned bridges, culverts, and ferry terminals longer than 20 feet that carry vehicular traffic. All numbers shown in the table above are based on the "out-to-out" calculation method (which includes curbs and rails on the bridge) instead of the bridge width from curb to curb. <sup>1</sup> WSDOT's goal is to have at least 90% of its bridges by deck area in fair or better condition.

### Condition of locally owned bridges declines from 2019 to 2020

As of June 2020, there were 4,149 locally owned bridges in Washington state, which were collectively crossed an average of 10 million times per day. Approximately 93% of all of Washington's locally owned bridges by deck area were in fair or better condition during the Federal Highway Administration's 2020 reporting period (April 2019 through March 2020), worsening slightly from 95% in the 2019 reporting period.

### Seven percent of locally owned bridges by deck area in poor condition in 2020

*Local agency bridge conditions by deck area in 2020; Deck area in square feet*



Data source: WSDOT Local Programs Office.

## Columbia River Bridges

WSDOT shares the responsibility for nine bridges that cross the Washington/Oregon border with the Oregon Department of Transportation. The agency also owns an additional 15 bridges that cross the Columbia River within the state of Washington.

As of June 2020, 19 of these 24 bridges were in fair condition, two were in good condition, and three were in poor condition. By deck area, 85.8% (2.8 million square feet) of these bridges were in fair condition, 9.1% (292,000 square feet) were in good condition, and 5.2% (166,726 square feet of deck area) were in poor condition.

## WSDOT, local agencies perform nearly 3,500 bridge inspections in FY2020 despite COVID-19 impacts

WSDOT performed 1,363 bridge inspections in FY2020, 91% (1,246) of which were routine inspections (see table below). In addition, WSDOT conducted 54 inspections of fracture critical structures (bridges where failure of one piece would likely cause a collapse), 22 special (discretionary as-needed) inspections, and 41 underwater inspections. WSDOT conducted 19% fewer inspections of all types in FY2020 than in FY2019 due to the impact of COVID-19 on operations in March-June of 2020.

Local agencies performed 2,125 bridge inspections in FY2020, 9% (223) fewer than in FY2019. Approximately 97% (2,051) of these inspections were routine.

*Contributors include George Comstock, Roman Peralta, Tim Rydholm, DeWayne Wilson and Helen Goldstein*

## WSDOT performs 1,246 routine bridge inspections and 20 routine ferry terminal inspections; local agencies perform 2,051 routine inspections

*Fiscal year 2020; Number of inspections by inspection type*

Inspection type	WSDOT	Ferry terminals <sup>1</sup>	Local
Routine	1,246	20	2,051
Fracture critical	54	11	44
Special <sup>2</sup>	22	11	6
Underwater	41	16	24
<b>Total</b>	<b>1,363</b>	<b>58</b>	<b>2,125</b>

Data sources: WSDOT Bridge and Structures Office and WSDOT Local Programs Office.

Notes: **1** Ferry terminals owned by WSDOT. **2** These are discretionary and based on known or suspected deficiencies.



WSDOT staff wearing respirators to prevent transmission of COVID-19 while inspecting the Red Wolf Bridge over the Snake River in Asotin County in August 2020.

# 79 AVIATION ANNUAL REPORT

## Federal relief helps fund operations and projects at eligible Washington state airports

The reduction in travel due to the COVID-19 pandemic has resulted in reduced gas tax revenue, causing substantial impacts to WSDOT's budget. The Coronavirus Aid, Relief, and Economic Security Act—signed into law in March 2020—helped reduce the impact of WSDOT's funding shortfall for operations and maintenance at eligible airports. Washington airports included in the [National Plan of Integrated Airport Systems](#) (NPIAS) received approximately \$310 million in CARES Act grants for airport operations and maintenance, helping offset decreased revenue due to COVID-19. Additionally, approximately \$5 million in CARES Act funding is covering the 10% local match required for over \$47 million of Federal Aviation Administration Airport Improvement Program grants awarded during federal fiscal year 2020, providing 100% funding for projects at NPIAS airports.

### Funding continues to fall short for non-NPIAS Washington state airports

Despite the temporary influx of federal funds from the CARES Act—which can only be used on Washington's 64 NPIAS airports—available funding for all of Washington's 134 public use airports continues to fall short of the amount necessary for maintaining the infrastructure in a state of good repair. WSDOT Aviation's 2013 Airport Investment Study determined \$8.4 million annually was needed to cover the airport infrastructure funding gap.

In 2018, Washington's Airport Pavement Management System estimated approximately 74% of the pavement area requires routine and preventive maintenance, while 26% of the pavement area requires major rehabilitation or reconstruction. If no additional funding is spent on pavement maintenance and rehabilitation, the overall pavement condition index is estimated to decrease from 73 to 64 by 2025, with approximately 42% of pavement area requiring costly major rehabilitation or reconstruction (see chart at right).

WSDOT estimates approximately \$395.4 million is needed through 2025 to fund pavement maintenance and rehabilitation projects at the 95 airports for which WSDOT has pavement condition data. WSDOT's 2018 pavement condition study determined that if a constrained budget of \$4.5 million per year is spent on airport pavement over the next seven years, a backlog of \$474.1 million in pavement projects is expected to accrue.

### State leverages \$52,000 to secure \$3.1 million in federal and local funds for airport aid, maximizes return on investment of aviation funding

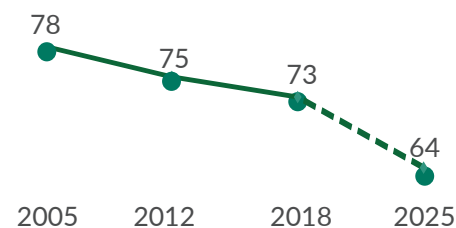
WSDOT awarded a total of \$873,000 to four airports for pavement maintenance and runway projects for fiscal year 2021 (July 2020 through June 2021). Ninety-four percent (\$821,000) of these funds are going to airports that are ineligible for federal funds (non-NPIAS facilities). WSDOT maximized the return on investment of the remaining \$52,000 by using it to leverage \$3.1 million in federal and local funds for use on a NPIAS airport. The influx of federal CARES Act funds for NPIAS airports allowed WSDOT to direct a higher amount of state funding to non-NPIAS airports..

## Notable results

- Federal relief helped WSDOT maintain continuity of operations at airports eligible for federal funds
- Washington state leveraged \$52,000 to secure \$3.1 million in funding for airport investments in FY2021
- Community Aviation Revitalization Board loan program awarded \$4.7 million for 11 projects at 10 airports in 2019-2021 biennium

## WSDOT Aviation projected pavement condition index decreases in constrained funding scenario

2005-2018 PCI<sup>1,2</sup>; 2025 projected PCI<sup>3</sup>



Data Source: WSDOT Aviation Division.

Notes: 1 PCI for 2005 and 2012 excludes Seattle-Tacoma International (SEA), Spokane International (GEG), and Tri-Cities Airport (PSC), Yakima and Boeing Field.

2 PCI for 2018 excludes SEA, GEG, and PSC.

3 Projected PCI for 2025 with a \$4.5 million annual investment.

## Community Aviation Revitalization Board Loan Program awards more than \$4.7 million for 11 projects

The Community Aviation Revitalization Board Loan Program provides low-interest loans to airports with less than 75,000 annual enplanements. The funds from these loans are invested in revenue-producing projects to help these airports become more self-sufficient and less reliant on state and federal funding.

Since its inception on July 1, 2019, the program has received 26 applications totaling \$14.9 million. The CARB has selected and entered into loan agreements for 11 projects totaling \$4,740,000 (see table below).

COVID-19 impacts on businesses and construction have delayed

most of these projects by up to four months. However, if no further delays occur, all of the projects under agreement are expected to be completed by the end of 2021. Both of the Sequim Valley Airport projects have been completed and reimbursed through the CARB Loan program. The Othello Municipal Airport's Hangar project and the William R. Fairchild's Sewer Extension and Hangar Development projects are under construction and expected to be completed before the end of 2020.

## Unmanned Aircraft Systems improve safety and efficiency in Washington

In March 2018, WSDOT instituted the Unmanned Aircraft Systems program. In 2020, the UAS program grew to include 41 remote pilots, and 19 drones of varied capabilities and sizes. Between January and December 2020, WSDOT employees

conducted 120 UAS flights in support of their assigned duties. Using UAS technology led to improvements in safety as well as savings of both time and money.

Uses of UAS technology include piloted inspections of traffic signs, roadways, bridges and other infrastructure, as well as three-dimensional survey modeling for project planning, design and construction. Hardware and software technologies, such as artificial intelligence, can be integrated with UAS drones to improve efficiency and data accuracy.

## Drone technology leads to advanced air mobility options

Advancements in drone technology not only lead to new applications within transportation organizations, but they are also setting the conditions in communities that

## CARB Loan Program awards more than \$4.7 million to 11 projects statewide in 2019-2021 biennium

Project location	Project description	Amount awarded
Port of Port Angeles, William R. Fairchild Airport	Utility and hangar development	\$750,000
City of Chehalis, Chehalis-Centralia Municipal Airport	Above ground fueling facility	\$750,000
City of Othello, Othello Municipal Airport	Ten unit hangar facility	\$450,000
Sequim Valley Airport, Inc., Sequim Valley Airport	Underground storage tank removal	\$15,000
Port of Bremerton, Bremerton National Airport	Multi-purpose facility	\$750,000
Sequim Valley Airport, Inc., Sequim Valley Airport	Access road, fueling area repaving	\$70,000
Pierce County, Thun Field	Hangar doors replacement	\$750,000
City of Chewelah, Chewelah Municipal Airport	Aviation fuel tank facility	\$425,000
City of Kelso, Southwest Washington Regional Airport	Fuel farm improvements	\$500,000
City of Moses Lake, Moses Lake Municipal Airport	New fuel system	\$175,000
Kittitas County, Bowers Field	Hangar utility extension	\$105,000
<b>Total</b>		<b>\$4,740,000</b>

Source: WSDOT Aviation Division.

will foster the use of autonomous transportation like autonomous air taxis. Advanced Air Mobility programs and UAS-based delivery companies seek to augment overburdened transportation systems with alternatives. AAM programs help aviation markets safely develop air transportation systems that move people and cargo between places previously not served or under-served by aviation.



*Advancements in drone technology lead to new transportation applications like this Kitty Hawk Cora eVTOL urban air mobility autonomous air taxi.*

WSDOT partners with industry and community engagement organizations like the Unmanned Systems Industry Council, the Community Air Mobility Initiative, the American Association of State Highway and Transportation Officials, and numerous other groups that are looking to shape the future of air transportation around the world in order to pursue options that align with and support growth for Washington and its citizens.

## WSDOT completes Aviation Economic Impact study

In July 2020, WSDOT completed an 18-month statewide study to capture the economic impact of the state's aviation system. The study found Washington's 134 public-use airports create 407,042 jobs and support \$26.8 billion in labor income (wages) and \$107 billion in economic impact. This was a 63.8% increase in jobs created, a 75.2% increase in labor income, and a 110.2% increase in economic impact since the last study was completed in 2012.

Economic impacts from WSDOT's 2020 study of the aviation system include:

- Commercial passenger service: \$11.54 billion in total economic impact
- Aerospace manufacturing: \$52.08 billion
- Pilot training and certification: \$139.85 million
- Corporate and business aviation: \$80.73 million
- Air Cargo: \$1.12 billion
- Aviation agricultural application: \$117.85 million

### Airport Investment Study leads to development of economic tools

WSDOT's 2015 Airport Investment Study (most recent) led to the development of two economic vitality tools to help identify where the

agency's limited funds are needed most:

- The Aviation Economic Calculator lets airports quantify how changes in visitor activity and spending may increase or decrease economic impact. Airport personnel can input metrics such as capital expenditures, operational data, and related business activity into the calculator, which then projects the airport's economic impacts.
- The Washington Aviation Economic Mapping Application provides airports a link to off-airport businesses that rely on airports to conduct business operations. The geoportal helps airports identify and connect with local businesses that may benefit from aviation and airport services.

For more information about WSDOT Aviation studies, visit: <https://wsdot.wa.gov/aviation/>.

## WSDOT completes Aircraft Electrification Study

The Washington Aircraft Electrification Study (completed in November 2020) identified many of the factors that will influence the adoption of electric aircraft. The study helps provide policy-makers, airport sponsors, industry and other stakeholders with a timeline for introducing electric aircraft into service as well as forecasting the demand for electric aircraft passenger service. It also identified workforce development needs and the environmental impacts of electric aircraft; finding that six airports were interested in focusing their planning efforts on becoming an electric aircraft beta test site.

## WSDOT meets aircraft registration annual goal

WSDOT registered 6,733 aircraft and provided 3,213 exemptions to qualifying aircraft during the 2020 aircraft registration and renewal cycle. WSDOT has met its annual goal of registering at least 95% of all aircraft in the state for 15 years in a row.

WSDOT launched a new aircraft registration system in September 2019, replacing an outdated system introduced in 2002. The new system is more secure and offers users multiple online services in lieu of an in-person office visit. For more information, visit: <http://bit.ly/aircraftregistration>.

*Number of aircraft registered by type during 2020 registration period*

Aircraft type	Quantity
Single Engine	4,826
Home built	1,086
Piston, multi-engine, small	214
Helicopter	194
Turbojet, multi-engine	164
Sail/Glider	118
Turboprop, multi-engine	57
Lighter than air	27
Piston, multi-engine, large	26
Aircraft 8,001-9,000 lbs.	13
Aircraft 4,001-6,000 lbs.	6
Aircraft under 4,001 lbs.	2
<b>Total</b>	<b>6,733</b>

Data source: WSDOT Aviation Division.

Washington state is among the leaders in aviation innovation, with first flights of commercially viable electric aircraft taking place in British Columbia, Canada in 2019 and at Moses Lake in 2020. Electric aviation has the potential to connect communities in the state and region while reducing the impact of passenger and air cargo service on the environment. WSDOT is working to ensure airports and policy makers have the knowledge and tools to be ready to take advantage of this technology.

## Fly Washington Passport Program taking off

The Fly Washington Passport Program promotes safety and education by encouraging pilots to visit Washington's public-use airports.

WSDOT launched the program in April 2019 to support general aviation airports, area businesses and tourism. It is a collaborative program administered jointly by WSDOT, City of Auburn, Auburn Municipal Airport, Washington Airport Management Association, Washington Pilots Association and the Port of Bremerton.

In 2020, nearly 2,000 pilots, passengers, and aviation enthusiasts participated in the program, up from approximately 1,000 in 2019. Participants said the program encouraged them to visit new

locales via Washington's public-use airports. Sixteen participants have visited 100% of the 106 airports and seaplane bases included in the program.

## Commercial Aviation Coordinating Commission continues engagement

In 2019, the Washington State Legislature established the Commercial Aviation Coordinating Commission. WSDOT Aviation coordinates and administers the commission, in addition to offering technical assistance as requested by commission members. By January 1, 2022, the commission will develop recommendations to meet critical aviation system capacity needs in Washington state. The commission will recommend a location for a new airport as well as additional ways to accommodate capacity needs at other facilities.

The commission worked throughout the COVID-19 pandemic and continued to evaluate potential airport sites. Although the commission cannot meet in person due to physical distancing, members continued to receive briefing materials and workbooks to help them formulate screening criteria that could be used to assess the suitability of various airport sites. During this time, the commission also engaged local jurisdictions to determine interest in future expansion of their local airports.

## WSDOT airports provide collaborative training locales

WSDOT-managed airports hosted multiple agencies in 2020 for military, police, and rescue training activities.

The Tieton State Airport in Yakima County supported military mountain hoist training in June 2020 with the U.S. Army Air Ambulance Detachment from Yakima Training Center. They conducted hoist training in the area's mountainous terrain to simulate realistic scenarios, increase team efficiency and improve the effectiveness of interagency operations. The airport was also used for fueling operations to provide realistic hands-on experience for participants. Tieton State Airport also hosted forest firefighting staging

operations in August 2020 that supported response efforts for the Cold Creek fire.

The Bandera State Airport in King County provided staging areas for helicopters that conducted construction lifting operations for the [Puget Sound Emergency Radio Network](#) tower installation project. State-managed airports provide critical staging areas to accommodate natural disaster response and training areas for military, law enforcement, and firefighting readiness. They also offer access to popular local recreational destinations for general aviation pilots and their passengers.

*Contributors include Dave Chenaar, Christina Crea, Eddy Hensley, Rob Hodgman, Eric Johnson, John MacArthur, Tracy Paul, Max Platts, Paul Wolf, Joe Irwin and Dustin Motte*

## WSDOT conducts Airport Master Record Reviews annually

WSDOT conducts Airport Master Record Reviews each year on Washington Airports. In 2020, WSDOT conducted 42 reviews statewide.

These reviews, also known as [5010 Inspections](#), report on airport conditions including physical infrastructure, services, operational environment and any characteristics that may affect safety. The Federal Aviation Administration recommends that 5010 inspections occur every three years.



WSDOT supported training for the U.S. Army Air Ambulance Detachment at Tieton State Airport.

# 79 HIGHWAY SAFETY ANNUAL REPORT

## COVID-19 changes travel; less congestion but more fatalities and serious injuries

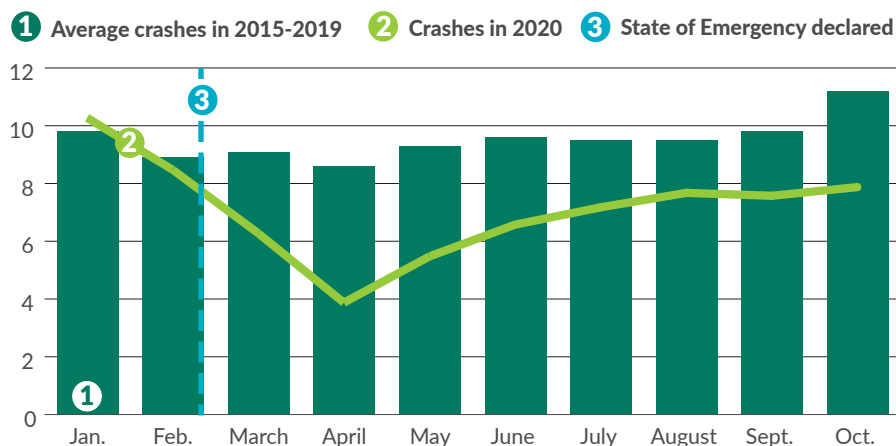
The COVID-19 pandemic has drastically changed how Washingtonians travel across all modes of transportation. In March, several COVID-19 related health measures were enacted by Gov. Jay Inslee to reduce the spread of COVID. The governor's "Stay Home Stay Healthy Order" resulted in a significant reduction in the number of motorized vehicles on the road. Additionally, the contagious nature of COVID-19 has led to physical distancing as common response to limiting the spread of the disease, which affected travel modes with large numbers of users in confined spaces, such as public transport modes including buses, light rail, trains and ferries.

In contrast people using active transportation (walking and biking, etc.) has increased during the pandemic, adding to the number of road users who are more susceptible to injuries on many road systems (see p. 24).

Lower highway vehicle traffic volumes generally result in fewer total crashes because there are fewer vehicles in close proximity due to reduced congestion. Average monthly crashes decreased between 18% and 55% each month during the pandemic (starting from March 2020) as volumes dropped (see chart below). In August 2020, fatal and serious injury crashes increased 34% compared to the same period in 2019 (see p. 23).

### Monthly crashes in Washington state lower than pre-pandemic averages

2015-2019 average crashes by month in thousands; 2020 crashes by month in thousands; All crashes in Washington



Data source: WSDOT Transportation Data, GIS and Modeling Office.

Notes: Due to data processing times, the most recent available full month of crash data is October 2020. ① Gov. Jay Inslee declared a State of Emergency due to the COVID-19 pandemic on February 29, 2020.

### Notable results

- COVID-19 has resulted in between 18% and 55% fewer total crashes each month during the pandemic
- Traffic fatalities increased 61% in August 2020 compared to August 2019
- Annual statewide traffic fatalities decreased 3% from 540 in 2018 to 524 in 2019
- The annual number of serious injuries increased 1.1% from 2,238 in 2018 to 2,263 in 2019

### WSDOT tracks COVID-19 travel effects online

WSDOT tracks the effects of COVID-19 on multimodal transportation system performance through an [interactive online dashboard](#).

The dashboard is updated each weekday and provides in-depth travel trends as well as pre-pandemic comparisons.

## Fatal and severe crashes increase during pandemic

After declining in the early months of the COVID-19 pandemic, fatal and serious crashes saw increases in Washington between July and October 2020 (the most recent data) compared to the five-year rolling average from 2015-2019.

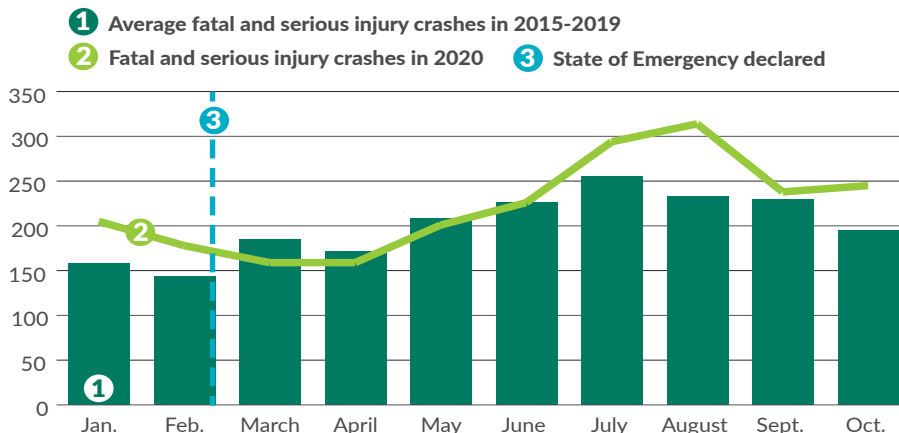
Between July and October 2020, fatal and serious injuries saw an average increase of 19% over the same months for 2015-2019, peaking in August 2020 when there were 313 such incidents.

## Alcohol sales and highway speeds are on the rise

A review of the taxable liters of alcohol sales to consumers through retailers indicates an average 33% increase in sales from January through September 2020 compared to the average for the same months for 2015-2019, increasing the probability of driving under the influence type crashes. National reviews have indicated that driving under the influence is also a likely contributing factor in the higher number of crashes some states are experiencing during the pandemic.

## There were more severe crashes in July-October than pre-pandemic average

2015-2019 average crashes by month; 2020 crashes by month;  
Crashes in Washington state resulting in a fatality or suspected serious injury



Data source: WSDOT Transportation Data, GIS and Modeling Office.

Notes: Due to data processing times, the most recent available monthly crash data is for October 2020. 1 Gov. Jay Inslee declared a State of Emergency due to the COVID-19 pandemic on February 29, 2020.

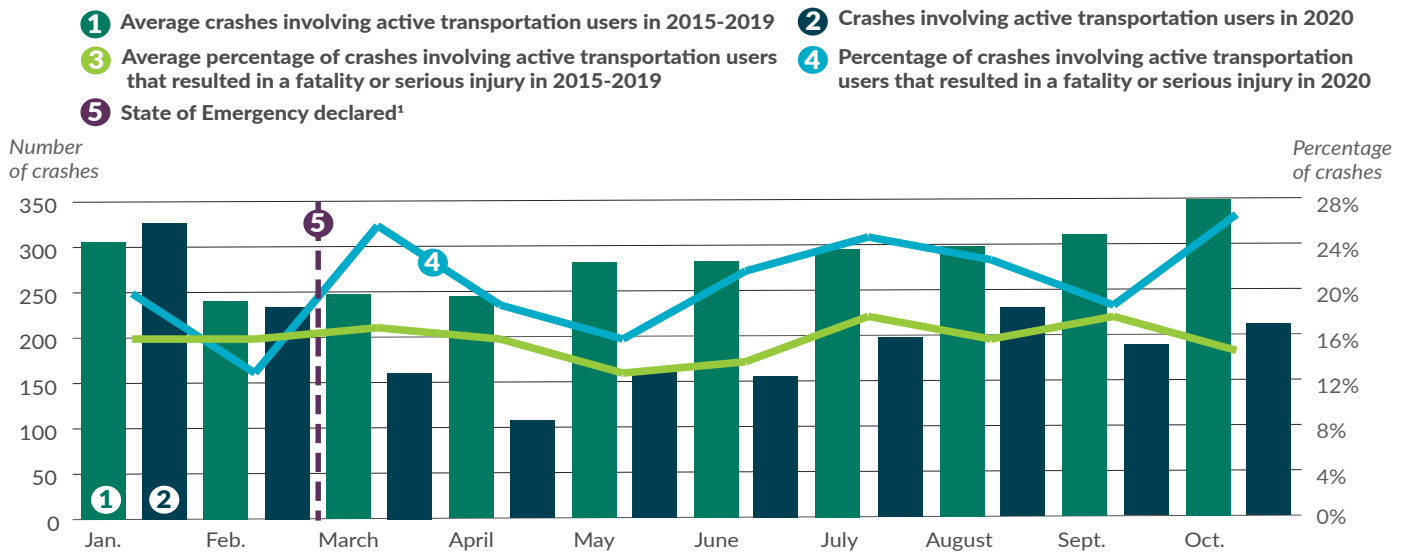
While WSDOT has not been able to fully review the contributing factors to the crashes, increased speeds are part of a national phenomenon during the COVID-19 pandemic and extreme speeding in urban areas is also being reported.

As of December 1, motorists speeds in several western Washington counties showed regular increases of up to 35% faster than those

driven for the same day in 2019. For King, Pierce and Snohomish counties, between March and July (when higher speeds were the norm) daily speeds averaged between 17% to 60% higher compared to pre-pandemic levels. For more information on highway speeds, visit [WSDOT's interactive online multimodal transportation dashboard](#).

## Total crashes involving active transportation users decline during the pandemic, but a higher percentage resulted in a fatality or serious injury compared to pre-pandemic average

2015-2019 average and 2020; Crashes involving active transportation users by month; Percentage of crashes involving active transportation users



Data source: WSDOT Transportation Data, GIS and Modeling Office.

Notes: Due to data processing times, the most recent available monthly crash data is for October 2020. **1** Gov. Jay Inslee declared a State of Emergency due to the COVID-19 pandemic on February 29, 2020.

## Active transportation fatal and serious injury crashes increase during pandemic

With more Washingtonians seeking different modes of transportation during the COVID-19 pandemic, the number of people walking, biking, skateboarding and using means other than cars to get around has increased.

As of December 1, 2020 the number of pedestrians counted increased 51% over 2019 levels and the number of bicyclists was up 54%. The number of active transportation users involved in fatal and serious injury crashes compared to the total number of active transportation crashes increased eight percentage points between September and October 2020, and was 27% higher than the 2015-2019 average for October. Fatal crashes have also seen an upward trend, with October 2020 being 37% over the five-year rolling average for that month during 2015-2019.

## Washington working to meet goal of no fatalities or serious injuries by 2030

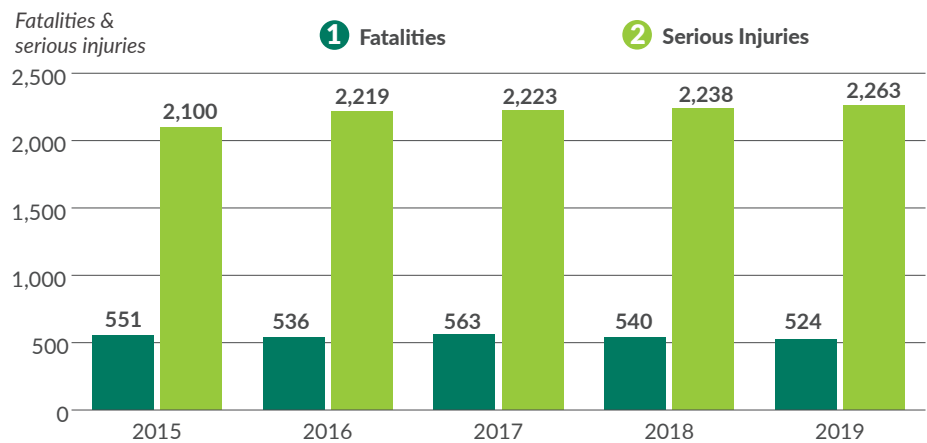
WSDOT and safety partners statewide are considering what steps to achieve, or make significant progress toward, meeting Washington's 2030 goal of zero traffic fatalities and serious injuries.

The safety of all travelers continues to be a major focus for Washington state and WSDOT and its partners are working to improve efforts statewide. There were 524 traffic fatalities on all public roads in 2019, a 3% reduction compared to the 540 in 2018, and a 5% reduction since 2015 when there were 551 traffic fatalities.

Serious traffic injuries continue to trend upward. There were 2,263 serious injuries in 2019, representing a 1.1% increase compared to the 2,238 in 2018 and a 7.8% increase since 2015 when there were 2,100 serious injuries.

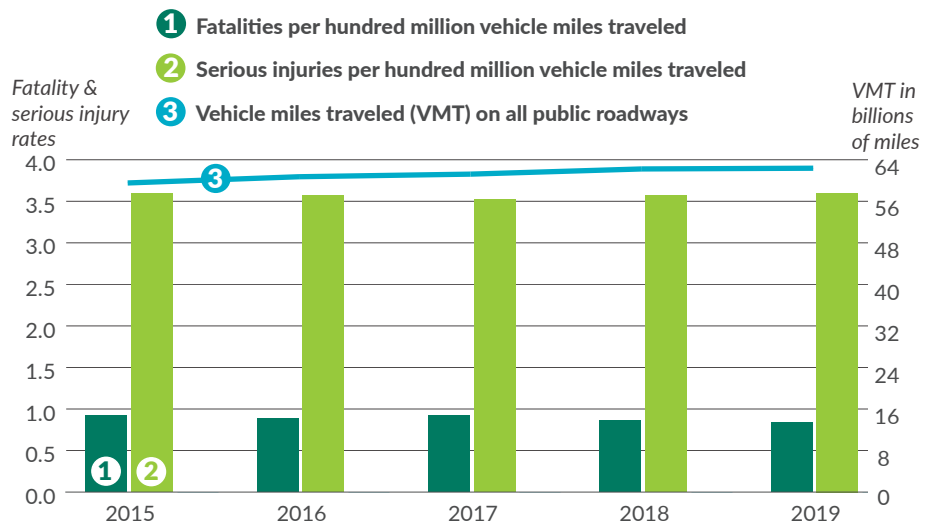
While vehicle miles traveled has increased 4.7% from 59.7 billion in 2015 to 62.5 billion in 2019, the rate of traffic fatalities in comparison has decreased 9.3% from 0.924 to 0.838 during this five-year period. The serious injury rate has increased slightly during this time, up 0.2% from 3.591 to 3.599 per billion VMT.

### Serious injuries continue upward trend in 2019, fatalities improve slightly 2015 through 2019



### Fatality and serious injury rates decline for second year in a row

2015 through 2019; Statewide traffic fatalities and serious injuries on public roadways per 100 million vehicle miles traveled (VMT) on public roadways; Statewide VMT on public roadways in billions of miles



Data sources: Washington Traffic Safety Commission - Fatality Analysis Reporting System (FARS); WSDOT - Crash Database, Highway Performance Monitoring System; WSDOT - Transportation Data, GIS & Modeling Office

Notes: Fatality data is from the preliminary fourth quarter of 2019 release of the WA-FARS Analytical File, and the final 2019 WA-FARS file. The serious injury count is as of June 2020. Both fatality and serious injury numbers are updated as new information becomes available and, as a result, may not match numbers from previous Gray Notebooks.

## Aiming for zero fatalities and serious injuries for all travelers on Washington state highways

Target Zero, as Washington's Strategic Highway Safety Plan (SHSP), reflects the vision of zero fatalities and serious injuries by 2030 and a value system in which no highway travel death is acceptable. State safety partners recognize that although this goal might not be achievable, reducing fatal and serious crashes to the largest extent possible with whatever resources available is paramount.

WSDOT uses Target Zero as a basis for its work on roadway infrastructure changes to prevent fatal and serious injury crashes and reduce the severity of crashes. To that end, WSDOT focuses on the planning, design, operation, and maintenance of roadway infrastructure along with the deployment of high-performing countermeasures known to reduce fatal and serious crashes. WSDOT also uses Target Zero to help identify investment strategies for the agency's safety program and to measure progress toward its safety performance goals.

The SHSP emphasis areas are organized into the following categories: high risk behavior, crash types, road users, and decisions and performance. The plan also identified some areas for monitoring. Within the SHSP emphasis areas, WSDOT's primary focus is on those that the agency can directly affect by implementing infrastructure countermeasures: crashes involving roadway departure (lane departures), crashes that are intersection-related; and crashes involving the different user groups identified as priorities in the plan (younger drivers, older drivers, people walking, people biking, heavy vehicles, and motorcyclists).

Lane departure crashes, also known as "roadway departure crashes," are one of the leading crash types identified in the SHSP. WSDOT uses widespread, lower-cost strategies aimed at reducing the incidence of high severity lane departure crashes, including using enhanced warning signs, centerline, and shoulder rumble strips that alert drivers when their vehicles are leaving the lane, and high-friction surface treatments; and reducing the severity of these crashes using traffic barriers. In 2019, there were 269 lane departure fatalities and 825 lane departure serious injuries compared to 259 and 756 in 2018, respectively.

**Intersection-related crashes:** these are crashes that occur at or are related to intersections and ramps. There were 107 intersection-related fatalities and 765 intersection-related serious injuries in 2019 compared to 111 and 802 in 2018. The agency recognizes continuing improvements to performance-based decision-making, data collection, and analysis are essential in any efforts to effectively reduce fatalities and serious injuries on Washington roads.

## WSDOT sets safety goals based on Target Zero

WSDOT works with its partners and the public to update the state's [Strategic Highway Safety Plan \(SHSP\)](#), [Target Zero](#), every three years. Data analysis and evaluation are used to review and revisit Washington's safety goals, priorities, and emphasis areas. Collaboration plays a key role to ensure the SHSP remains a relevant document to all stakeholders.

Target Zero brings safety partners together, where combined efforts can achieve greater results than independent efforts. Its aspirational goal of zero fatalities and serious injuries by 2030 provides a clear and common vision for improving Washington.

Target Zero Emphasis Areas	2015-2018 Average	2018	2019
Lane departure	891	847	925
Intersection related	792	812	781
Involving pedestrians and/or bicyclists	591	655	590
Involving motorcyclists	459	452	490
Involving younger drivers age 16-25	726	695	691
Involving heavy trucks	164	161	174

Data Source: WSDOT Engineering Crash Data Mart.

**Pedestrians:** These road users are often referred to as active transportation and include users of mobility assistive devices. In 2019, there were 113 pedestrian related fatalities and 464 serious injuries compared to 119 and 523 in 2018. To reduce the potential for crashes between drivers and active transportation users, state safety partners are designing roads with reduced speeds, working to reduce distances at road crossings, increasing visibility, separating infrastructure (e.g. bike lanes), completing transportation network connections, and reducing the risks of impaired-involved crashes.

#### State Active Transportation plan comment period open

The [draft of the State Active Transportation Plan](#) will be open for public review and comment through February 14, 2021. It includes an analysis of state routes and a methodology for identifying road segments and crossings that need changes in future to reduce crash potential and improve mobility and connectivity. It is available for review and comment at

### Rumble strips systemic review supports roadway improvements in state

Rumble strips are regarded as one of the most effective countermeasures to treat locations where drivers leave the roadway. WSDOT has about 3,400 miles of centerline rumble strips and 500 miles of shoulder rumble strips

In 2019, WSDOT conducted a systemic review that determined the installation of rumble strips for facilities with annual average daily traffic of 20,000 or higher offers the lowest potential benefit. Other findings showed failure to consider the density of target crashes for the group of similar sites would focus investment on the largest portion of the system but with the lowest density of these crashes.

Because crashes fluctuate from year to year, a more advanced analysis approach was needed to help WSDOT more effectively target investment for the greatest return on investment. To avoid penalizing locations with fewer crashes and identify sites with greatest return

### Data sources

Fatality data in this article is from the preliminary fourth quarter of 2019 release of the WA-FARS Analytical File and the final 2018 WA-FARS file. The serious injury count is from WSDOT Crash Database as of June 2020 and represents the yearend data used for federal reporting. Fatality and serious injury numbers are updated as new information is available and, as a result, may not match numbers from previous GNBs.

on investment it was determined to be necessary to conduct predictive analysis from the AASHTO Highway Safety Manual of the two-lane rural state highway system and benefit-cost of rumble strips installation.

The results of this analysis are now deployed on the WSDOT Pavement Management System so agency staff can access the results along with line diagrams of geometrics, pavement characteristics, traffic characteristics and other key project information. This analysis provides the foundation for not only a system-wide perspective on project selection but also supports other statewide analysis that can support scoping, design, and project development across the state.

*Contributors include: Mike Bernard, John Milton and Ida van Schalkwyk and Elena Brunstein,*

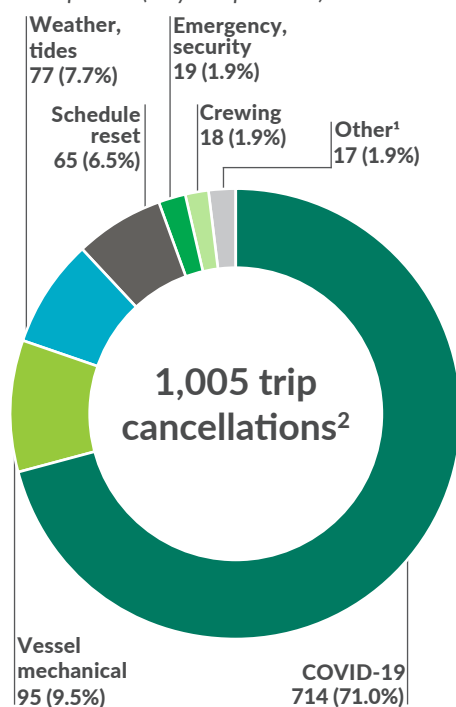
# 79 WASHINGTON STATE FERRIES QUARTERLY UPDATE

## Notable results

- WSF completed 33,823 (97.2%) of its 34,792 regularly scheduled trips in the first quarter of fiscal year 2021
- WSF ridership was approximately 4.13 million in the first quarter of fiscal year 2021, which was 3.19 million (43.5%) fewer than the corresponding quarter in FY2020

## COVID-19 response causes most cancellations for the quarter

First quarter (July - September) FY2021



Data source: Washington State Ferries.

Notes: Fiscal years run from July 1 through June 30. As a result, July through September 2020 represents the first quarter of FY2021.

¹ The category for "Other" includes issues at terminals, and events like disabled vehicles, environmental reasons and non-vessel related incidents that can impact operations.

² WSF replaced 36 of the 1,005 canceled trips for a total of 969 net missed trips.

## WSF service reliability decreases to 97.2%

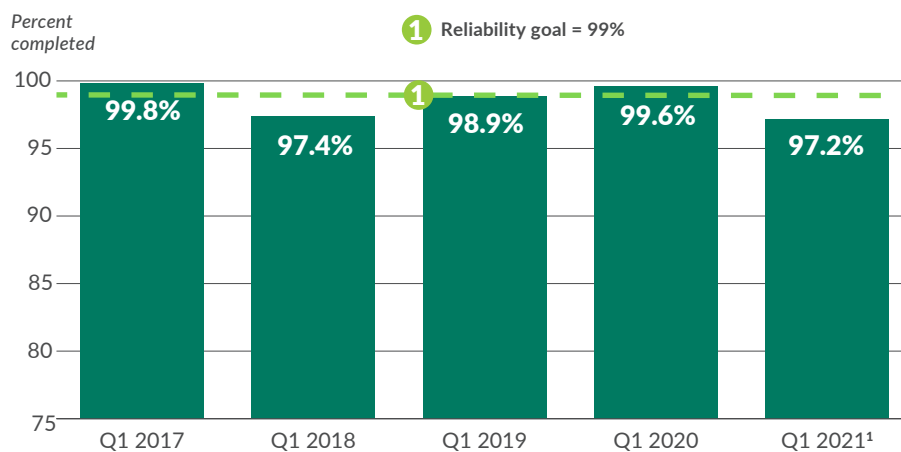
There were 34,792 regularly scheduled summer ferry trips during the first quarter of FY2021 (July through September 2020). Washington State Ferries completed 97.2% (33,823) of these trips. This percentage missed the annual service reliability performance goal of 99%, and is a decrease of 2.4 percentage points compared to the same quarter in FY2020.

In the first quarter of FY2021, WSF canceled 1,005 trips but was able to replace 36 of them, resulting in 969 net missed trips (see chart at left). This was 783 more net missed trips compared to the same quarter in FY2020. Due to the reduction in passengers resulting from the COVID-19 pandemic, WSF remained on a [modified winter schedule](#), which resulted in 18.7% fewer sailings scheduled than in the same quarter last year when there were 42,817. No scheduled trips occurred on the Anacortes/Friday Harbor/Sidney, B.C. route because Canada closed its borders to international travellers due to COVID-19.

The majority of missed trips (714) were due to service reductions related to COVID-19. Over 100 WSF crew members were reassigned with teleworking tasks or on leave because they were in high-risk health groups. Due to the resulting vessel-staffing challenges, WSF canceled sailings on the Mukilteo/Clinton and Edmonds/Kingston routes during some weekend days in all of July and the first three weekends in August. These reductions were in addition to the modified winter schedule and were counted as missed trips because there was not enough advance notice to change the published schedule.

## WSF trip reliability decreases due to the pandemic

First quarters; Fiscal years 2017 through 2021; Percent of scheduled ferry trips completed



Data source: Washington State Ferries.

Notes: Fiscal year = July 1 through June 30. As a result, July through September 2020 represents the first quarter of FY2021. ¹ During Q1 FY2020, WSF operated on a modified winter schedule.

## On-time performance down during COVID-19 pandemic

On-time performance was 80.3% in the first quarter of FY2021, 5.2 percentage points lower than the same quarter in FY2020. The quarterly rate is below WSF's annual on-time performance goal of 95%.

On-time performance increased on five of the eight active routes compared to the first quarter of FY2020.

The San Juan Domestic route had the largest decrease (-33.7%) compared to the same quarter in FY2020. This is primarily due to operating on the modified winter schedule which has shorter terminal dwell times than the normal summer schedule. Fewer sailings resulted in ferries being more fully loaded, which lead to longer dwell times

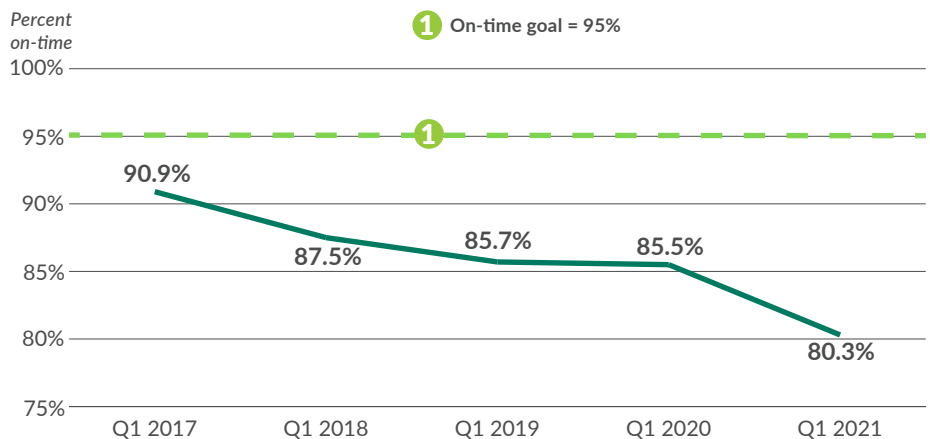
to load and unload. Excluding this route, the system achieved 89.8% on-time performance.

During the first quarters of the last five fiscal years, WSF has missed

the annual goal of 95% of all trips completed on-time. On-time performance has steadily decreased from the five-year high of 90.9% in FY2017 to 80.3% in FY2021.

### On-time performance for WSF hits five-year low during COVID-19 pandemic

First quarters; Fiscal years 2017 through 2021; Percent of ferry trips reported as on-time<sup>1</sup>



Data source: Washington State Ferries.

Notes: Fiscal year = July 1 through June 30. As a result, July through September 2020 represents the first quarter of FY2021. 1 A trip is considered delayed when a vessel leaves the terminal more than 10 minutes after the scheduled departure time.

## WSF on-time performance and reliability down in the first quarter of fiscal year 2021

July through September FY2020 and FY2021; Annual on-time goal = 95%; Annual service reliability goal = 99%

Route	On-time performance (first quarter)				Trip reliability (first quarter)			
	FY2020	FY2021	Status	Trend	FY2020	FY2021	Status	Trend
San Juan Domestic	70.9%	37.2%	-33.7%	↓	99.7%	99.3%	-0.4%	↓
Anacortes/Friday Harbor – Sidney, B.C. <sup>1</sup>	82.5%	N/A	N/A	N/A	100%	N/A	N/A	N/A
Edmonds – Kingston	90.9%	94.9%	4.0%	↑	99.9%	92.7%	-7.2%	↓
Fauntleroy – Vashon – Southworth	90.6%	87.2%	-3.4%	↓	99.7%	99.3%	-0.4%	↓
Port Townsend – Coupeville	92.7%	91.9%	-0.8%	↓	99.5%	96.2%	-3.3%	↓
Mukilteo – Clinton	85.8%	89.7%	3.9%	↑	97.3%	97.4%	0.1%	↑
Point Defiance – Tahlequah	93.6%	95.6%	2.0%	↑	99.9%	99.7%	-0.2%	↓
Seattle – Bainbridge Island	78.0%	79.5%	1.5%	↑	99.8%	99.8%	0.0%	↔
Seattle – Bremerton	89.7%	94.9%	5.2%	↑	99.9%	100%	0.1%	↑
<b>Total system</b>	<b>85.5%</b>	<b>80.3%</b>	<b>-5.2%</b>	<b>↓</b>	<b>99.6%</b>	<b>97.2%</b>	<b>-2.4%</b>	<b>↓</b>

Data source: Washington State Ferries.

Notes: FY = fiscal year (July 1 through June 30). As a result, July through September 2020 represents the first quarter of FY2021. A trip is considered delayed when a vessel leaves the terminal more than 10 minutes after the scheduled departure time. WSF operates 10 routes but combines the Anacortes – Friday Harbor route with the San Juan Interisland route as the San Juan Domestic for on-time performance and service reliability. Due to unique fare collection methods in the San Juan Islands, and similar origin and destination legs on both routes, some statistics cannot be separated between the two routes. Numbers shown in the table have been rounded to the tenth and may not add to 100%.

1 The International route was closed during the quarter due to COVID-19.

## Ridership decreases during the first quarter of FY2021

WSF ridership was approximately 4.13 million during the first quarter of FY2021, which was 451,210 fewer riders than projected, and 3,188,327 (43.5%) fewer than the corresponding quarter in FY2020.

Due to the COVID-19 pandemic, more people are telecommuting, and fewer people are traveling. The number of vehicles and walk-on passengers were down, 74.3% and 54.9% respectively, compared to the same quarter in FY2020. To reduce the possible spread of the COVID-19 virus, vehicle passengers are encouraged to remain in their cars while on the ferry.

## Passenger injuries decrease, employee injuries increase

The rate of passenger injuries per million riders decreased from 1.91 in the first quarter of FY2020 to 0.97 in the corresponding quarter of FY2021. This represents a decrease in injuries from 14 to four. The passenger injury rate during the quarter exceeded WSF's goal of 1.0 injury or less per million riders.

The rate of Occupational Safety and Health Administration recordable crew injuries per 10,000 revenue service hours increased from 4.1 in the first quarter of FY2020 to 7.8 in the same quarter of FY2021. This represents an increase in injuries from 14 in FY2020 to 20 in the corresponding quarter of FY2021.

## Revenue down this quarter, but exceeds projections

While revenue in the first quarter of FY2021 was almost \$19 million less than the same quarter last year, the quarterly revenue exceeded projections (developed in June 2020) for FY2021. Projected revenue for the first quarter of FY2021 was \$42,509,749; actual revenue collected was \$44,585,658, which was 4.9% above projections.

With the increase in telecommuting there was a 64.3% decrease in use of multi-ride cards (which cover 10 one-way trips on a specific route for passengers and/or vehicles) in the first quarter of FY2021 compared to the same quarter in FY2020. The number of passengers using transit passes (which cover 31 round trips in a calendar month for passengers only) in the first quarter of FY2021 decreased by 83.7% compared to the same quarter in FY2020.

## Rate of passenger complaints increases

There were 763 complaints in the first quarter of FY2021, a decrease from 1,013 during the same quarter in FY2020. However, the ratio of complaints per million riders was 18.5 in FY2021, up from 13.8 during the same quarter in FY2020. There were 282 (37% or 6.82 per million passengers) complaints associated with COVID-19 related to late boats and reduced schedules, people not wearing masks, and refund delays. The largest number of complaints by category was employee behavior with 177 (23.2%) which represents 4.3 complaints per million riders. There were 18 compliments in this first quarter of FY2021, down from 36 in the same quarter of FY2020.

*Contributors include Matt Hanbey, Donna Thomas, Joe Irwin and Dustin Motte*



The online version of this article links to an interactive map at [bit.ly/GNBferriesmap](https://bit.ly/GNBferriesmap).

## Customer feedback: WSF shows patience in hard times

"I would like to give a well-deserved rave to the crew of the Chelan on the scheduled 10:20 a.m. Anacortes to Lopez/Friday Harbor run on Wednesday 7/15. We left the dock already 40 minutes late, then had to wait for the Samish to clear the dock at Lopez. After unloading and loading an announcement came on asking for a passenger by name. I happened to be sitting nearby when she identified herself. She did need to get off the boat at Lopez. I was amazed at the patience, compassion and caring the crew showed in assisting her and her luggage off the boat. I live in Friday Harbor and am a frequent ferry rider so I know that dealing with weather, unruly passengers, delays and now a virus is frustrating and difficult for the crews. Their actions on that ride put them over the top! Thank you, thank you for always being there for us."

(Comment edited and is an excerpt)

# 79 INCIDENT RESPONSE QUARTERLY UPDATE

## WSDOT Incident Response teams help improve driver safety at 11,254 incidents

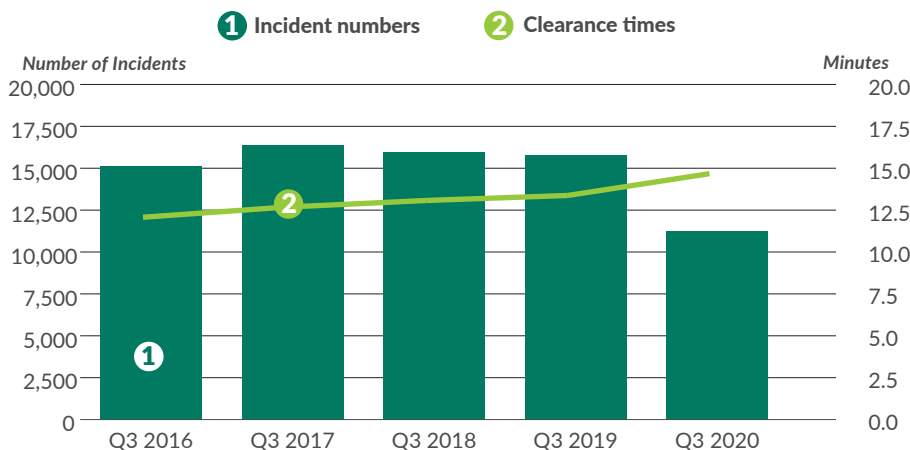
WSDOT's Incident Response teams assisted at 11,254 incidents during the third quarter (July through September) of 2020. This averages to IR teams responding to an incident scene every 11 minutes and 46 seconds during the quarter. Statewide travel continues to be reduced in response to COVID-19 and as a result, there were 4,537 (28.7%) fewer incidents during the third quarter of 2020 compared to the same quarter in 2019 (15,791).

On average, IR teams cleared each of the 11,254 incidents in 14 minutes and 36 seconds. This is one minute and 18 seconds (9.8%) slower than the average incident clearance time for the same quarter in 2019.

Of the 11,254 total incidents, 8,320 (73.9%) lasted less than 15 minutes, 2,729 (24.2%) lasted 15-90 minutes and 205 (1.8%) incidents lasted more than 90 minutes (see chart on right). During the third quarter of 2020, there was a 3.8% decrease in incidents lasting more than 90 minutes, while there were 28.1% fewer incidents lasting 15-90 minutes and 29.4% fewer incidents lasting less than 15 minutes, compared to the same quarter in 2019.

### Average clearance times increase slightly over past five years

Third quarters; 2016 through 2020; Number of incident responses; Clearance times in minutes



Data source: Washington Incident Tracking System.

Notes: The data above only accounts for incidents to which an IR unit responded. IR data reported for the current quarter (Q3 2020) is considered preliminary. In the previous quarter (Q2 2020), WSDOT responded to 10,356 incidents, clearing them in an average of 13.4 minutes. These numbers have been confirmed and are now finalized.

## WSDOT teams respond to 205 over-90-minute incidents

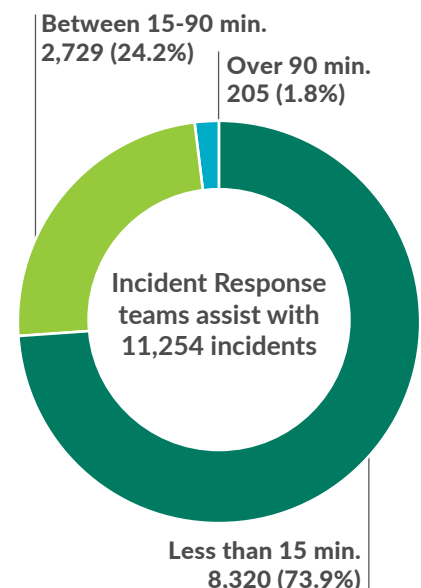
IR teams provided assistance at the scene of 205 incidents that lasted more than 90 minutes during the third quarter of 2020. This was eight fewer incidents—a 3.8% decrease—than the same quarter in 2019. While these over-90-minute incidents accounted for 1.8% of all incidents, they resulted in 24.2% of all incident-related delay costs (see chart on next page).

## Notable results

- WSDOT responded to 11,254 incidents during the third quarter of 2020, 4,537 (28.7%) fewer than during the same quarter in 2019
- WSDOT cleared incident scenes in an average of 14 minutes and 36 seconds during the third quarter of 2020, one minute and 18 seconds (9.8%) slower than the same quarter in 2019
- In the third quarter of 2020, IR teams provided an estimated \$20.5 million in economic benefit by reducing the effects of incidents on drivers
- Based on WSDOT's budget for IR, every \$1 spent on the program provided drivers roughly \$13.70 in economic benefit

## WSDOT clears majority of traffic incidents in 15 minutes or less

Third quarter 2020; Times to clear incidents; Number and percentage of incidents



Data source: Washington Incident Tracking System.

Four of the 205 over-90-minute incidents took six hours or more to clear (referred to as extraordinary incidents). This is five fewer extraordinary incidents than the same quarter in 2019. The four extraordinary incidents took an average of seven hours and 10 minutes to clear, accounting for 5.3% of all incident-induced delay costs for the quarter.

The average incident clearance time for all over-90-minute incidents was two hours and 46 minutes. This is about three minutes faster than the same quarter in 2019. Excluding the four extraordinary incidents, WSDOT's average clearance time for over-90-minute incidents was three hours and five minutes.

WSDOT focuses on safety when clearing incidents, working to reduce incident-induced delay as well as the potential for secondary

incidents. Secondary incidents occur in the congestion resulting from a prior incident and may be caused by distracted driving, unexpected slowdowns or debris in the roadway.

## Incident Response provides economic benefit to travelers

The IR teams help alert drivers about incidents and clear roadways to reduce the likelihood of new incidents. WSDOT's assistance at incident scenes provided an estimated \$20.5 million in economic benefit during the third quarter of 2020 by reducing the impacts of incidents on drivers. This benefit is provided in two ways:

- WSDOT reduces the time and fuel motorists waste in incident-induced traffic delay by clearing incidents quickly. About \$11.7 million of IR's economic benefit for the quarter resulted from reduced traffic delay.

- WSDOT helps prevent secondary incidents by proactively managing traffic at incident scenes. About \$8.9 million of IR's economic benefit for the quarter resulted from preventing an estimated 2,132 secondary incidents and resulting delay. This figure is based on Federal Highway Administration data that indicates 20% of all incidents are secondary incidents.

Based on WSDOT's budget for IR, every \$1 spent on the program during the third quarter of 2020 provided drivers roughly \$13.7 in economic benefit.

## WSDOT's Incident Response teams provide an estimated \$20.5 million in economic benefit

Third quarter 2020; Incidents by duration in minutes; Time in minutes; Costs and benefits in millions of dollars

Incident duration	Number of incidents <sup>1</sup>	Percent blocking <sup>2</sup>	Average incident clearance time <sup>3</sup> (all incidents)	Cost of incident-induced delay	Economic benefits from IR program <sup>4</sup>
Less than 15 min.	8,320	19.5%	4.8	\$10.2	\$4.7
Between 15 and 90 min.	2,729	52.0%	32.1	\$25.1	\$11.1
Over 90 min.	205	83.4%	166.2	\$11.3	\$4.8
Total	11,254	28.7%	14.6	\$46.6	\$20.5
Percent change from the third quarter of 2019	↓28.7%	↑3.5%	↑9.8%	↓21.4%	↓21.8%

Data source: Washington Incident Tracking System.

Notes: Some numbers do not add up to 100% due to rounding.

1 Teams were unable to locate 594 of the 11,254 incidents. Because an IR team attempted to respond, these incidents are included in the total incident count. Other performance measures do not include the incidents that IR teams were unable to locate.

2 An incident is considered blocking when it shuts down one or more lanes of travel.

3 Incident clearance time is the time between an IR team's first awareness of an incident and when the last responder has left the scene.

4 Estimated economic benefits include benefits from delay reduction and prevented secondary incidents. See [WSDOT's Handbook for Corridor Capacity Evaluation, 2nd edition, pp. 45-47](#) for WSDOT's methods to calculate IR benefits.

## Incident numbers do not always directly influence the cost of incident induced delay

The 11,254 incidents during the quarter had a total incident-induced delay cost of \$46.6 million. The majority of these incidents were less than 15 minutes. The cost of these 8,320 incidents, which comprised 73.9% of all incidents, was \$10.2 million (21.9% of the total cost). There were 2,729 incidents lasting 15-90 minutes, which accounted for 24.2% to the total amount, and cost \$25.1 million (53.9% of the total cost). Incidents lasting more than 90 minutes made up 205 (1.8%) of all incidents for the quarter and cost \$11.3 million (24.2% of the total cost during the quarter).

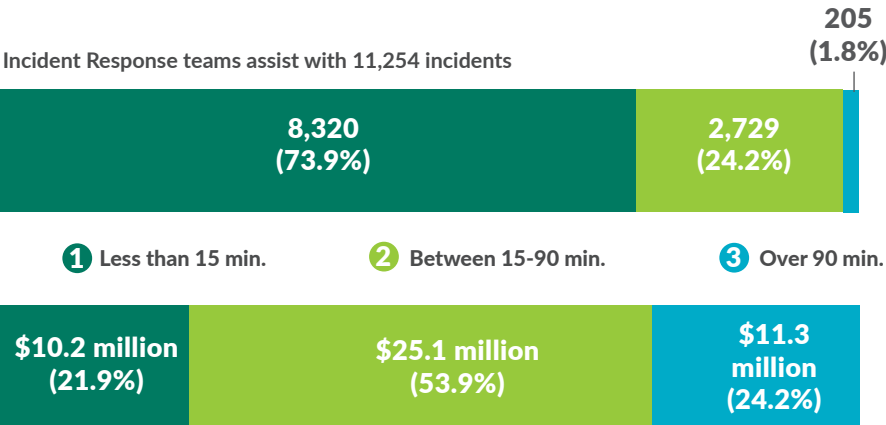
Performance data reported in this article is from WSDOT's Washington Incident Tracking System, which tracks incidents to which a WSDOT IR team responded.

For more information on how WSDOT calculates these figures and all IR performance metrics, see [WSDOT's Handbook for Corridor Capacity Evaluation, 2nd edition, pp. 45-47](#).

*Contributors include Vince Fairhurst, Tony Leingang, Michele Villnave, Hui Dong and Takahide Aso*

### Cost of incident-induced delay not proportional to response numbers

*Third quarter 2020; Number and percentage of incidents; Cost of incident induced delay; Time to clear incidents*



Total Cost of incident induced delay \$46.6 million

Data source: Washington Incident Tracking System.

### Customer feedback:

- "Chuck was kind, courteous, willing to go above and beyond."
- "Wayne was very helpful, quick and efficient. Thank you!"
- "John was super helpful and showed up just in time. I had no idea that he could help me. Nothing short of a hero. I appreciate it!"

### Incident Response helps reduce congestion

The mission of WSDOT's Incident Response program is to clear traffic incidents safely and quickly, minimizing congestion and the risk of secondary incidents. The statewide program has a biennial budget of \$12 million, about 59 full-time equivalent positions and 69 dedicated vehicles. Teams are on-call 24/7 and actively patrol approximately 1,300 centerline miles (3,400 lane miles) of highway on major corridors around the state during peak traffic hours. This covers approximately 18% of all state-owned centerline miles statewide.

# 79 WATER QUALITY ANNUAL REPORT

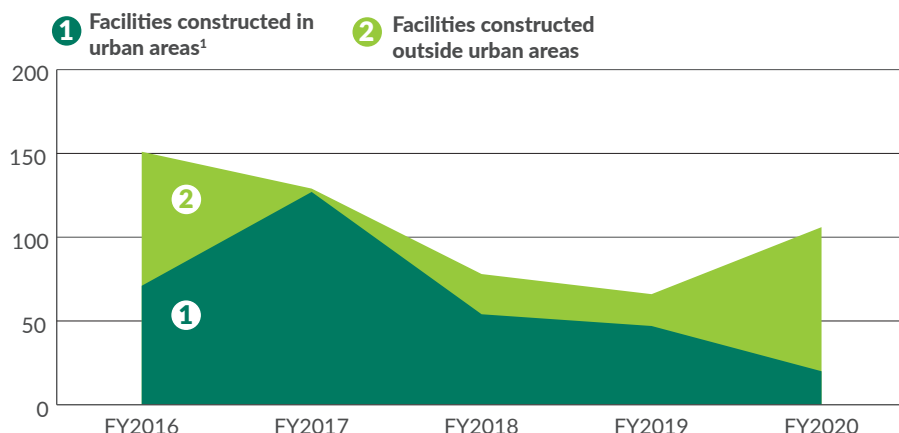
## WSDOT builds 106 new stormwater facilities during fiscal year 2020

WSDOT built 106 stormwater treatment and flow control facilities during FY2020 (July 2019 through June 2020) to help prevent adverse effects to rivers, lakes and other water bodies (see graph below). Of the 106 facilities, 20 were constructed in urban areas of the state covered by the agency's municipal stormwater permit (see box at right).

All 106 stormwater facilities were components of larger WSDOT transportation projects. The number of new stormwater facilities WSDOT builds each year depends on how many transportation projects are under construction. For example, when WSDOT adds new lanes to a highway, the agency is required to add a stormwater facility such as a biofiltration swale (a vegetated ditch that helps remove pollutants from stormwater before it flows into a river, lake or groundwater).

### Most stormwater management facilities constructed outside urban areas in FY2020

Fiscal years 2016-2020; number of facilities constructed



Data source: WSDOT Environmental Services Office.

Note: <sup>1</sup> Urban areas are defined as areas covered by the municipal stormwater permit, which authorizes WSDOT to discharge stormwater into state waters and sets requirements for pollution reduction.

## WSDOT prevents sediment from reaching water bodies

During FY2020, WSDOT collected 2,943 cubic yards of sediment (see box at right). Of this sediment, 2,851 cubic yards came from catch basins and stormwater facilities while 92 cubic yards came from ferry terminals. This was 40 cubic yards (1.34%) less than the 2,983 cubic yards removed in FY2019. Many variables impact the amount of sediment removed each year, such as the weather and the amount of sand used for icy roads, the number of stormwater facilities in need of maintenance, and available funding. Once removed, sediment is considered a solid waste and WSDOT disposes of it accordingly.

Contributors include Gregor Myhr, Sheena Pietzold, Robert Price, Cory Simon, Garrett Starks, Trett Sutter and Dustin Motte

### Notable results

- WSDOT built 106 stormwater treatment and flow control facilities in FY2020
- WSDOT prevented 2,943 cubic yards of sediment from reaching water bodies in FY2020

### What the municipal stormwater permit does

The municipal stormwater permit, issued by the Washington State Department of Ecology, authorizes WSDOT to discharge stormwater from highways in urban areas into state waters. It also sets requirements for pollution reduction. For more information, see <http://bit.ly/stormwaterpermit>.

### Sediment

Sediment is loose particles of sand, clay, silt and other substances produced by erosion and decomposing material. It can be deposited in, transported by or suspended in water. Sediment that reaches a body of water can decrease water clarity, prevent sunlight from reaching aquatic plants, smother fish spawning areas and cause a variety of other problems.

# 79 CAPITAL PROJECT DELIVERY PROGRAMS QUARTERLY UPDATES

## WSDOT completes six Connecting Washington projects during the quarter

WSDOT completed six Connecting Washington projects and contracts during the fifth quarter (July to September 2020) of the 2019-2021 biennium, with two being on time and four late (see [p. 37](#) for additional information).

While WSDOT did not complete any Nickel or Transportation Partnership Account projects during the quarter, it has completed a total of 383 of the original Nickel and TPA construction projects since July 2003—with 86% on time and 91% on budget. The cost at completion for the 383 Nickel and TPA construction projects (which are included in the original 421 Nickel and TPA projects) was approximately \$10.3 billion, 1.5% less than the baseline cost of \$10.5 billion. The agency currently has four Nickel and TPA projects underway (see p. 35 for additional information).

## Nickel and Transportation Partnership Account funding continues to be lower than original projections

Fuel tax collections show 2003 and 2005 revenue forecasts, which were used to determine project lists, could not anticipate how the economic recession that began in 2007 would affect fuel tax revenues. These forecasts also could not anticipate how the response to the ongoing COVID-19 pandemic would affect transportation and travel throughout Washington. The 2003 Nickel and 2005 TPA gas taxes that fund projects are based on a fixed tax rate per gallon. As such, reduced gasoline and diesel consumption and sales lead to reduced tax revenue.

Fuel tax funding from the 2005 TPA package has been lower than the original March 2005 projection. The original projection for the TPA account was \$4.9 billion over a 16-year period from 2005 through 2021. Current TPA projections through 2021 are estimated to be \$4.0 billion, approximately \$971 million (20.3%) less than the original 2005 projection.

The 2003 Nickel transportation package was originally a 10-year plan, with revenues forecasted to total \$1.9 billion from 2003 through 2013. Fuel tax revenues collected during this period were 10.2% lower than the original March 2003 projection.

Nickel and TPA gas tax revenues are used to pay the debt on the bonds sold to finance planned projects. Once all the bonds are sold, revenues collected will be used to pay the debt.

*Contributors include Nguyen Dang, Mike Ellis, Penny Haeger, Thanh Nguyen, Aaron Ward, Dan Wilder, and Joe Irwin*

## Notable results

- *WSDOT completed six Connecting Washington projects and contracts during the fifth quarter of the 2019-2021 biennium*
- *WSDOT advertised 20 of 25 Pre-existing Funds projects during the fifth quarter of the 2019-2021 biennium*
- *WSDOT has completed 383 Nickel and TPA projects since 2003, with 86% on time and 91% on budget*

## WSDOT's Watch List projects available online:

To streamline work and ensure accuracy and consistency, the Watch List is no longer featured in the quarterly Gray Notebook. This change helps the Gray Notebook better align with [WSDOT's Capital Program Development and Management Office and its monthly online Watch List of projects](#) that have or may have significant changes in scope, schedule or budget.

# CURRENT LEGISLATIVE EVALUATION & ACCOUNTABILITY PROGRAM QUARTERLY UPDATE

Combined Nickel & Transportation Partnership Account Status of projects to date; 2003 through September 30, 2020; Dollars in millions	Number of Projects	Value of Program
Subtotal of completed construction projects <sup>1</sup>	383	\$10,485.5
Non-construction projects that have been completed or otherwise removed from Nickel/TPA lists <sup>2,3</sup>	9	\$205.0
Projects included in the current transportation budget but not yet complete	11	\$4,989.7
Projects that have been deferred indefinitely or deleted and removed from Nickel/TPA lists <sup>3,4</sup>	13	\$499.2
Projects now funded by Connecting Washington and removed from Nickel/TPA lists (see <a href="#">GNB 63, p. 35</a> )	5	\$103.3
Total number of projects <sup>4</sup> in improvement and preservation budget	421	\$16,282.7
Schedule and budget summary Nickel & TPA combined: Results of completed construction projects in the current Legislative Transportation Budget and prior budgets; Dollars in millions	Completed in 2019- 2021 Biennium Budget	Cumulative Program
Total number of projects completed	1	383
Percent completed early or on time	0%	86%
Percent completed under or on budget	100%	91%
Baseline cost at completion	\$564.9	\$10,485.5
Current cost at completion	\$564.5	\$10,330.3
Percent of total program over or under budget	0.1% under	1.5% under
Advertisement record: Results of projects entering the construction phase or under construction	Combined Nickel & TPA	
Total current number of projects in construction phase as of September 30, 2020	4	
Percent advertised early or on time	100%	
Total number of projects advertised for construction during the 2019-2021 biennium (July 1, 2019 through June 30, 2021)	1	
Percent advertised early or on time	0%	
Projects to be advertised: Results of projects now being advertised for construction or planned to be advertised	Combined Nickel & TPA	
Projects being advertised for construction (July 1, 2020 through December 31, 2020)	0	
Percent on target for advertisement on schedule or early	0%	
Budget status for the 2019-2021 biennium; Dollars in millions	WSDOT biennial budget	
Budget amount for 2019-2021 biennium	\$714.6	
Actual expenditures in 2019-2021 biennium to date	\$310.2	
Total 2003 Transportation Funding Package (Nickel) expenditures	\$16.9	
Total 2005 Transportation Partnership Account expenditures	\$217.9	
Total Pre-existing Funds expenditures	\$75.4	

Data source: WSDOT Capital Program Development and Management.

Notes: Numbers have been rounded. This chart was updated in GNB 63 to reflect reconciled Nickel and TPA project counts, and as a result it does not exactly match Current Legislative Evaluation and Accountability Program charts from editions prior to GNB 63. **1** Cumulative projects completed from July 1, 2003 to September 30, 2020. **2** Non-construction projects include commitments for engineering and right of way work. **3** Projects that have been deferred indefinitely or deleted include projects that have no funding available, projects that have been halted by the Legislature and those for which other entities (e.g., cities and counties) are now serving as the lead agency. **4** The project total has been updated to show "unbundled" projects which may have been previously reported in programmatic construction groupings (such as Roadside Safety Improvements or Bridge Seismic Retrofit). See [Gray Notebook 38, p. 55](#) for more details.

## 79

COMPLETED PROJECTS  
& CONTRACTS

## WSDOT completes six additional Connecting Washington projects and contracts

WSDOT completed six Connecting Washington projects and contracts during the fifth quarter of the 2019-2021 biennium (July through September 2020). Of these, two were completed on time during the quarter as planned and four were late.

### US 395/North Spokane Corridor - Columbia to Freya

(Spokane County)

Completed: September 29, 2020 (Late)

This contract is part of the larger North Spokane Corridor project and improved the NSC by constructing three lanes in each direction, including grading, drainage, paving, structures, erosion control, traffic control, site preparation and other work.

**Budget:** The contract was completed for approximately \$10.9 million, 3.3% more than the \$10.6 million in the last legislatively-approved budget. The total contract cost decreased by \$9.9 million from \$20.5 million to \$10.6 million due to realized risk for WSDOT's participation in the Black Tank cleanup site, which was transferred to the right-of-way phase of the US 395/NSC BNSF - 2nd Railroad Realignment project.

**Schedule:** After contaminated soil was removed from the planned area, further testing identified additional contaminated soil in the surrounding area that needed to be removed on the Columbia to Freya project, which delayed the completion date from November 2019 and increased the contract cost.

### I-90/Barker to Harvard - Improve Interchanges and Local Roads

(Spokane County)

Completed: September 18, 2020 (On time)

This contract is part of a larger project to improve interchanges in the Spokane Valley and included adding a westbound ramp roundabout at the Barker Road interchange to enhance mobility and improve safe operations on Interstate 90 and local roads.

**Budget:** The contract was completed for approximately \$2.4 million, 3.0% more than the \$2.3 million in the last legislatively-approved budget.

**Schedule:** Work was delayed in December 2019 in response to the passage of Initiative 976 and Gov. Jay Inslee's direction to WSDOT to postpone certain projects not yet underway. In May 2020, upon passage of the 2020 Legislative Budget, Gov. Inslee directed WSDOT to resume projects previously paused due to the passage of I-976. The contract was completed in September 2020, about one month ahead of its legislatively-approved schedule.

### Notable results

- *WSDOT completed six Connecting Washington projects and contracts during the fifth quarter of the 2019-2021 biennium*

### GNB reporting on projects and contracts

The Gray Notebook differentiates completed projects from completed contracts. Larger projects frequently include smaller contracts (e.g. pavement replacement on a section of I-5 that is part of a larger concrete rehabilitation project). Completing contracts does not mean that these larger projects are finished. For example, a project can involve three contracts total and have two contracts finished. This project would be complete when the third and final contracts is done.

## US 395/Safety Corridor Improvements

(Adams and Franklin counties)

Completed: September 4, 2020  
(Late)

This project added acceleration and deceleration lanes, improved existing left turn lanes, and constructed safety improvements between Pasco and the Franklin county line north of Connell to reduce congestion and the potential for collisions.

**Budget:** WSDOT completed the project for \$13.6 million, which was on target with the last legislatively-approved budget. The initial budget was reduced by \$1.4 million when the project description was revised and the right-of-way phase was removed.

**Schedule:** While the project was on time in terms of the last legislatively-approved schedule, the operationally complete date was delayed by 10 months from November 2019 to September 2020 due to added working days and to allow time to acquire needed illumination poles.

## US 2/Corridor Improvements

(Snohomish County)

Completed: August 28, 2020 (Late)

This contract is part of the larger safety improvements and preservation efforts along nearly 25 miles of US 2 from Bickford Avenue to Gold Bar. The larger project also repairs and repaves nearly 1 mile of State Route 9 at the junction with US 2.

**Budget:** This \$2 million portion of the larger project was on target with the last legislatively-approved budget.

**Schedule:** The contract was completed in August 2020, about one month after its last legislatively-approved schedule in July. The initial completion date was delayed by nine months from October 2019 to July 2020 after unexpected slope issues were identified and it was determined that sections of roadway needed more significant grinding than originally planned.

## I-82/South Union Gap Interchange - Construct Ramps

(Yakima County)

Completed: August 21, 2020 (Late)

The I-82 South Union Gap Interchange project completed what was formerly a partial interchange by constructing a westbound on-ramp and eastbound off-ramp to provide full access to South Union Gap.

**Budget:** WSDOT completed the project for \$23.9 million, which was on target with the last legislatively-approved budget. The total project cost initially decreased by \$11.5 million due to practical design efforts that eliminated the need for additional right of way, reutilized an existing bridge, reduced the size of new structures, utilized lower-cost structure options, and eliminated the need for extending a large culvert. The cost increased by \$1.1 million during construction due to delays.

**Schedule:** The project was completed in August 2020, on target with the last legislatively-approved schedule.

However, the operationally complete milestone date was delayed by 10 months because additional time was needed to procure illumination poles and the variable message sign structure, and to redesign the I-82 eastbound off-ramp to incorporate the recommended ramp width per the WSDOT Design Manual. This project was further delayed by two months due to the COVID-19 suspension and safety plan implementation.

## I-90/Stampede Pass Interchange Eastbound - Replace Concrete Panels

(Kittitas County)

Completed: August 20, 2020  
(On time)

The contract—part of the larger I-90 - Stampede Pass East project—removed damaged concrete panels and replaced them with asphalt pavement in order to restore the structural integrity of the highway and provide a smoother driving surface at the Stampede Pass interchange east of Snoqualmie Pass.

**Budget:** The contract was completed for approximately \$434,000, 41.8% less than the last legislatively-approved budget of \$746,000. This reduction occurred because WSDOT removed work associated with the Cabin Creek interchange from the Stampede Pass project and will complete it as part of strategic pavement preservation instead to align with concrete panel work in 2021. Additional savings came from lower bidder costs.

**Schedule:** The contract was completed in August 2020, three months earlier than planned in the last legislatively-approved schedule.

# 79 ADVERTISEMENT RECORD QUARTERLY UPDATE

Connecting Washington Account projects in construction <sup>1</sup> Through September 30, 2020; (County); Dollars in millions	Schedule status	Completion date	Total project cost
<b>I-5/Joint Base Lewis-McChord Corridor Improvements (Pierce)</b>			
I-5/Steilacoom-DuPont Rd. to Thorne Ln. - Corridor Improvements	Delayed	Aug-2021	\$243.1
<b>SR 167/SR 509 Puget Sound Gateway (multiple counties)</b>			
SR 509/SeaTac Stage 1 Elements (WSDOT Contribution)	Advanced	Nov-2022	\$48.8
SR 167/I-5 to SR 509 - Stage 1A	On schedule	Jun-2021	\$57.4
SR 509/I-5 & SR 516 I/C <sup>2</sup> to 28th/24th Ave. South - SR 509 Completion Stage 1	Delayed	Jun-2025	\$488.5
<b>I-405/Renton to Bellevue - Corridor Widening (King)</b>			
I-405/Renton to Bellevue - Corridor Widening & ETL <sup>3</sup> (Stage 2)	Delayed	Dec-2024	\$790.0
I-405/Toll Vendor for Renton to Bellevue - Toll System	On schedule	Sep-2024	\$44.5
<b>Land Mobile Radio Upgrade (multiple counties)</b>			
Wireless Communication	Delayed	Nov-2021	\$37.0
<b>SR 520 Seattle Corridor Improvements - West End (King)</b>			
SR 520/Montlake to Lake Washington - I/C and Bridge Replacement	Delayed	Apr-2023	\$628.1
SR 520/I-5 to Lake Washington - Bridge Replacement - Mitigation	On schedule	Jun-2024	\$26.3
<b>US 395 North Spokane Corridor (Spokane)</b>			
US 395/North Spokane Corridor BNSF - Second Railroad Alignment	Delayed	Oct-2021	\$81.2
US 395/NSC Wellesley Ave. Improvements	On schedule	Oct-2022	\$36.7
US 395/NSC Spokane River to Columbia	On schedule	Oct-2022	\$50.0
US 395/NSC Spokane River to Columbia - Shared Use Path	On schedule	Jun-2022	\$12.3
US 395/NSC Sprague Ave. to Spokane River	Delayed	Sep-2026	\$334.2
<b>I-5/Marvin Road/SR 510 Interchange (Thurston)</b>			
I-5/SR 510 I/C - Reconstruct I/C	Delayed	May-2021	\$45.9
<b>SR 107/Chehalis River Bridge (S. Montesano Bridge) Approach &amp; Rail Repair (Grays Harbor)</b>			
SR 107/Chehalis River Bridge - Structural Rehabilitation	Delayed	Dec-2020	\$21.8
<b>I-90/Medical Lake &amp; Geiger Interchanges (Spokane)</b>			
I-90/Medical Lake I/C to Geiger Field I/C - Reconstruction	On schedule	Oct-2020	\$15.9
<b>I-90/Eastgate to SR 900 - Corridor Improvements (King)</b>			
I-90/Eastgate to SR 900 - Corridor Improvements	Delayed	Oct-2021	\$73.0
<b>US 12/Walla Walla Corridor Improvements (Walla Walla)</b>			
US 12/Nine Mile Hill to Frenchtown Vicinity - Build New Highway	Delayed	Jul-2022	\$160.4
<b>SR 240/Richland Corridor Improvements (Benton)</b>			
SR 240/Duportail Rd. Intersection Improvements	On schedule	May-2021	\$2.5
<b>I-90 Snoqualmie Pass - Widen to Easton (Kittitas)</b>			
I-90/Easton Hill to W. Easton I/C Westbound - Replace Bridge/Build Detour	Delayed	Sep-2021	\$14.5
<b>I-90/Barker to Harvard - Improve Interchanges &amp; Local Roads (Spokane)</b>			
I-90/Barker to Harvard - Improve Interchanges and Local Roads	Advanced	Oct-2020	\$3.9
I-90/Barker to Harvard - Westbound On-Ramp Improvement	On schedule	Sep-2021	\$2.1
I-90/Barker to Harvard - Add Lane Harvard Rd. Bridge	Delayed	Jun-2021	\$3.3
<b>SR 305 Construction - Safety Mobility Improvements (Kitsap)</b>			
SR 305/Johnson Rd. - Roundabout	On schedule	Sep-2021	\$5.9

Data source: WSDOT Capital Program Development and Management.

Note: **1** Connecting Washington advertisements show projects currently in construction, and do not represent a comprehensive list of completed Connecting Washington projects. **2** I/C = Interchange **3** ETL = Electronic Toll Lanes.

Nickel & TPA projects in construction Through September 30, 2020; (County); Dollars in millions	Fund type	Advertised on time	Ad date	Operationally complete date	Award amount
<b>SR 99 Alaskan Way Viaduct Replacement (King)</b>	Nickel/TPA				
SR 99/South King Street Vicinity to Roy Street – Viaduct Replacement	Nickel/TPA	✓	May-2010	Feb-2021	\$1,089.7
The SR 99 Tunnel opened to traffic in February 2019. The award amount is for the SR 99 Tunnel contract. The Viaduct Demolition, Battery Street Tunnel Decommissioning and Surface Street Improvements are in process.					
<b>SR 99/Alaskan Way and Elliot Ave Surface Street Restoration</b>	Nickel/TPA	✓	Nov-2018	Jan-2023	\$153.0
The City of Seattle is the lead on this project.					
<b>I-5/Tacoma HOV Improvements (Pierce)</b>	Nickel/TPA				
I-5/Portland Ave to Port of Tacoma Rd. - Northbound/Southbound HOV	Nickel/TPA	Late	Jan-2018	Oct-2023	\$152.6
<b>I-90/Concrete Rehabilitation (multiple counties)</b>	Nickel				
I-90/Bullfrog Rd. Vicinity to Cle Elum Vicinity - Replace/Rehabilitate Concrete	Nickel	N/A	Jan-2019	Nov-2020	\$8.2
<b>SR 290/Spokane River E. Trent Bridge - Replace Bridge (Spokane)</b>	TPA				
SR 290/Spokane River E Trent Bridge - Replace Bridge	TPA	Late	Dec-2019	Oct-2022	\$20.1

Data source: WSDOT Capital Program Development and Management.

## WSDOT has five change orders of \$500,000 or more during the quarter

WSDOT had five change orders of \$500,000 or more during the quarter ending September 30, 2020.

1) Updates to COVID-19 protocols resulted in additional work and sanitation effort on the SR 520, Montlake to Lake Washington Interchange and Bridge project and led to a \$1.5 million cost increase. 2) Delays caused by response to COVID-19 resulted in suspension of work costs on the SR 520, Montlake to Lake Washington Interchange and Bridge project and led to a \$1.9 million cost increase. 3) Design changes related to an Alternative Technical Concept on the I-82, South Union Gap Interchange - Construct Ramps project led to a \$550,000 increase. 4) Design changes and delays caused by response to COVID-19 on the I-82, South Union Gap Interchange - Construct Ramps project led to a \$1.3 million increase. 5) Delays caused by response to COVID-19 resulted in suspension of work costs on the SR 305/Agate Pass Bridge Painting and led to a \$750,000 increase.

After extensive reviews—which can involve subject matter experts, contract specialists and other outside stakeholders—WSDOT sometimes changes its engineers' original plans and specifications in order to complete projects. When this occurs, WSDOT issues a formal modification (or change order) to the contract containing a description of the change and details about how or if the contractor may be compensated for it. Each month, WSDOT posts all change orders estimated to cost \$500,000 or more online at <http://bit.ly/WSDOTchangeorders>.

# 79 PRE-EXISTING FUNDS QUARTERLY UPDATE

## WSDOT advertises 20 Pre-existing Funds projects in the fifth quarter of the biennium

WSDOT advertised 20 of 25 Pre-existing Funds projects in the fifth quarter of the 2019-2021 biennium (July through September 2020). Of the 20 total projects advertised, three were advanced, one was on time, 12 were emergent, and four were late. Of the remaining five projects—originally scheduled to be advertised during the quarter—four were delayed within the biennium, and one project was deferred out of the biennium.

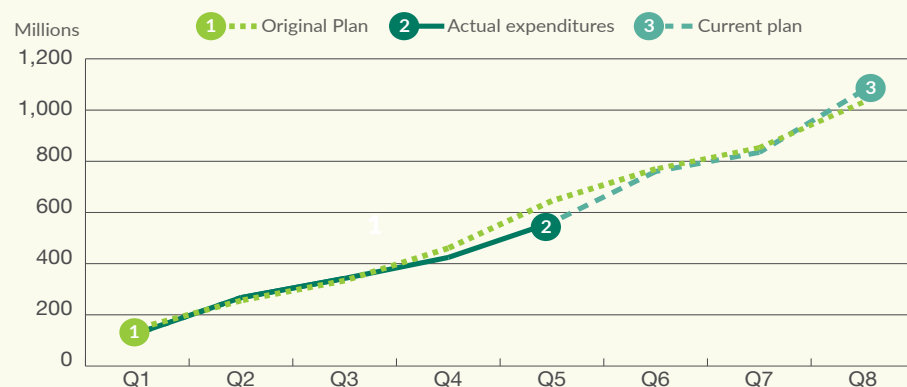
As of September 30, 2020, WSDOT's current cost to complete the 154 planned PEF projects advertised through the fourth quarter of the 2019-2021 biennium was about \$376.2 million, approximately \$25.4 million (7.8%) more than the original value of \$350.8 million (see chart at right).

## Cash flows currently lower than original projections

WSDOT originally planned to have \$645.5 million in cumulative combined PEF improvement and preservation cash flows at the end of the fifth quarter of the 2019-2021 biennium, but had \$561.2 million (approximately \$84.3 million, 13.1% less). Current cash flows can vary from originally planned cash flows due to a number of reasons. For example, emergent projects may add cash flow to the current reporting quarter, whereas project deletions can remove cash flow. The original plan—which is the 2019 delivery plan—does not change during the first four quarters of the biennium but may be updated in the fifth quarter to reflect any revisions to the original 2020 delivery plan. As the biennium continues, the agency uses these original plans as goals to achieve while working to meet projections set forth in the current plan. The current plan is more fluid and reflects quarterly changes due to projects being emergent, delayed, deferred, advanced or deleted.

## Cumulative Pre-existing Funds improvement and preservation combined cash flows during the 2019-2021 biennium lower than planned

2019-2021 biennium; Quarter ending September 30, 2020; Planned vs. actual expenditures and current plan; Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: Q5 refers to the fifth quarter (July through September 2020) of the 2019-2021 biennium, which runs from July 2019 through June 2021.

## Current cost to complete actual PEF advertisements \$25.4 million more than original value

2019-2021 biennium (July 2019 through June 2021); Fifth quarter (ending September 30, 2020); Dollars in millions

	Number of projects	Original value	Current cost to complete
Planned PEF advertisements for the 2019-2021 biennium	276	\$1,671.5	\$1,677.8
Actual PEF advertisements through the fourth quarter	154	\$350.8	\$376.2

Data source: WSDOT Capital Program Development and Management.

## WSDOT advertises 154 PEF projects during the 2019-2021 biennium

Advertisement status	Quarter <sup>1</sup>	Cumulative <sup>2</sup>
Advanced <sup>3</sup>	3	5
On time	1	88
Emergent <sup>4</sup>	12	34
Late	4	27
<b>Total projects advertised</b>	<b>20</b>	<b>154</b>
Early <sup>5</sup>	0	4
Delayed within the biennium	4	71
Deferred out of the biennium	1	2
Deleted	0	5

Data source: WSDOT Capital Program Development and Management.

Notes: **1** Quarter refers to July through September 2020. **2** Cumulative refers to July 2019 through June 2021. **3** Advanced refers to projects that were moved up from future quarters. **4** Emergent refers to emergency or unanticipated projects. **5** Early refers to projects planned for the quarter that were advertised in a previous quarter.

## WSDOT advertises 20 Pre-existing Funds projects during the fifth quarter of the 2019-2021 biennium

July through September 2020

Advanced (3)	
I-5/SB Stillaguamish River Bridge - Painting	2019-2021 Olympic Region - Regionwide Basic Safety - Guardrail
SR 20/Bonaparte Creek - Drainage Improvement	
On time (1)	
US 101/Morse Creek Vicinity - Safety Improvements	
Emergent (12)	
Weigh Station Fiber Replacement	SR 410/MP 32.2 to MP 32.9 Wildfire Damage - Unstable Slope
Purchase License Plate Readers and Enforcement Cameras	US 2 East of Stevens Pass - Strategic Pavement Preservation 2020
Weigh Station Variable Message System Replacement	US 97A/ South of Knapps Hill Tunnel - Slope Stabilization
Weigh Station Detection Improvements	SR 104/Hood Canal Bridge - Repair Pontoon Hatches Phase 1
US 195/Horn School Safety Rest Area (SRA) - Waterline and Plumbing Replacements - Eastern Region	I-90/Spokane Port of Entry Weigh Station Scale Pit Repairs
I-5/S 129th St. Archie Codiga Bridge - Bridge Repair	SR 231/1 Mile South of US 395 - Emergency Slide Repair
Late (4)	
I-5/SR 506 to Rush Rd. Interchange - Illumination Rebuild	I-90/Salnav Rd. to BNSF Railroad Bridge - Roadside Improvements
I-90/Lincoln County to Salnav Rd. - Roadside Improvements	SR 261/McElroy Coulee Crossing - Replace Drainage Structure
Delayed (4)	
SR 26/Hatton Coulee SRA - Water Line Replacement - Eastern Region	SR 169/Ravensdale Creek - Fish Passage
Northwest Region - Regionwide - Camera Replacement	SR 109/N of Moclips Highway - Stabilize Slope
Deferred (1)	
SR 524/48th Ave. West Vicinity to I-5 Interchange Vicinity - Paving (City Lead)	

Data source: WSDOT Capital Program Development and Management.

## 79

STATEWIDE TRANSPORTATION POLICY GOALS  
& GRAY NOTEBOOK INFORMATION GUIDE

## Statewide transportation policy goals

Laws enacted in 2007 established policy goals for transportation agencies in Washington (RCW 47.04.280). Throughout its editions, WSDOT's Gray Notebook reports on progress toward the six statewide transportation policy goals that include:

- **Safety:** To provide for and improve the safety and security of transportation customers and the transportation system;
- **Preservation:** To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;
- **Mobility:** To improve the predictable movement of goods and people throughout Washington, including congestion relief and improved freight mobility;
- **Environment:** To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment;
- **Economic Vitality:** To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy; and
- **Stewardship:** To continuously improve the quality, effectiveness, and efficiency of the transportation system.

Gray Notebook edition  
archives available online

Readers can access past GNB editions online. The GNB archives include every GNB published to date. Online versions might include corrections and may not exactly match print versions.

## GNB reporting periods

WSDOT programs report their performance data during different periods to best fit the work they do. For example, a program that receives substantial federal funds may report performance based on the federal fiscal year (see charts below).

## GNB credits

The GNB is developed and produced by members of the WSDOT Transportation Safety & Systems Analysis Division's Performance Management and Strategic Management offices, and articles feature bylines indicating key contributors from dozens of WSDOT programs. This edition of the GNB was completed entirely by staff members who were teleworking to help reduce the spread of COVID-19 in Washington. WSDOT's Headquarters Graphics Division (Marci Mill, Erica Mulherin and Steve Riddle) provides creative assistance, and WSDOT program staff and communicators take the photographs in each edition.

## Calendar, state fiscal and federal fiscal quarters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	GNB 77			GNB 78			GNB 79			GNB 80		
Calendar	Q1 2020			Q2 2020			Q3 2020			Q4 2020		
State Fiscal	Q3 FY2020			Q4 FY2020			Q1 FY2021			Q2 FY2021		
Fed. Fiscal	Q2 FFY2020			Q3 FFY2020			Q4 FFY2020			Q1 FFY2021		

## 2019-2021 biennial quarters (used by Legislature)

Period	Quarter	Period	Quarter
Jul – Sep 2019	Q1	Jul – Sep 2020	Q5
Oct – Dec 2019	Q2	Oct – Dec 2020	Q6
Jan – Mar 2020	Q3	Jan – Mar 2021	Q7
Apr – Jun 2020	Q4	Apr – Jun 2021	Q8

The Gray Notebook is prepared by:  
Transportation Safety  
& Systems Analysis Division  
Washington State Department of  
Transportation  
310 Maple Park Ave SE, Olympia, WA 98504

© 2020 WSDOT. All rights reserved.

**Americans with Disabilities Act Information:** Accommodation requests for people with disabilities can be made by contacting the WSDOT Diversity/ADA Affairs team at [wsdotada@wsdot.wa.gov](mailto:wsdotada@wsdot.wa.gov) or by calling toll-free, 855-362-4ADA (4232). Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

**Title VI Notice to Public:** It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the grounds of race, color, national origin or sex, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its programs and activities. Any person who believes his/her Title VI protection has been violated, may file a complaint with WSDOT's Office of Equal Opportunity (OEO). For additional information regarding Title VI complaint procedures and/or information regarding our non-discrimination obligations, please contact OEO's Title VI Coordinator at (360) 705-7090.