

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 74 ■ June 2019

TRYING TO MAKE ENDS MEET

WSDOT STRIVING TO PRESERVE AND MAINTAIN AGING BRIDGES THROUGHOUT THE STATE

Shipping rates

Multimodal connections
contribute to the state's
economic growth

Making way

WSDOT removing
barriers for migratory
fish passage

Working ahead

WSDOT developing a
robust workforce for
the future

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The Gray Notebook team

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PERFORMANCE HIGHLIGHTS reported for the quarter ending June 30, 2019

40,571

trips completed by WSF in the fourth quarter of FY2019. This comprised 99.4% of the 40,835 regularly scheduled trips.

12

PERCENT

increase in air cargo tonnage from 2016 to 2017

Construction projects completed with Nickel or Transportation Partnership Account funds

382

280 BRIDGES



owned by WSDOT are currently over 80 YEARS OLD

2,000 HOURS

of WSDOT staff time saved by General Hydraulic Project Approval permits in 2018

49

percent

of WSDOT employees eligible to retire with full benefits actually retired in FY2019

\$25

MILLION

in economic benefit provided by WSDOT's Incident Response teams clearing 16,268 incidents during the quarter

WSDOT COMPLETED

15 FISH

PASSAGE PROJECTS

IN 2018, IMPROVING ACCESS

TO 105 MILES

OF UPSTREAM HABITAT



74 WSDOT'S STRATEGIC PLAN

WSDOT's Strategic Plan provides organizational alignment

WSDOT is showing progress on its a strategic plan to provide organizational alignment for the agency's 6,459 employees. This plan—developed in 2017—includes mission, vision and value statements that describe the agency's purpose, what it is aspiring to achieve and the beliefs that guide how WSDOT does business:

- **Mission:** We provide safe, reliable and cost-effective transportation to improve communities and economic vitality for people and businesses
- **Vision:** Washington travelers have a safe, sustainable and integrated multimodal transportation system
- **Values:** Safety, Engagement, Sustainability, Leadership, Integrity and Innovation

The strategic plan includes three goals that provide a road map for achieving the agency's mission and vision. The goals are Inclusion, Practical Solutions and Workforce Development.

Each goal is associated with a set of strategies that demonstrate how WSDOT is achieving the agency's mission and vision. More information about the goals and strategies can be found on WSDOT's Strategic Plan Dashboard at, bit.ly/wsdotdashboard. WSDOT continually updates the dashboard to reflect progress to date.

WSDOT is implementing its Strategic Plan

The agency is working to implement the Strategic Plan and is taking the first step by ensuring WSDOT employees not only understand the plan but how it is relevant to them. WSDOT conducted an agency-wide survey in 2018 that indicated 63% of employees comprehend the strategic plan goals.

The agency is working to improve this understanding by developing discussion guides to help senior managers lead conversations with their teams about the strategic plan. WSDOT is also collecting examples of the work that the agency is doing that supports each goal area. Sharing these examples with staff will broaden the agency's understanding of the strategic plan.

This edition of the Gray Notebook features an article on Workforce Development, which details how WSDOT is using strategies such as telework and flexible schedules to support a modern work environment. To learn more, please see [pp. 28-30](#).

WSDOT'S Goals

■ Inclusion

Strengthen commitment to diversity and engagement in all of WSDOT's business processes, functions and services to ensure every voice is heard

■ Practical Solutions

Prioritize innovative, timely and cost-effective decisions, with our partners, to operate, maintain, plan and build our multimodal transportation system

■ Workforce Development

Be an employer of choice, creating a modern workforce while attracting and retaining quality workers to deliver our legislative, regulatory and service requirements

74 STATEWIDE TRANSPORTATION POLICY GOALS DASHBOARD

Statewide policy goal/ WSDOT performance measure	Previous period	Current period	Target	Target met	Five-year trend (unless noted)	Desired trend
Safety						
Rate of traffic fatalities per 100 million vehicle miles traveled statewide (Annual measure: calendar years 2016 & 2017)	0.88	0.92	<1.00 ¹	✓		↓
Rate of recordable incidents for every 100 full-time WSDOT workers (Annual measure: calendar years 2017 & 2018)	4.7	5.0	<5.0	—		↓
Preservation						
Percentage of state highway pavement in fair or better condition by vehicle miles traveled (Annual measure: calendar years 2016 & 2017)	92.2%	91.8%	≥ 90%	✓		↑
Percentage of state bridges in fair or better condition by bridge deck area (Annual measure: fiscal years 2018 & 2019)	92.5%	92.9%	≥ 90%	✓		↑
Mobility² (congestion relief)						
Highways: Vehicle Miles Traveled (VMT) on state highways (Annual measure: calendar years 2016 & 2017)	34.2 million	34.6 million	*	N/A		↓
Highways: Average incident clearance times for all Incident Response program responses (Calendar quarterly measure: Q2 2018 & Q2 2019)	12.5 minutes	12.3 minutes	*	N/A		↓
Ferries: Percentage of trips departing on time ³ (Fiscal quarterly measure: year to year Q4 FY2018 & Q4 FY2019)	86.8%	87.5%	≥ 95%	—	(Five-quarter trend) 	↑
Rail: Amtrak Cascades on-time performance ⁴ (Annual measure: fiscal years 2017 & 2018)	56.3% ⁵	53.9%	≥ 88%	—	(Five-quarter trend) 	↑
Environment						
Number of WSDOT stormwater management facilities constructed (Annual measure: fiscal years 2017 & 2018)	129	78	*	N/A		N/A
Cumulative number of WSDOT fish passage improvement projects constructed (Annual measure: calendar years 2017 & 2018)	330	345	*	N/A		↑
Stewardship						
Cumulative number of Nickel and TPA projects completed⁶ and percentage on time⁷ (Calendar quarterly measure: Q1 2019 & Q2 2019, trendline for percentage on time)	382/ 86%	382/ 86%	≥ 90% on time	—	(Five-quarter trend) 	↑
Cumulative number of Nickel and TPA projects completed⁶ and percentage on budget⁷ (Calendar quarterly measure: Q1 2019 & Q2 2019, trendline for percentage on budget)	382/ 91%	382/ 91%	≥ 90% on budget	✓	(Five-quarter trend) 	↑
Variance of total project costs ⁶ compared to budget expectations⁷ (Calendar quarterly measure: Q1 2019 & Q2 2019)	Under budget by 1.6%	Under budget by 1.6%	On or under budget	✓	(Five-quarter trend) 	N/A

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 MAP-21 goal for the same measure. **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** Amtrak Cascades' 2017 on-time performance was reported for calendar year 2017 in GNB 70 and 71. **6** Construction projects only. **7** Budget and schedule expectations are defined in the last approved state transportation budget. See [p. 31](#) for more information.

74 MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY

WSDOT reports its 2019 targets, baselines for the MAP-21 highway safety measures

WSDOT reported its 2019 Moving Ahead for Progress in the 21st Century highway safety targets to the Federal Highway Administration on August 31, 2018. In December 2019, FHWA will determine whether WSDOT has made significant progress toward achieving the 2018 targets or baselines it set for highway safety (also referred to as PM1). The PM1 targets in the table below are on an annual reporting cycle and were established collaboratively by WSDOT and Metropolitan Planning Organizations.

WSDOT tracking MAP-21 performance toward its targets for bridges, pavement and highway systems

On May 20, 2018, WSDOT established its federally-required MAP-21 targets for bridges and pavement (also referred to as PM2), and highway system performance, freight, and Congestion Mitigation and Air Quality (also referred to as PM3). WSDOT needs to show significant progress toward meeting PM2 and PM3 targets by October 2022. Targets were established by WSDOT and Metropolitan Planning Organizations.

WSDOT and state MPOs submitted MAP-21 targets for PM2 and PM3 to FHWA's Washington state division office in the Baseline Performance Report on October 1, 2018. The division office recommended the FHWA national headquarters office accept the targets, which began a four-year reporting cycle for PM2 and PM3 performance measures that requires:

- A Mid-Performance Period Progress Report (due by October 1, 2020), and
- A Full-Performance Period Progress Report (due by October 1, 2022).

How MAP-21 penalties can affect WSDOT

Penalties are triggered when significant progress is not achieved and the five-year rolling averages are more than targets or are higher than baseline levels. These penalties, which may involve additional reporting, require WSDOT to explain to the Federal Highway Administration how it will make future progress toward its targets. Specific measures in PM1 and PM2 also invoke penalties that require WSDOT to redistribute its federal monies to help ensure significant progress toward these targets occurs in the future.

MAP-21 performance measures by program area		2013-2017 baseline ¹	2019 target	Penalty ²
Highway Safety (PM1) 23 CFR Part 490 ID No. 2125-AF49				
Number of traffic fatalities on all public roads ³		≤ 510.0	≤ 489.2	Yes
Rate of traffic fatalities per 100 million vehicle miles traveled (VMT) on all public roads ³		≤ 0.857	≤ 0.813	Yes
Number of serious traffic injuries on all public roads ³		≤ 2,092.2	≤ 1,855.0	Yes
Rate of serious traffic injuries per 100 million VMT on all public roads ³		≤ 3.517	≤ 3.068	Yes
Number of non-motorist traffic fatalities plus serious injuries		≤ 511.8	≤ 511.8	Yes
MAP-21 Special Rules (Safety)				
Rate of per capita traffic fatalities for drivers and pedestrians 65 or older		Show progress		No
Rate of fatalities on high-risk rural roads ³		Show progress		Yes
Highway-railway crossing fatalities ⁴		Show progress		No

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: **1** The PM1 targets for 2019 were submitted on August 31, 2018, using 2013-2017 for current baseline data. **2** 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. **3** Performance metric includes all individuals (drivers, passengers, pedestrians and bicyclists) who died or were seriously injured as a result of a motor vehicle crash in Washington. **4** Includes bicyclists and pedestrians.

When WSDOT and MPOs report their progress toward achieving PM2 and PM3 targets in the 2020 mid-performance period progress report they will also provide updates on two-year condition/performance and investment strategies as well as discuss any necessary target adjustments.

WSDOT and MPOs can adjust their four-year targets at the two-year mark, but must explain the basis for the changes and how these adjusted

targets support expectations documented in longer-range plans.

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. For more information on bridge and pavement projections and how WSDOT is working to meet its MAP-21 targets for both, visit [bit.ly/WSDOT_TAMP](https://www.wsdot.wa.gov/Accountability/MAP-21).

MAP-21 folios helping MPOs, stakeholders

WSDOT developed informational folios to ensure the agency and its partners are aligned as MAP-21 work progresses. For links to WSDOT-specific MAP-21 folios, visit www.wsdot.wa.gov/Accountability/MAP-21.

MAP-21 performance measures by program area		Current data	2-year target ^{1,2}	4-year target ^{1,2}	Penalty
Pavement and Bridges (PM2) 23 CFR Part 490 ID No. 2125-AF53					
Pavement on the National Highway System					
Percentage of Interstate pavement on the NHS in good condition		32.5% ³	N/A	30%	No
Percentage of Interstate pavement on the NHS in poor condition		3.6% ³	N/A	4% ⁴	Yes
Percentage of non-Interstate pavement on the NHS in good condition		18% ³	45%	18%	No
Percentage of non-Interstate pavement on the NHS in poor condition		5% ³	21%	5%	No
Bridges on the National Highway System					
Percentage of NHS bridges classified in good condition (weighted by deck area)		32.8%	30%	30%	No
Percentage of NHS bridges classified in poor condition (weighted by deck area)		7.8%	10%	10% ⁴	Yes
Highway System Performance, Freight, and Congestion Mitigation & Air Quality (PM3) 23 CFR Part 490 ID No. 2125-AF54					
Highway System Performance (Congestion)					
Percentage of person-miles traveled on the Interstate System that are reliable		73%	70%	68%	No
Percent of person-miles traveled on the Non-Interstate NHS System that are reliable		77%	N/A	61%	No
National Freight Movement Program					
Truck Travel Time Reliability (TTTR) Index		1.63	1.70	1.75	No
Congestion Mitigation & Air Quality Program					
Non-Single Occupancy Vehicle (SOV) travel in Seattle urbanized area (NHS)		32%	32.8%	33.2%	No
Peak hours of Excessive Delay per capita in Seattle urbanized area (NHS)		23	N/A	28	No
All Pollutants (kg/day) ²		1,658.640	366.285	658.300	No
Carbon Monoxide (CO) (kg/day) ²		313.160	309.000	309.060	No
Particulate Matter less than 10 microns (PM ₁₀) (kg/day) ²		435.690	0.305	224.000	No
Particulate Matter less than 2.5 microns (PM _{2.5}) (kg/day) ²		36.820	2.100	8.700	No
Nitrogen Oxides (NOX) (kg/day) ²		872.970	54.880	116.540	No

Data sources: WSDOT Bridge and Structures Office, WSDOT Pavement 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 PM2 "Current data" is relative to four-year pavement targets only. 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%.

74 BRIDGES ANNUAL REPORT

WSDOT owns 280 bridges over 80 years old, expects a future of difficult tradeoffs

As of June 2019, WSDOT owned 280 bridges that were 80 years old or older, including the SR 162 Spiketon Creek Bridge (see box at right). This is a 6% increase from 266 bridges over 80 years old in June 2018, and represents 7% of the agency's 3,932 bridge structures.

Delaying bridge preservation work increases total costs

As its infrastructure assets continue to age, WSDOT forecasts a future of difficult asset management decisions, each with an associated tradeoff. For example, building a new section of highway often means choosing to delay rehabilitating a concrete bridge deck until years after it comes due, if at all. If the deck deteriorates to the point of requiring replacement before it can be rehabilitated, then the cost of delaying rehabilitation becomes much higher. Rehabilitating decks with concrete overlay costs about \$100 per square foot, while replacing the deck entirely costs \$300 per square foot.

Within bridge preservation, WSDOT is faced with the challenge of balancing needs ranging from steel bridge painting to scour repair. As of June 2019, the agency's unmet bridge preservation needs were concentrated in three areas: bridge replacement and rehabilitation, concrete bridge deck repair, and steel bridge painting.

Fifteen WSDOT bridges need replacement, 19 need rehabilitation

WSDOT had 15 bridges that were in need of replacement and 19 that needed rehabilitation as of June 2019. The agency had three active contracts underway to replace or rehabilitate additional bridges (including the SR 162 Spiketon Creek Bridge, which was being replaced with a temporary structure).

The longer 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 (see box on p. 8).



The US 101 bridge over the Elwha River, west of Port Angeles. The Elwha River Bridge needs to be replaced due to bridge scour, which occurs when high volumes of water cause soil erosion around foundations. Foundation scour is the leading cause of bridge failure in Washington and nationwide.

Notable results

- WSDOT owned 280 bridges over 80 years old as of June 2019, an increase of 6% from 266 in June 2018
- Washington met the federal MAP-21 target of having less than 10% of NHS bridges by deck area in poor condition as of June 2019, but expects to miss this target by 2028

Spiketon Creek Bridge

WSDOT closed the SR 162 Spiketon Creek Bridge in Pierce County in 2018 because its condition had deteriorated to a point where the bridge was unsafe to use. The Spiketon Creek Bridge, which was 82 years old when it was closed, is currently WSDOT's only closed bridge. However, such closures may become more common as more bridges become past due for replacement.

As of August 2019, the SR 162 Spiketon Creek Bridge was under contract to be replaced with a temporary bridge. For additional information about this project, visit bit.ly/Spiketon.



A corroded member on the Julia Butler Hansen steel bridge, which connects Cathlamet to Puget Island in Wahkiakum County. A painting contract for this bridge is nearly complete.

WSDOT sees decrease in state-owned load restricted and load posted bridges

A total of 111 WSDOT-owned bridges longer than 20 feet were load restricted or posted at the end of FY2019, down from 120 in FY2018. Nearly half (53) of WSDOT's load posted or restricted bridges are on the National Highway System, and 28% (25) were considered to be in poor condition in FY2018.

There were 419 locally owned bridges in Washington that were load posted or restricted in FY2019 (of which 12 were on the NHS), an increase from 322 in FY2018.

It is illegal for overloaded trucks to use load restricted bridges. Load posted bridges limit the allowable weight of trucks to below typical legal weights. For more information, see [Gray Notebook 70, p. 21](#).

WSDOT expects to be able to paint four of its 99 steel bridges that are currently due or past due for painting during the 2019-2021 biennium

As of June 2019, 60 WSDOT-owned steel bridges (with 3.9 million square feet of steel surface area) were due for painting, while 39 (with 3.1 million square feet of steel surface area) were past due. The agency also had eight additional steel bridges (with 2.1 million square feet of steel surface area) under contract to be painted.

Using the \$80.8 million budget for steel bridge painting during the 2019-2021 biennium, WSDOT expects to be able to paint four of these 99 steel bridges that are currently due or past due for painting. The longer steel bridges are past due for painting, the more likely it is that one or more of their members (such as beams or trusses; see picture at left) will corrode badly enough to require replacement.

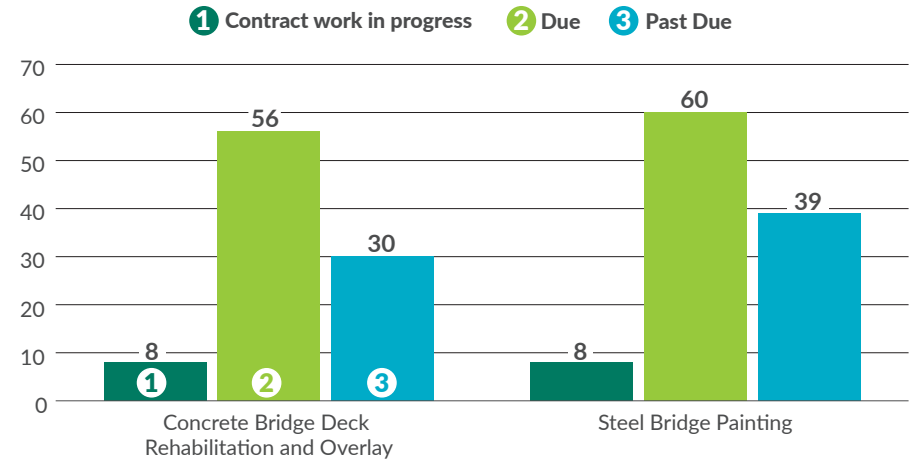
WSDOT has 56 concrete bridge decks due for repair and 30 past due

As of June 2019, 56 of WSDOT's bridges (with 1.6 million square feet of deck area) were due for concrete bridge deck repairs, and an additional 30 (with 210,300 square feet of deck area) were past due. WSDOT's bridge crews have the task of keeping these due and past due bridge decks usable. This work requires an ever-increasing percentage of bridge crew resources and comes at the expense of structural repairs.

Eight WSDOT bridges (with 102,900 square feet of deck area) were under contract to have their concrete decks repaired or overlaid as of June 2019. The agency has a total of \$55.2 million in funding for concrete bridge deck rehabilitation during the 2019-2021 biennium, which will cover approximately 42% of the \$131 million needed to meet current concrete bridge deck needs. Decks with repair needs that go unaddressed in the 2019-2021 biennium will likely contribute to an increase in WSDOT's future estimates of bridge preservation needs.

WSDOT has 30 bridges past due for concrete bridge deck repair and 39 steel bridges that are past due for painting

As of June 2019; Number of bridges by status of repair need



Data source: WSDOT Bridge and Structures Office.

NHS bridges in poor condition stay below 10% in FY2019, but are expected to miss federal MAP-21 target by 2028

Total (state and local) bridge deck area in poor condition on the National Highway System (see boxes at right) in Washington state held steady at 3.9 million square feet in FY2019—the same as in FY2018. These 3.9 million square feet represent 7.3% of bridge deck area on the NHS in Washington in FY2019 (see table below). This meets the performance target for the federal Moving Ahead for Progress in the 21st Century Act (MAP-21, see [p. 5](#)), which mandates that total bridge deck area in poor condition on the NHS not exceed 10%.

Washington projected to miss MAP-21 target by 2028

WSDOT analyzed the impact of four potential funding scenarios on the percent of NHS bridges in poor condition (by deck area) in 2022

and in 2028. All four scenarios allow Washington to meet the MAP-21 target of no more than 10% of bridges by deck area in poor condition in 2022.

Under the current funding scenario (WSDOT's best estimate of the funding it expects to receive), Washington will not have sufficient funding to meet the MAP-21 target in 2028. Washington also failed to meet this target in two of the other three scenarios analyzed.

WSDOT completed these scenario analyses as part of its Transportation Asset Management Plan, which communicates how WSDOT preserves bridge and pavement networks to meet targets under MAP-21. For more information, visit bit.ly/WSDOT_TAMP.

About 6.5% of all Washington bridges by deck area are in poor condition

As of June 2019; Percent of bridge deck area on bridges in poor condition (Poor); Deck area in square feet

	National Highway System		Statewide	
	Deck area ¹	Number of bridges	Deck area ¹	Number of bridges
WSDOT-owned	48.9 million	2,359	57.4 million	3,344
Amount Poor (%)	3.7 million (7.6%)	102	4.1 million (7.1%)	158
Locally owned²	5.0 million	205	18.0 million	4,112
Amount Poor (%)	0.1 million (2.9%)	11	0.8 million (4.7%)	174
Total	53.9 million	2,564	75.4	7,456
Total Poor (%)	3.9 million (7.3%)	113	4.9 million (6.5%)	332

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.

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 53.9 million square feet of bridge deck area, of which 90.7% is state-owned and 9.3% is owned by local agencies.

Bridge Condition Ratings

Good

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

Fair

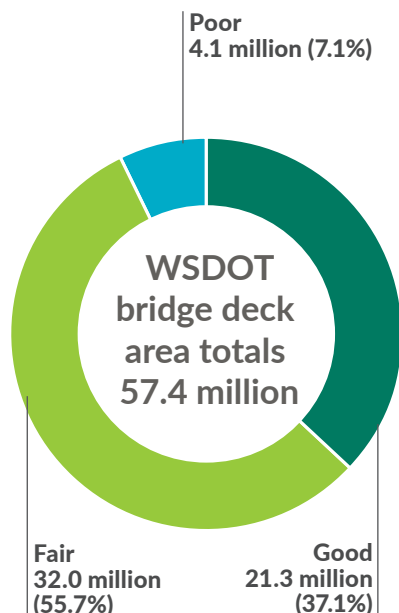
The primary structural elements of bridges in fair condition are sound; such bridges may have minor section loss, deterioration, cracking, spalling or scour.

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.

Majority of WSDOT-owned bridges in fair condition in FY2019

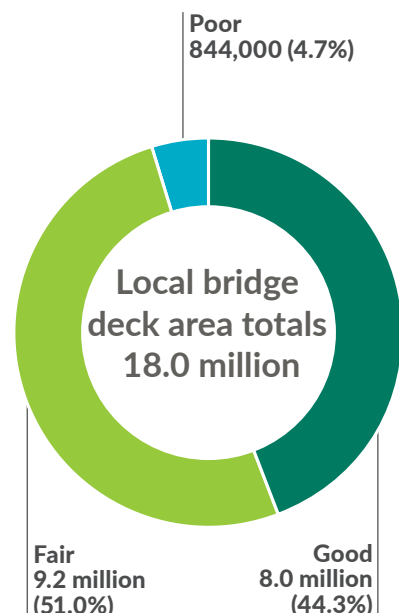
WSDOT-owned bridge conditions by deck area for FY2019; Deck area in square feet



Data source: WSDOT Bridge and Structures Office.

Majority of locally owned bridges in fair condition in FY2019

Local agency bridge conditions by deck area for FY2019; Deck area in square feet



Data source: WSDOT Local Programs Office.

Statewide bridge conditions worsen slightly in FY2019

Statewide, 6.5% (4.9 million square feet) of Washington's 75.4 million square feet of bridge deck area was on structures considered to be in poor condition as of June 2019 (see table on p. 9). This was slightly worse than in June 2018, when 4.8 million square feet of bridge deck area was located on bridges in poor condition.

WSDOT meets target for bridges in fair or better condition in FY2019, but percentage of bridges in good condition is lower than in FY2018

As of June 2019, 92.9% of WSDOT-owned bridges by deck area were in fair or better structural condition, improving from June 2018 when 92.5% of bridges by deck area were in fair or better condition (see chart at left). This meets the agency's goal of having at least 90% of its bridges by deck area in fair or better condition. However, the percentage of WSDOT-owned bridges that were in good condition declined between FY2018 and FY2019, going from 38.4% to 37.1%.

Condition of locally owned bridges declines slightly from FY2018 to FY2019

As of June 2019, there were 4,112 locally owned bridges in Washington state, which were collectively crossed an average of 10 million times per day. Approximately 95% of all of Washington's locally owned bridges by deck area were in fair or better condition during the Federal Highway Administration's 2019 reporting period (April 2018 through March 2019), worsening slightly from 96% in the 2018 reporting period.

WSDOT, local agencies perform over 4,000 bridge inspections in FY2019

WSDOT performed 1,682 bridge inspections in FY2018, 90% (1,515) of which were routine inspections (see table below). In addition, WSDOT conducted 102 inspections of fracture critical structures (bridges where failure of one piece would likely cause a collapse), 35 special (discretionary as-needed) inspections, and 30 underwater inspections. Of the 2,348 bridge inspections performed by local agencies in FY2019, 96% (2,250) were routine.

WSDOT performs 1,515 routine bridge inspections and 33 routine ferry terminal inspections; local agencies perform 2,250 routine inspections

Fiscal year 2019; Number of inspections by inspection type

Inspection type	WSDOT	Ferry terminals ¹	Local
Routine	1,515	33	2,250
Fracture critical	102	15	66
Special ²	35	15	14
Underwater	30	6	22
Total	1,682	69	2,348

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.



The I-5 Puyallup River bridges are examples of structures that WSDOT will address through its bridge seismic retrofit program. The bridge's columns have hollow cores which were originally constructed in the 1960s and are more vulnerable to earthquake damage than those with solid columns. The existing bridges are being replaced as part of the I-5 HOV project through Tacoma.

WSDOT continues bridge seismic retrofit program

As of June 2019, WSDOT had retrofitted 317 bridges to withstand earthquakes and had four bridges currently being retrofitted as part of its bridge seismic retrofit program. Launched in 1991, this program is a plan to make 912 bridges in the western half of Washington state resilient to earthquakes. The western parts of the state have much higher seismic risk levels than the eastern parts; for more information, see the Washington State Department of Natural Resources' Earthquakes and Faults web page, at bit.ly/DNR_Earthquakes.

There is \$10.8 million available to design and construct bridge seismic retrofit projects during FY2020. The next project scheduled to start construction will involve retrofitting seven bridges on a 14.5-mile stretch of I-90 in eastern King County (between Issaquah and North Bend).

This project will involve installing steel jacketing around columns and adding concrete and steel reinforcements.

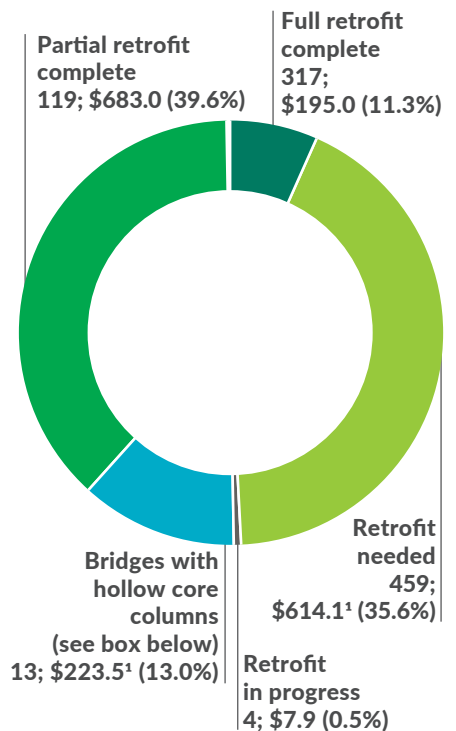
WSDOT completes seismic analysis of Whidbey Island bridges

On July 1, 2019, WSDOT completed a seismic analysis of the SR 20 Deception and Canoe Pass bridges, which together provide the only overland access to Whidbey Island. The recommendations resulting from the analysis include strengthening the approach span concrete columns and selected steel truss members, and modifying the steel truss support bearings. The estimated cost to complete the recommended retrofit on these two bridges is nearly \$3.2 million.

Contributors included Matt Beattie, Chris Keegan, Roman Peralta, Tim Rydholm, DeWayne Wilson, Anjali Bhatt and Helen Goldstein

WSDOT's bridge seismic retrofit program approximately 51% complete

As of June 2019; Bridges by retrofit status;
Cost of retrofits in millions of dollars



Data: WSDOT Bridges and Structures Office.

Notes: Includes all retrofits identified since the seismic retrofit program was launched in 1991. Figures do not include foundations.

¹ Estimated cost; bridges in these categories have been identified as needing seismic retrofit work, but that work has not yet begun.

Retrofitting bridges that have hollow core columns

WSDOT is conducting research to determine whether it is possible to retrofit bridges supported by prestressed concrete columns with hollow cores to withstand large earthquakes. If it is not possible, then the agency will need to replace 13 such bridges.

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INCIDENT RESPONSE
QUARTERLY UPDATE

Notable results

- WSDOT responded to 16,268 incidents during the second quarter of 2019, marking an 8.2% over the same quarter in 2018
- WSDOT cleared incident scenes in an average of 12 minutes and 18 seconds during the second quarter of 2019, a 1.6% decrease from the same quarter in 2018
- During the second quarter of 2019, Incident Response teams provided an estimated \$25 million in economic benefit by reducing the affects of incidents on drivers

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.

WSDOT Incident Response teams help
improve driver safety at 16,268 incidents

WSDOT's Incident Response teams assisted at 16,268 incidents during the second quarter (April through June) of 2019. This averages to a IR team responding to an incident scene every eight minutes and three seconds during the quarter. There were 1,235 more incidents during the second quarter of 2019 than during the same period in 2018 when there were 15,033, about an 8.2% increase.

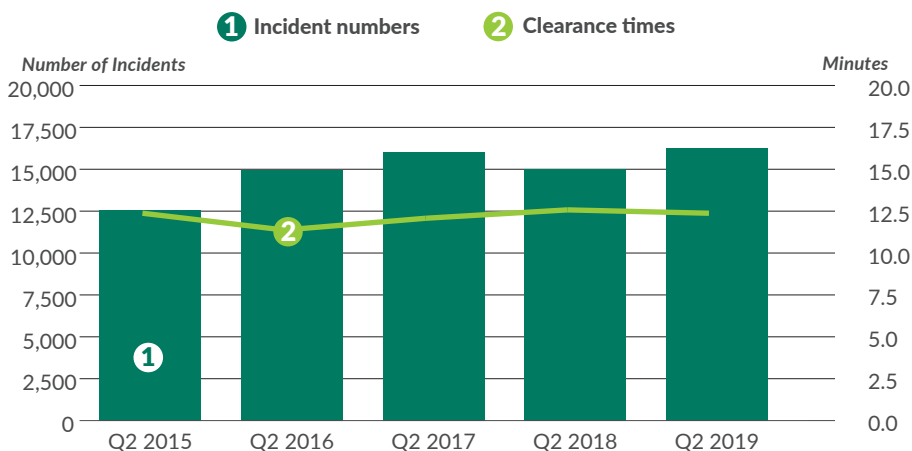
IR teams cleared each of the 16,268 incidents in an average of 12 minutes and 18 seconds. This is 12 seconds (1.6%) faster than the average incident clearance time for the same quarter in 2018.

During the second quarter of 2019 there was a 9.7% increase in incidents lasting more than 90 minutes, while incidents lasting 15-90 minutes increased 6.9% and incidents lasting less than 15 minutes increased 8.6%. Overall, 1.1% (181) of the total incidents during the quarter lasted more than 90 minutes, 22.2% (3617) lasted 15-90 minutes, and 76.7% (12,470) lasted less than 15 minutes. The proportion of incidents which blocked at least one lane was 23.7% for this quarter compared to 26.9% during the same quarter last year.

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.

Clearance times remain below 13 minutes, responses increase slightly over
past five years

Second quarter 2015 through 2019; Number of incident responses;
Clearance times in minutes



Data sources: 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 (Q2 2019) is considered preliminary. In the previous quarter (Q1 2019), WSDOT responded to 17,010 incidents, clearing them in an average of 12.5 minutes. These numbers have been confirmed and are now finalized.

WSDOT's Incident Response provides an estimated \$25 million in economic benefit

April through June 2019; Incidents by duration in minutes; Time in minutes; Costs and benefits in millions of dollars

Incident duration	Number of incidents ¹	Percent blocking ²	Average incident clearance time ³ (all incidents)	Cost of incident-induced delay	Economic benefits from IR program ⁴
Less than 15 min.	12,470	14.4%	4.6	\$14.4	\$6.7
Between 15 and 90 min.	3,617	53.0%	30.3	\$31.0	\$13.6
Over 90 min.	181	81.2%	185.0	\$11.0	\$4.7
Total	16,268	23.7%	12.3	\$56.4	\$25.0
Percent change from the second quarter of 2018	↑8.2%	↓3.3%	↓1.6%	↑6.0%	↑6.6%

Data source: Washington Incident Tracking System.

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

- 1 Teams were unable to locate 827 of the 16,268 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 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.

The IR teams help alert drivers about incidents and clear the roadway to reduce the likelihood of new incidents.

WSDOT's assistance at incident scenes provided an estimated \$25 million in economic benefits during the second quarter of 2019

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 \$14.1 million of IR's economic benefit for

the quarter result from reduced traffic delay.

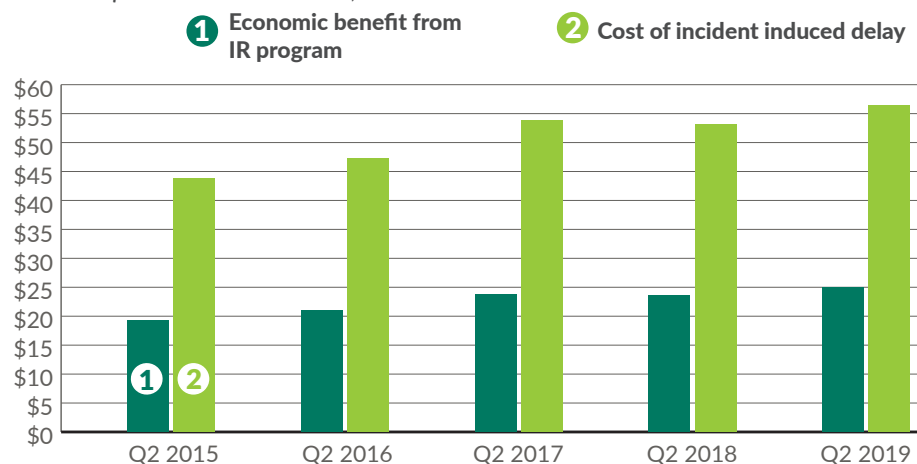
- WSDOT helps prevent secondary incidents by proactively managing traffic at incident scenes. About \$10.9 million of IR's economic benefits results from preventing an estimated 3,088 secondary incidents and resulting delay. This figure is based on Federal Highway Administration data that indicates 20% of all incidents are secondary incidents.

Over the last five years during the second quarter alone, the estimated cost of induced delay was \$254.4 million. In the same period, IR teams have provided \$112.6 million in economic benefit by preventing secondary incidents and reducing traffic delay (see chart at left).

Based on WSDOT's budget for IR, every \$1 spent on the program during the second quarter of 2019 provided drivers roughly \$16.67 in economic benefit.

Economic benefit and cost of incident induced delay increases

Second quarter 2015 to 2019; Dollars in millions

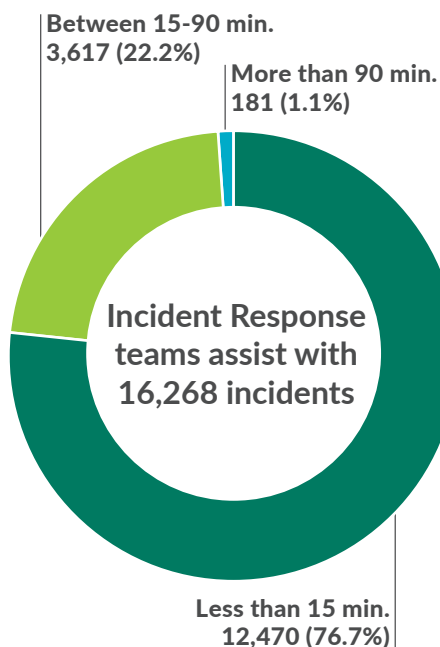
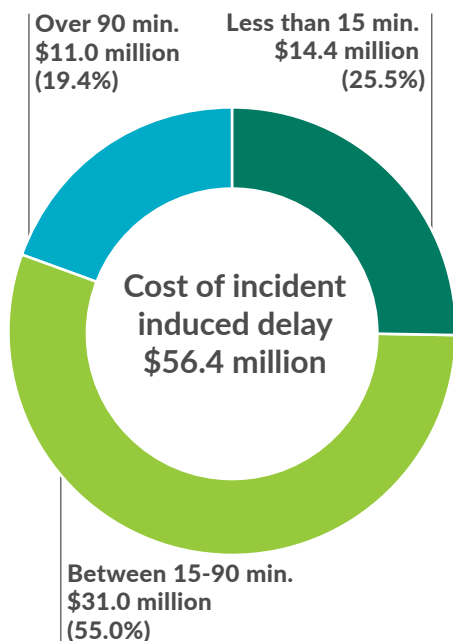


Data source: WSDOT Incident Tracking System.

Notes: 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. Second quarter and Q2 refer to April through June.

Cost of incident induced delay not proportional to response numbers

Second quarter 2019; Times to clear incidents; Cost and percentage of incidents; Number and percentage of incidents



Data source: Washington Incident Tracking System.

WSDOT teams respond to 181 over-90-minute incidents

IR teams provided assistance at the scene of 181 incidents that lasted more than 90 minutes during the second quarter of 2019. This is 16 more incidents—a 9.7% increase—than the same quarter in 2018. While these over-90-minute incidents accounted for 1.1% of all incidents, they resulted in 19.4% of all incident-related delay costs (see charts at left).

Ten of the 181 over-90-minute incidents took six hours or more to clear (referred to as extraordinary incidents). This is two more extraordinary incidents than the same quarter in 2018. The 10 extraordinary incidents took an average of 10 hours and 19 minutes each to clear, accounting for 3.6% of all incident-induced delay costs for the quarter.

The average incident clearance time for all over-90-minute incidents was three hours and five minutes. This is about eight minutes, and 29 seconds slower than the same quarter in 2018. Excluding the 10 extraordinary incidents, WSDOT's average clearance time for over-90-minute incidents was two hours and 42 minutes. 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 Ron Vessey, Michele Villnave, Takahide Aso, Anjali Bhatt

Customer feedback:

- "Trent was Amazing! He was quick and thorough and calming during a stressful situation. My tire was completely flat and he changed it for me!"
- "I could not have asked for better service. I was in a tense, dangerous situation and Brian was calm, prompt, professional, and very helpful."
- "Frank was such a big help. I was impressed by his regard for safety and all of his help. Frank put me and my safety first. Thank you so much!"

74 WASHINGTON STATE FERRIES QUARTERLY UPDATE

WSF service reliability remains above goal

There were 40,835 regularly scheduled ferry trips during the fourth quarter of FY2019 (April through June 2019). Washington State Ferries completed 99.4% (40,571) of these trips. This exceeds the annual service reliability performance goal of 99% but is 0.1 percentage point lower than the same quarter in FY2018 (see table on the next page).

There are several challenges in maintaining the fleet that affect vessel availability, including access to shipyards for larger vessels, extended or unplanned maintenance periods, required U.S. Coast Guard inspections, and the increased demand for vessels during the summer sailing season. Due to this demand, WSF operates an additional vessel on the San Juan Islands route for the summer—an increase from four to five vessels.

During the quarter, 309 trips were canceled with 45 replaced for a total of 264 net missed trips. This was 46 more net missed trips than same quarter in 2018. Of the 309 canceled trips for the quarter, 90 cancellations were due to tides, all of which occurred on the Port Townsend – Coupeville route. The terminal at Keystone Harbor—where the Coupeville terminal is located on Whidbey Island—is narrow and shallow, so the tidal action of Puget Sound has a more significant impact there.

The second-highest cancellation category was vessel availability (82 cancellations). The Motor/Vessel *Tillikum* was taken off the San Juan Domestic route for planned maintenance, but due to extended unplanned maintenance on both the M/V *Sealth* and M/V *Cathlamet*, there were not enough vessels to fully cover all routes. The service impact occurred when the M/V *Salish* was moved to the San Juan Domestic route from the Port Townsend – Coupeville route. This move reduced the Port Townsend route from a two-boat to a one-boat schedule for eight days (June 23-30), which coincided with the beginning of the busy summer sailing schedule.

Ridership decreases during the fourth quarter of FY2019

WSF ridership was approximately 6.31 million during the fourth quarter, which is 133,625 (2.1%) fewer passengers than the corresponding quarter in FY2018. Compared to the same quarter in FY2018, ridership increased on three of the nine routes—the San Juan Domestic, Anacortes/Friday Harbor – Sidney, B.C., and the Point Defiance – Tahlequah routes. The increase in ridership on the San Juan Domestic route occurred despite fewer sailings in May (due to mechanical problems on several vessels).

The Point Defiance – Tahlequah route had the largest percentage increase in ridership (1.8% or 4,166 passengers) compared to the same quarter in FY2018. This is the only route to exceed the prior year's ridership for each of the past six quarters.

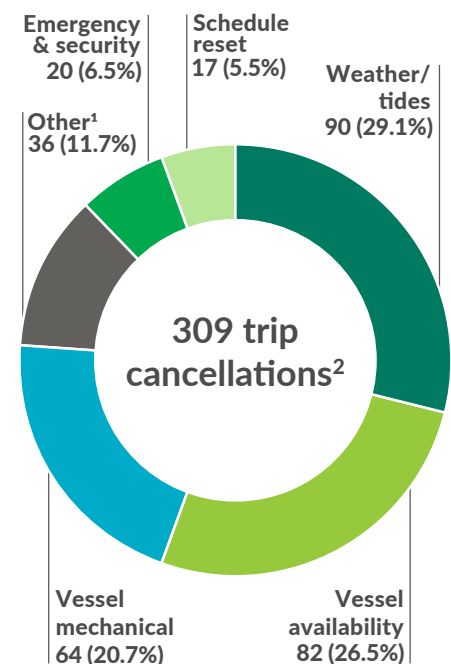
The Seattle – Bremerton route had the largest decrease in ridership, with 93,879 (12.6%) fewer passengers compared to the same quarter last year.

Notable results

- WSF completed 40,571 (99.4%) of its 40,835 regularly scheduled trips in the fourth quarter of fiscal year 2019
- WSF ridership was approximately 6.31 million in the fourth quarter of fiscal year 2019, with 133,625 (2.1%) fewer than the corresponding quarter in FY2018

Tides and vessel availability cause most cancellations for the quarter

Fourth quarter (April - June) FY2019



Data source: Washington State Ferries.

Notes: Fiscal years run from July 1 through June 30. As a result, April through June 2018 represents the fourth quarter of FY2018. There were no cancellations due to crewing during the quarter. Percentage totals may not add to 100 due to rounding. 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 45 of the 309 canceled trips for a total of 264 net missed trips.

WSF on-time performance improves, reliability down slightly in the fourth quarter of fiscal year 2019

April through June FY2018 and FY2019; Annual on-time goal = 95%; Annual service reliability goal = 99%

Route	On-time performance (fourth quarter)				Trip reliability (fourth quarter)			
	FY2018	FY2019	Status	Trend	FY2018	FY2019	Status	Trend
San Juan Domestic	63.0%	67.7%	4.7%	↑	99.2%	99.8%	0.6%	↑
Anacortes/Friday Harbor – Sidney, B.C.	67.3%	48.5%	-18.9%	↓	98.0%	99.0%	1.0%	↑
Edmonds – Kingston	94.7%	96.0%	1.3%	↑	99.8%	99.8%	0.0%	↔
Fauntleroy – Vashon – Southworth	88.4%	88.9%	0.5%	↑	99.9%	99.8%	-0.1%	↓
Port Townsend – Coupeville	94.2%	91.5%	-2.7%	↓	96.3%	93.1%	-3.2%	↓
Mukilteo – Clinton	95.8%	95.7%	-0.1%	↓	100.0%	99.9%	-0.1%	↓
Point Defiance – Tahlequah	96.6%	96.0%	-0.6%	↓	99.1%	99.3%	0.2%	↑
Seattle – Bainbridge Island	85.7%	82.7%	-3.0%	↓	99.9%	99.8%	-0.1%	↓
Seattle – Bremerton	87.3%	93.5%	6.2%	↑	99.4%	99.3%	-0.1%	↓
Total system	86.8%	87.5%	0.7%	↑	99.5%	99.4%	-0.1%	↓

Data source: Washington State Ferries.

Notes: FY = fiscal year (July 1 through June 30). As a result, April through June 2019 represents the fourth quarter of FY2019. A trip is considered delayed when a vessel leaves the terminal more than 10 minutes later than 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 correctly.

Multiple factors affected this route, including construction at the Colman Terminal in Seattle, and potential riders choosing the Kitsap Transit Fast Ferry between Bremerton and Seattle that takes half the time (30 minutes) of the WSF route, but does not allow vehicles on board. FY2019 ended June 30 with about 300,000 (1.3%) fewer riders than in FY2018.

On-time performance improves during quarter

On-time performance was 87.5% in the fourth quarter of FY2019, 0.7 percentage points higher than the same quarter in FY2018. The quarterly rate is below WSF's on-time performance goal of 95%.

On-time performance decreased on five of nine routes compared to the fourth quarter of FY2018. In the fourth quarter of FY2019, 12.5% (4,987) of trips did not leave the terminal within 10 minutes of the scheduled departure time, compared to 13.2% (5,271) for the same quarter in FY2018.

The Seattle – Bremerton route experienced an increase of 6.2% in on-time performance compared to the same quarter in FY2018.

The Anacortes/Friday Harbor – Sidney, B.C. had the largest decrease in on-time performance, which was 18.9% lower than the same quarter last year. This route has only one round trip per day outside of summer season and constituted only 0.5% of system-wide ferry trips for the quarter.

Both passenger injuries and employee injuries increase

The rate of passenger injuries was 1.43 per million riders in the fourth quarter of FY2019, an increase from 0.31 in the corresponding quarter of FY2018. This was an increase from two to nine total passenger injuries per quarter.

Beginning in FY2019, the definition of a passenger injury changed from an injury resulting in transport for care by a medical service provider to any injury that resulted in medical care, regardless of the method of transport. As such, the reportable number of injuries increased significantly in FY2019. The passenger injury rate during the quarter missed WSF's annual goal—which was developed before the rule change regarding passenger injuries—of having one or fewer injuries per million riders.



The online version of this article links to an interactive map at bit.ly/GNBferriesmap.

The definition of a reportable injury for WSF employees did not change, and the rate of Occupational Safety and Health Administration recordable crew injuries per 10,000 revenue service hours increased from 6.0 in the fourth quarter of FY2018 to 7.2 during the same period in FY2019. This represents four more injuries than the same quarter in FY2018, but still achieved WSF's annual goal of having a rate of fewer than 7.6 crew injuries per 10,000 revenue service hours.

Revenue up for the quarter, but under projections

WSF farebox revenue was approximately \$52.9 million for the fourth quarter of FY2019. This was about \$58,000 (0.1%) more than the same quarter in FY2018, but about \$969,000 (1.8%) below projections.

For FY2019, annual revenues were about \$3.5 million under projections.

Lower ridership and revenue in February due to winter storms accounted for \$2.5 million of the shortfall.

Passenger complaints increase for the quarter

WSF received 749 complaints and 54 compliments during the fourth quarter of FY2019, compared to 569 complaints and 28 compliments during the same quarter in FY2018. During the fourth quarter of FY2019, WSF received more compliments than any quarter in the past three years.

The category with the most complaints in the fourth quarter of FY2019 was employee behavior, with 149 complaints, an increase of 29 from 120 in the same period in FY2018.

The second highest category of complaints, 145, were related to on-time performance, an increase

of 30 from the 115 complaints in the fourth quarter of FY2018.

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

Customer feedback depicts WSF's integrity and professionalism

"I left my cellphone and wallet in the restroom on the main car deck of the ferry. When I arrived at my destination, I called WSF and was efficiently connected directly to the crew and staff at the Edmonds dock, who reunited me with my possessions. Beyond the efficiency and professionalism with which this was handled, I am impressed and reassured by the honesty of everyone involved. I want to extend my sincere thanks."

(Comment edited and is an excerpt)

WSF delivers Long Range Plan to Washington State Legislature

The 2017 Washington State Legislature required WSF to update its long range plan. WSF ridership is expected to grow more than 30% in the next 20 years. Increasing demand for ferry service, a changing climate, and the need to maintain reliable service presents challenges to an aging fleet and infrastructure. To address these challenges, WSF delivered a Long Range Plan to the Legislature in January 2019 which outlines priorities and recommendations through 2040.

The 2040 LRP recommends investments and policy changes that support reliable, sustainable and resilient ferry service through 2040 and beyond, while managing growth and offering an exceptional customer experience.

Key recommendations of the 2040 LRP include:

- Invest in 16 new vessels by 2040 to replace aging vessels and help stabilize the fleet. Total cost of the Plan is \$14.6 billion over 20 years. In FY2018, the average age of WSF's fleet was 29 years, with 13 vessels over 35 years old;
- Innovate by focusing on new technology and practices to better service WSF customers and manage growth; and
- Electrify the ferry fleet to reduce fuel use, emissions, noise, and maintenance costs.

For more information and recommendations for individual ferry routes, visit: <https://www.wsdot.wa.gov/ferries/planning/long-range-plan/the-plan>.

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FISH PASSAGE
ANNUAL REPORT

Notable results

- WSDOT completed 15 fish passage projects statewide in 2018, improving access to 105 miles of upstream fish habitat
- Since 2013, WSDOT has corrected 66 fish passage barriers within the case area of the 2013 injunction, improving access to 26% of previously blocked habitat

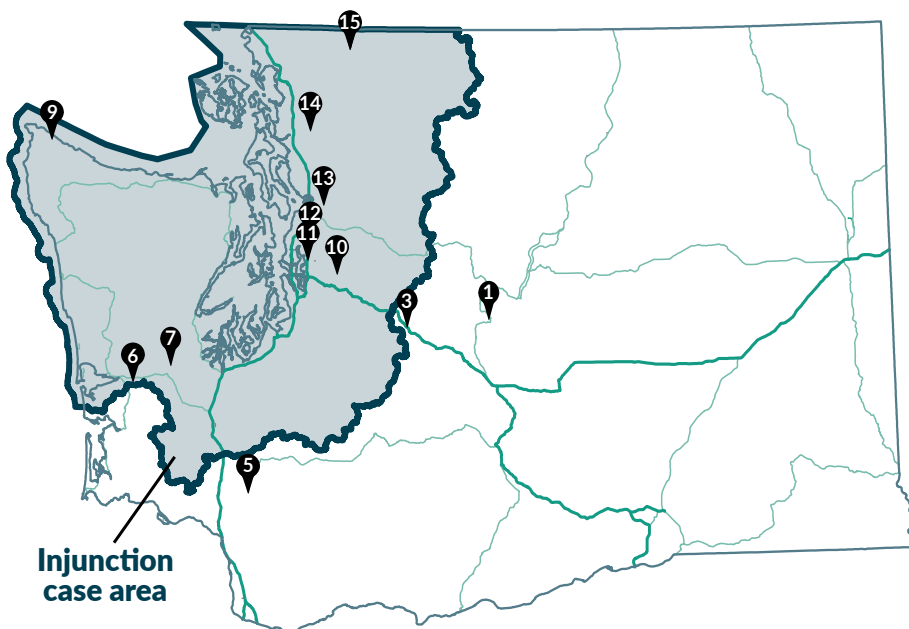
WSDOT improves access to 105 miles
of potential upstream habitat in 2018

WSDOT completed 15 fish passage projects statewide in 2018, restoring fish access to 105 miles of potential upstream habitat. Ten of the 2018 projects corrected fish passage barriers are applicable to a March 2013 injunction that requires WSDOT to restore access to 90% of blocked habitat within the case area shown in the map below by 2030 (for more information, visit <http://www.wsdot.wa.gov/Projects/FishPassage/>).

As of 2018, WSDOT has corrected 66 fish passage barriers applicable to the injunction. These corrections have restored access to about 316 miles, or roughly 26% of previously blocked habitat within the federal injunction case area. WSDOT must correct approximately 413 more barriers and restore access to an additional 795 miles of potential habitat within the case area by 2030 to comply with the injunction. The total current funding is \$739 million for the fish passage program through the 2029-2031 biennium. However,

WSDOT completes 15 fish passage projects in 2018, including 10 in injunction area

Map No.	Road	Body of water
1	US 97	Swauk Creek
1	US 97	Tributary to Tronsen Creek
3	I-90	Townsend Creek
3	I-90	Price Creek
5	SR 504	Wooster Creek
Fish barrier corrections applicable to 2013 injunction		
6	US 12	Tributary to Wynoochee River
7	SR 8	Middle Fork Wildcat Creek
7	SR 8	East Fork Wildcat Creek
9	SR 112	Olsen Creek
10	SR 203	Langlois Creek
11	SR 202	Little Bear Creek
12	SR 524	Great Dane Creek
13	SR 92	Little Pilchuck Creek
14	SR 9	Gribble Creek
15	SR 542	Hedrick Creek

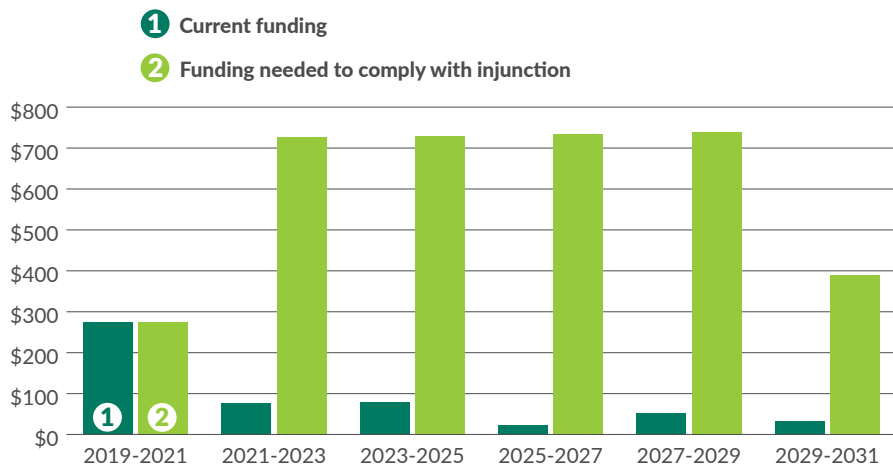


Data source: WSDOT Environmental Services Office.

Notes: Numbers on markers correspond with numbers represented in the table on the left. Numbers 1, 3, 7 have multiple fish passage barrier correction sites in the same area.

WSDOT's projected current funding well short of estimated funding needed to comply with injunction

Dollars in millions



Data source: WSDOT Environmental Services Office

Notes: Estimated compliance funding for 2021-2023 and beyond includes \$9 million-\$10 million per biennium outside the case area, and \$10 million-\$31 million per biennium to address culvert failures within the injunction area

in order to comply with the terms of the injunction, an additional \$3 billion is needed (see graph above). A barrier correction project is applicable to the injunction if it corrects a highway culvert that is a documented barrier to salmon or steelhead and is within the case area.

In total statewide, WSDOT has corrected 345 fish passage barriers statewide, which includes restoring access to over 1,100 miles of potential habitat for native fish. The number of WSDOT fish passage barriers and estimated potential upstream habitat are dynamic values that fluctuate as ongoing inventory and assessments take place. The values are tallied each June for annual reporting purposes.

FBRB funding helps coordinate fish barrier corrections

WSDOT supports partnerships with other public agencies, cities, counties, public and private enhancement groups, and others who seek to help advance this work. The Brian Abbott Fish Barrier Removal Board (FBRB) was established by the Legislature to fund and guide the coordination of fish passage barrier corrections across jurisdictions.

Cities, counties, tribes and private landowners can apply to the FBRB for funding for fish passage projects on barriers located upstream or downstream of a WSDOT project. This approach benefits salmon habitat connectivity by allowing

Why and where WSDOT does fish passage work

WSDOT started working collaboratively with the Washington Department of Fish and Wildlife in 1991 to systematically identify and correct fish passage barriers that occur where state-owned highways intersect streams. Correcting fish passage barriers contributes to healthy fish and wildlife.

WSDOT corrects fish passage barriers using bridge designs and stream simulation culverts designed to provide conditions close to those of a natural stream. These corrections take place as either stand-alone projects for high-priority barriers, or as part of larger transportation projects.

Fish Passage Annual Reporting

WSDOT publishes an annual Fish Passage Performance Report each summer, available here: http://bit.ly/Fish_Passage.

More information on Fish Passage

The Washington Department of Fish and Wildlife web portal contains data on statewide fish passage inventory and assessment: <https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html>.

salmon to access the WSDOT corrected barrier site or further increase upstream habitat gain.

Squalicum Creek is an example of a FBRB funded project that leveraged previous barrier corrections. The City of Bellingham will construct a new fish passable culvert as part of the continuing Squalicum Creek Reroute project. The new culvert will allow greater access to 8.9 miles of fish habitat for Chinook, Coho, pink, and chum salmon, as well as steelhead and cutthroat trout. This project will leverage Bellingham's completed Squalicum Creek Reroute Phases 1 and 2, WSDOT's fish barrier removal project at I-5, and the City of Bellingham's fish barrier removal project at James Street to increase access to upstream habitat. Collectively, the habitat gain upstream of the Squalicum Creek stream restoration projects is just over 22 miles.

Agencies collaborate to restore Swauk Creek

The Swauk Creek Floodplain Reconnection and Fish Passage Project brings together WSDOT, U.S. Forest Service, the Washington State Department of Fish and Wildlife, and the Mid-Columbia Fisheries Enhancement Group. The project aims to provide fish passage under US 97 and restore natural stream and floodplain processes.

WSDOT replaced two fish barriers under US 97, enhancing stream habitat within the highway right-of-way. The Mid-Columbia Fisheries Enhancement Group led all stream and floodplain habitat restoration outside of the right-of-way. The U.S. Forest Service harvested native seeds to replant roadside and riparian vegetation and supported repurposing trees as in-stream and floodplain habitat structures. The Washington Department of Fish and Wildlife reviewed designs, issued permits, and provided technical support throughout the process.

The first phase was completed in 2018, and the second phase is currently under construction. Once the project is complete, over one mile of Swauk Creek between the two highway crossings is expected to see improved habitat connectivity and function.

Kilisut Harbor project improves tidal connectivity

Kilisut Harbor is another example of combining efforts from multiple groups into a large scale project. Sponsored by the North Olympic Salmon Coalition (NOSC), the project includes a highway crossing that is a fish passage barrier. WSDOT contributed funding for a fish passable structure and NOSC obtained the rest of the project funding through grants.

WSDOT and NOSC broke ground on August 12, 2019, to construct a 440-foot bridge to replace two small culverts and an earthen causeway between Indian Island and Marrowstone Island in Jefferson County. The overall goal of this project is to restore tidal connectivity between Oak Bay and Kilisut Harbor, which will provide access to food resources for fish migrating out of Puget Sound and Hood Canal.

WSDOT fish passage improvements help southern resident killer whale population recovery

The declining population of Federally Endangered Southern Resident Killer Whales (SRKW) has been the subject of much concern recently. Lack of prey in Puget Sound is one of several threats to southern resident killer whales. SRKW eat salmon, preferably Chinook salmon, whose numbers in Puget Sound are relatively stagnant. WSDOT's Fish Passage Program continues work started over 20 years ago on statewide stream restoration projects to improve salmon access to freshwater spawning habitat.

Within the injunction area, there are 312 highway crossings on Chinook streams of which 46 currently block salmon (including Chinook). The other 266 crossings are fish friendly.

Contributors include Susan Kanzler, Kim Mueller, Piper Petit, Damon Romero, Tammy Schmidt, Lisa Mikesell and Dustin Motte

Many culverts were not designed for fish passage or became barriers over time



Flow is too fast



Jump is too high



Water level is too low

Return of Coho to Green Creek upstream of State Route 900 in Renton

Standing in Green Creek on a cold winter day in November 2018, a WDFW biologist is looking for spawning adult salmon. A neighbor stops by to ask what is happening and the pair fall into conversation about the recently replaced culvert under the highway. "It's too big, too expensive." With a look of futility, the neighbor laments that salmon haven't been in Green Creek for the past 30 years. Sharing an optimistic viewpoint, the biologist replies that new culverts are sized to mimic the creek channel, providing access to upstream habitat is key, and if salmon can come they will. It just takes time.

A quick splash of water and a flash of red draws the attention of both. It's an adult Coho salmon returning to its natal stream to spawn. "Well, I'll be" is all that is said. It's all that needs to be said. Welcome home.



Adult Coho returning to Green Creek through new culvert constructed in 2017 on SR 900. Photo courtesy of Zach Moore and Panos Stratis (WDFW)

By Tammy Schmidt, WSDOT, Environmental Services Office

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HYDRAULIC PROJECT APPROVAL
PERMITS ANNUAL REPORT

Notable results

- General Hydraulic Project Approval permit usage saved WSDOT approximately 2,000 hours of staff time in 2018
- WSDOT used eight GHPAs to complete 500 maintenance activities in 2018, a decrease of 15% from 2017

Strategic Plan Goal
PRACTICAL SOLUTIONS

WSDOT's use of multisite Hydraulic Project Approval permits exemplifies Practical Solutions by saving time compared to using General Hydraulic Project Approvals, which are specific to a single project site.

General Hydraulic Project Approval permits help expedite WSDOT maintenance work

WSDOT used eight General Hydraulic Project Approval permits to complete 500 maintenance activities in 2018—a decrease of 15% from 585 in 2017—which saved WSDOT staff an estimated 2,000 hours. In general, GHPA permits save WSDOT four hours for every activity conducted by bypassing the requirement to apply for an individual HPA permit for each activity. Washington Department of Fish and Wildlife issued four GHPA permits to WSDOT in 2018 for beaver dam removal, bridge preservation and maintenance, fresh water geotechnical survey, and marine water sediment test boring. See the table on the next page for a description of HPA permits commonly used by WSDOT.

GHPA permits allow WSDOT to quickly address roadway maintenance issues without applying for separate permits every time such work is needed. GHPA permits allows WSDOT staff to make repairs before small problems become big ones. For example, the Bridge Debris Maintenance GHPA permit allows maintenance staff to remove logs from bridge piers. Logs can cause accumulation of debris along bridges that could threaten the structural integrity of the bridge and wildlife habitat.

Multisite permit usage streamlines WSF permitting process

In 2018, WDFW issued WSDOT a five-year, multisite HPA permit for ferries. WSDOT used this multisite HPA permit for seven ferry terminal activities in 2018, including general repair and maintenance, pile installation, pavement overlay and terminal washing. The multisite HPA permit replaces three separate, five-year GHPA permits—one each for ferry maintenance, pile maintenance and geo-tech work. In addition to the time savings from using one permit instead of three, the multisite HPA permits allow WSDOT more flexibility with scheduling and site-specific compensatory mitigation. The new multisite HPA permit has substantially streamlined hydraulic project permitting for Washington State Ferries.

Contributors include Virginia Stone, Adrienne Stutes, Lisa Mikesell and Dustin Motte

WSDOT uses eight General Hydraulic Project Approval permits to streamline 500 maintenance activities

2016 through 2018; Number of maintenance activities and hours saved per GHPA permit

GHPA permit	2016		2017		2018	
	Activities	Hours	Activities	Hours	Activities	Hours
Bridge maintenance	308	1,232	243	972	180	720
Beaver dam removal	136	544	238	952	214	856
Culvert maintenance	30	120	50	200	49	196
Channelized stream maintenance	24	96	28	112	36	144
Bridge debris maintenance	6	24	13	52	14	56
Other ¹	9	36	13	52	7	28
Total	513	2,052	585	2,340	500	2,000

Data source: WSDOT Environmental Services Office.

Note: 1 "Other" maintenance activities include fishway structures maintenance and repair, freshwater and marine water sediment test boring, and removing, repairing and replacing piles at ferry terminals.

WSDOT commonly uses five different types of Hydraulic Project Approval permits

WDFW requires a HPA permit for all construction or work that affects state waters, including repair or replacement of any structure that crosses a stream, river, or the flow or bed of a water body. HPA permit provisions include measures that protect habitat as WSDOT staff or contractors perform authorized activities.

WDFW issued 68 HPA permits to WSDOT in 2018. WSDOT applies for five different types of HPA permits: General, Fish Habitat Enhancement Projects, Expedited, Emergency and Standard for construction and maintenance activities. WDFW has 45 days to issue most types of HPA permits after receiving an application with the exceptions noted below.

HPA Types	Requirements and limitations	Issued in 2018
General HPA	GHPA permits cover infrastructure maintenance that has a low likelihood of environmental impact. GHPA permits address a geographic area and are not site-specific. These permits are good for up to five years and help WSDOT protect the environment while meeting critical roadway safety and maintenance needs. WSDOT uses GHPA permits to quickly address problems that may threaten roadway infrastructure since WSDOT is not required to apply for an individual permit every time such work is necessary. GHPA permits cannot be issued or modified for site-specific requirements. All other types of HPA permits are for specific sites.	4
Fish Habitat Enhancement Projects	The FHEP permit is a streamlined HPA permit and approval process for projects that remove human-caused fish passage barriers, restore an eroded or unstable stream bank, or place woody debris or instream structures that benefit naturally reproducing fish stocks. The purpose of the project is limited fish habitat enhancement. Projects meeting the criteria for FHEP permit review are not subject to the requirements of the State Environmental Policy Act and local permits or approvals.	6
Emergency	Emergency HPA permits cover work that corrects an immediate threat (anticipated to occur within 24 hours) to people, property, or the environment. Work may proceed immediately after WDFW provides verbal approval, which is followed by a written HPA permit.	14
Expedited	WDFW issues expedited HPA permits within 15 days when normal processing time would result in significant hardship for the applicant or unacceptable damage to the environment. This permit expires within 60 days with no extensions allowed.	12
Standard	A standard HPA permit may be issued for a single or multiple project sites when the proposed activity does not meet one of the other HPA types listed above. This is the most common HPA permit that WSDOT obtains.	32

For more information about HPA permits, see: <http://bit.ly/HPAGuidance>.

74 FREIGHT SEMI-ANNUAL REPORT

Notable results

- *Gross business income for freight-dependent industries was up 10.9% from \$595 billion in 2017 to \$660 billion in 2018*
- *The number of freight trucks entering Washington from Canada increased slightly, from 652,038 crossings in 2017 to 655,767 in 2018*
- *Washington waterborne freight tonnage decreased 2.9% in 2017 compared to 2016*
- *Air cargo tonnage in Washington increased 12% in 2017, the largest increase in the past five years*

Washington was the seventh most trade-dependent state in the nation in 2018

Washington state's total imports and exports in 2018 were valued at \$132.6 billion, a 5.1% increase from \$126.2 billion in 2017. It was the seventh most trade-dependent state in the country per capita in 2018, behind Louisiana, Texas, Michigan, Kentucky, New Jersey and Tennessee, according to the U.S. Census Bureau. Despite the overall increase in trade, the state's ranking dropped from 2017, when it was ranked fifth most trade-dependent state.

The change in ranking is mostly due to an 11.4% decline in exports to China, the state's top trading partner. Tariffs accounted for the majority of the decline—both United States tariffs that depressed imports coming through Washington ports to the American market, as well as retaliatory Chinese tariffs that increased the price of exporting products (such as soybeans and cherries) abroad. Washington exported \$18 billion worth of goods to China in 2017 compared to \$15.9 billion in 2018.

Despite the ranking change in total imports and exports, the state's overall gross business income for freight-dependent industries continued to increase. In 2018, gross business income for freight-dependent industries was \$660 billion, up 10.9% from \$595 billion in 2017.

WSDOT supports the freight system and freight-dependent industries by directly managing the state's highway and ferry system, a short line railroad and several freight rail programs. WSDOT also provides policy analysis and planning coordination statewide for the movement of goods in commerce.

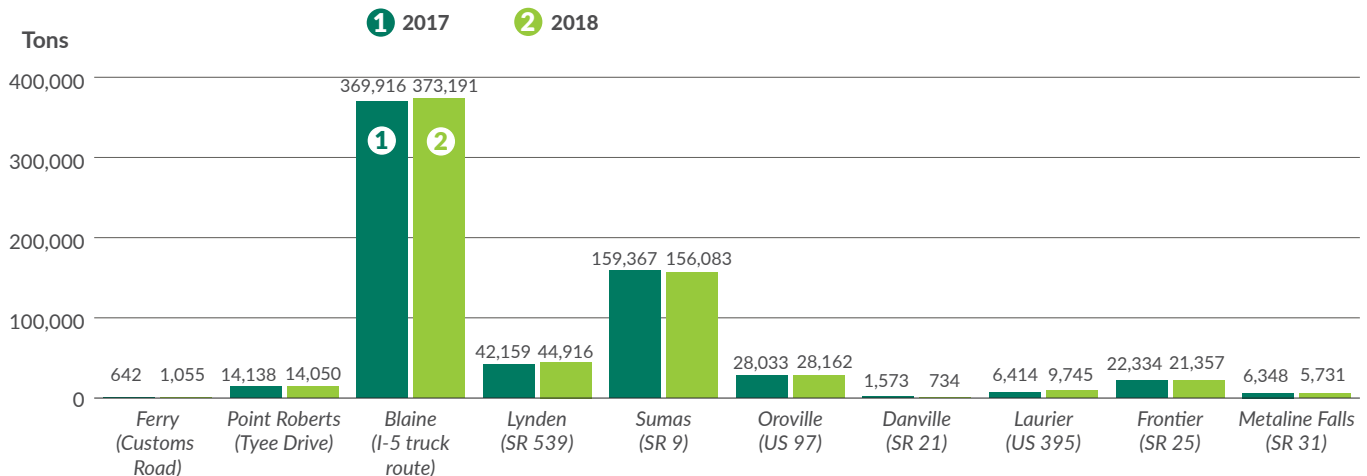
Number of freight trucks entering Washington from Canada increases slightly in 2018

The number of freight trucks entering Washington from Canada increased slightly by 0.6%, from 652,038 crossings in 2017 to 655,767 in 2018. The border crossings at Blaine and Sumas continued to see the bulk of the traffic; 80.7% of all freight trucks that entered Washington from Canada in 2018 used one of those two crossings.

The Blaine border crossing on Interstate 5 had 373,191 trucks in 2018, a 0.9% increase from the 369,916 trucks in 2017. The Sumas crossing on State Route 9 had 156,083 trucks enter Washington in 2018, a 2.1% decrease from 159,367 trucks in 2017 (see chart on p. 25).

Freight truck border crossing numbers see minor changes

Number of truck crossings from Canada into Washington at the border; 2017 and 2018



Data source: U.S. Department of Transportation, Bureau of Transportation Statistics and WSDOT Rail, Freight, and Ports Division.

Note: Border crossing graph does not include the Port Angeles (378 crossings in 2018), Boundary (365 crossings in 2018), or Friday Harbor (zero crossings in 2018) ports of entry.

Washington's waterborne freight shipment tonnage in 2017 down 2.9% from 2016

Total waterborne freight activity in Washington was approximately 119.4 million tons in 2017, down 2.9% from 122.9 million tons in 2016 (2018 statewide figures were not available at the time of publication). Waterborne freight is

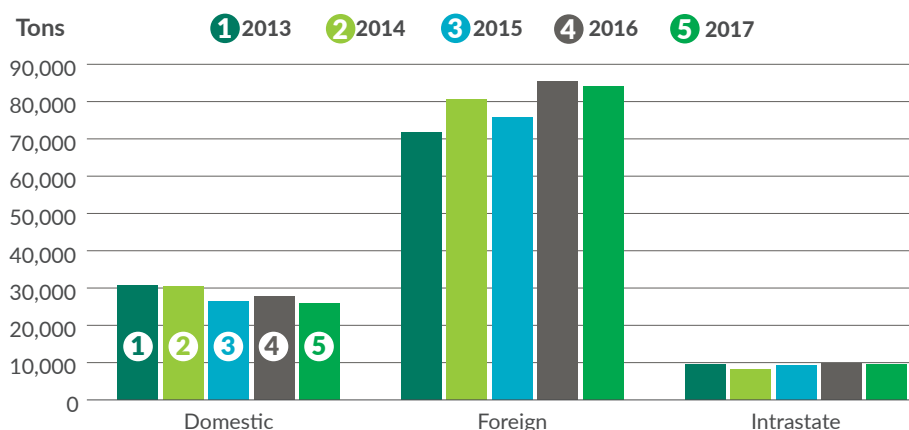
categorized as foreign, domestic or intrastate, depending on its origin and destination. In 2017, 70% of waterborne freight was foreign, 22% was domestic and 8% was intrastate (with both the origin and destination in Washington).

All three categories saw declines in 2017. This decline was due to a decrease in food product shipments to Oregon and foreign markets, and reduced petroleum shipments within Washington and to foreign countries.

Key export commodities include food and food products (such as grain, oilseeds and other agricultural products), lumber products and petroleum products. In 2017, food and food products comprised 61.4% of state's total exported commodities, lumber products made up 8.8% and petroleum products comprised 13.3%. These commodity groups saw a decrease of 5.9%, 14% and 3.9%, respectively, between 2016 and 2017.

Majority of waterborne freight in Washington crosses international borders

2013 through 2017; Tonnage in millions; Domestic, foreign and waterborne freight



Data source: U.S. Army Corps of Engineers, Navigation Data Center.

Seattle and Tacoma see an increase in waterborne freight in 2018

The ports of Seattle and Tacoma, which merged their marine cargo operations into the Northwest

Seaport Alliance in 2015, saw a combined 2.6% increase in containerized waterborne freight in 2018.

Containerized port freight is measured by 20-foot equivalent units (TEU), which represent the freight in one 20-foot marine cargo container. These containers carry many different types of freight and come in different lengths; for example a 40-foot container is equal to two TEUs. In 2018, the ports of Seattle and Tacoma—by far the largest ports in the state—handled a combined 3.8 million TEUs of cargo, up 2.6% from 3.7 million in 2017. The five-year TEU average for the two ports is 3.6 million TEU, up from the previous five-year average of 3.5 million. The TEU average for the ports of Seattle and Tacoma and has increased every year since 2015.

WSDOT supports waterborne freight planning efforts, including the development and implementation of the 2017 Marine Ports and Navigation Plan.

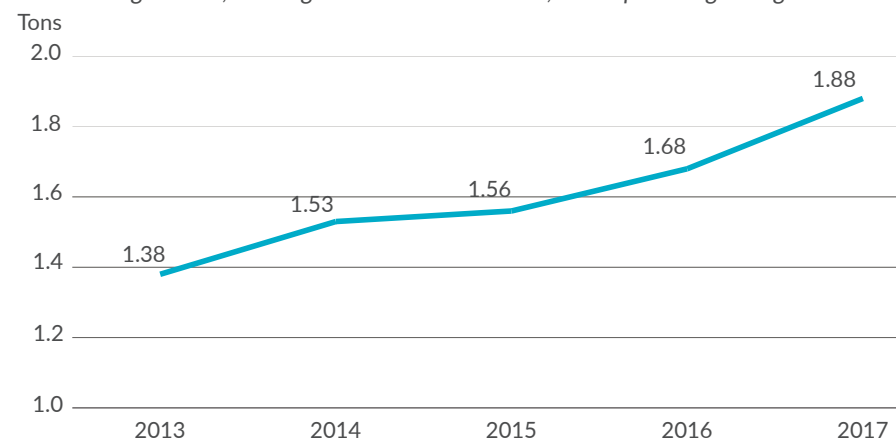
Air cargo tonnage increases 12% in 2017

Washington airports handled 1.88 million tons of cargo (plane plus cargo weight) in 2017, continuing an upward trend that began in 2013. In 2017, air cargo tonnage grew 12% from the 1.68 million tons in 2016—the largest increase in five years. Much of this increase is attributable to the 23% increase in cargo shipped through Seattle-Tacoma (Sea-Tac) International Airport in 2017 compared to 2016.

Sea-Tac continues to handle the bulk of all air cargo in the state,

Total air cargo tonnage continues upward trend in Washington

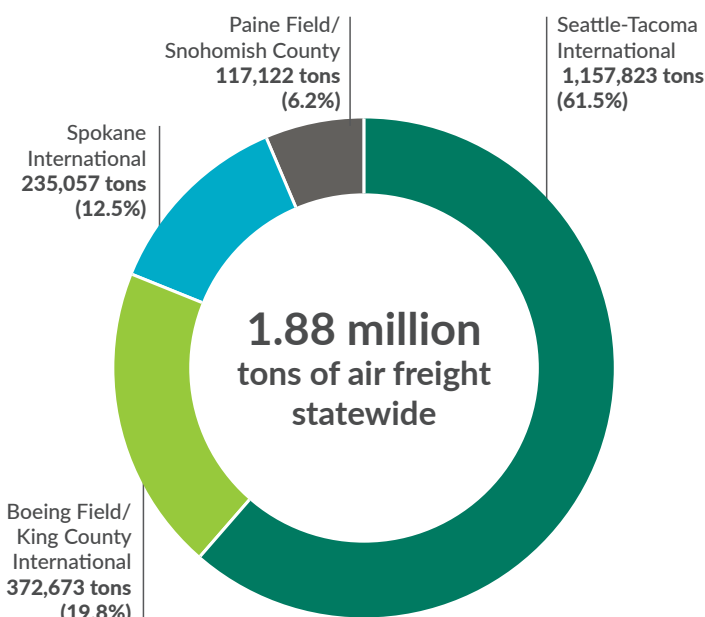
2013 through 2017; Tonnage measured in millions; Plane plus cargo weight



Data source: Federal Aviation Administration.

Seattle-Tacoma airport moves majority of air freight in 2017

Tonnage and percent share of air freight per airport in Washington state



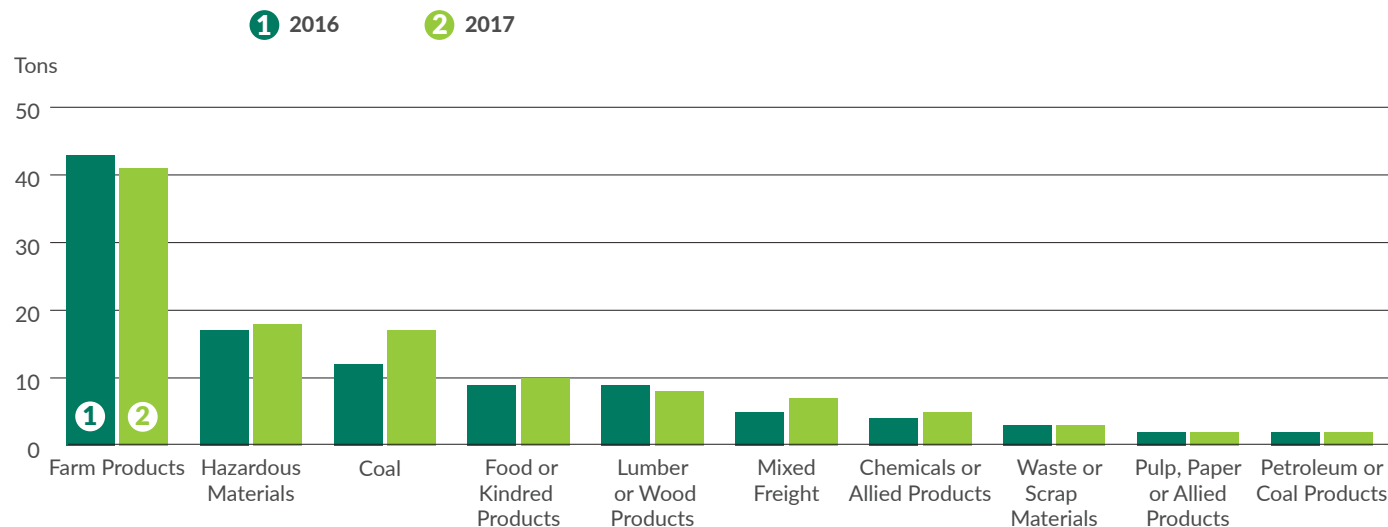
Data source: Federal Aviation Administration.

with 61.5% of the statewide total in 2017, according to the Federal Aviation Administration. Sea-Tac Airport ranked 19th in air cargo volume in North America for 2017 (the most recently available data) and provides daily, non-stop service to 91 domestic and 29 international destinations.

According to the Port of Seattle, Sea-Tac handled approximately 432,315 metric tons of total cargo (not including plane weight) in 2018—an increase of 1.5% from 425,856 in 2017. FedEx was the top cargo carrier out of Sea-Tac in 2018, accounting for 32.2% of all cargo tonnage.

Railroads carrying more hazardous materials and coal

2016 and 2017; Commodities shipped by rail; Tonnage in millions



Data source: WSDOT Rail, Freight, and Ports Division.

The top commodities moving through Sea-Tac in 2018 included industrial machinery (5% of total imports), cherries (4% of total exports) and seafood (2% of total exports). High-value and time-sensitive goods often move through airports, which play a key role in supporting manufacturing, agriculture and service sectors in the state.

Air transportation is part of the multimodal freight system. WSDOT supports the movement of air cargo by identifying and addressing air needs through freight and aviation planning efforts and engaging freight communities.

Freight rail tonnage increases by 5.8% in 2017

Railroads in Washington state transported 128 million tons of freight in 2017, a 5.8% increase from the 121.2 million tons transported in 2016.

The amount of rail freight shipped to and terminating in the state held steady from 2016 to 2017 at 65.9 million tons, making up 51% of all statewide rail freight, a decrease from 54% in 2016. Freight rail shipments passing through Washington (starting outside the state and not terminating in the state) accounted for 31% (39.5 million tons) of total rail freight tonnage—an 18% increase in tonnage from 2016 (33.5 million tons). The pass through increase is due in part to a 37% increase in chemical product shipments, which grew with fertilizer (potash) being shipped through Washington from a Canadian mine to the Port of Portland for export. The major driver behind the increase in freight moving through the Washington is coal shipment from Montana to British Columbia.

Amount of farm products shipped decreases by nearly 5% in 2017

In 2017, rail shipment of farm products (such as soybeans, corn,

wheat and dried peas) dropped to 40.5 million tons, a 4.8% decrease from the 42.6 million tons shipped in 2016. The decrease is largely due to reductions in soybean and corn shipments from Minnesota and South Dakota to Washington ports, which were down a combined 3.9 million tons from 2016. Wheat shipments by Washington and Montana growers increased by 2.3 million tons in 2017 compared to 2016.

Railroad shipments of hazardous materials increased by 7.2%, from 16.5 million tons in 2016 compared to 17.7 million tons 2017. Rail shipments of coal increased by nearly 40%, going from 11.9 million tons in 2016 to 16.6 million tons in 2017—largely due to an increase in Montana coal being shipped to British Columbia through Washington.

Contributors include Barbara LaBoe, Trevor Daviscount, Janet Matkin, Cara Motte, Wenjuan Zhao, Hide Aso and Anjali Bhatt

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WORKFORCE DEVELOPMENT
ANNUAL REPORT

Notable results

- WSDOT filled 1,571 positions in FY2019, down 12.7% from 1,800 positions filled in FY2018
- 16.2% of WSDOT's eligible workforce teleworks at least two days each month, up 6.2 percentage points from 10% in 2018
- As of March 2019, 37 parents and their infants participated in WSDOT's Infant at Work program

Workforce numbers remain steady, majority of eligible employees choose not to retire

In FY2019, WSDOT had an average of 6,632 permanent full-time employees, which is six more than the average in FY2018. Agency-wide, 20.7% (1,376) of employees were eligible for partial retirement in FY2019 and 6.6% (437) were eligible for full retirement. Of the 437 employees eligible for full retirement, only 214 (49%) actually retired in FY2019.

In FY2019, 619 employees separated from WSDOT, a decrease of 11.3% from 698 separations in FY2018. Separations occur as a result of abandonment of position, death, disability, dismissal, end of appointment, layoff, resignation and retirement.

Increased agency presence at career events yields results

In 2017, WSDOT launched an Entry-level Engineering Outreach Program designed to combine the outreach efforts of the agency's recruitment team with engineers from around the state, identifying talent by traveling to various colleges within the U.S. Outreach efforts also focus on other entry-level classifications such as the Highway Maintenance Worker 2 Class and Ordinary Seaman positions.

WSDOT attended nearly 60 outreach events in FY2019 as part of that ongoing effort to build diverse pools of qualified candidates. This increased focus on key demographics resulted in a 2% increase in diverse applicants for entry-level Highway Maintenance positions during FY2019. Agency wide, WSDOT filled 1,571 positions in FY2019, a decrease of 12.7% from 1,800 positions filled in FY2018.

To help current employees grow their careers internally, WSDOT's Statewide Recruitment Team provides a variety of career services to include mock interviews, resume writing workshops, and other formal training and presentations designed to help strengthen employees' interviewing skills and application materials

WSDOT increases diverse, qualified hires in three job classifications

WSDOT has a goal of increasing the number of diverse, qualified candidates who apply for Transportation Engineer 1, Highway Maintenance Worker 2 Class and Ordinary Seaman positions by 5% each per year through June 2021. These three job classifications represent entry into the agency's largest labor pools and the beginning of potential career ladders for growth. WSDOT is

6,632

WSDOT FULL TIME
EMPLOYEES

6

MORE EMPLOYEES THAN
IN THE SAME QUARTER
ONE YEAR AGO

1,376

EMPLOYEES WHO WERE
ELIGIBLE TO RETIRE WITH
REDUCED OR FULL BENEFITS
IN FY2019

20.7%

OF FULL TIME
EMPLOYEES IN FY2019

437

EMPLOYEES WHO WERE
ELIGIBLE TO RETIRE WITH
FULL BENEFITS IN FY2019

6.6%

OF FULL TIME
EMPLOYEES IN FY2019

214

ACTUAL
RETIRES IN FY2019

36

FEWER RETIREES
THAN IN FY2018

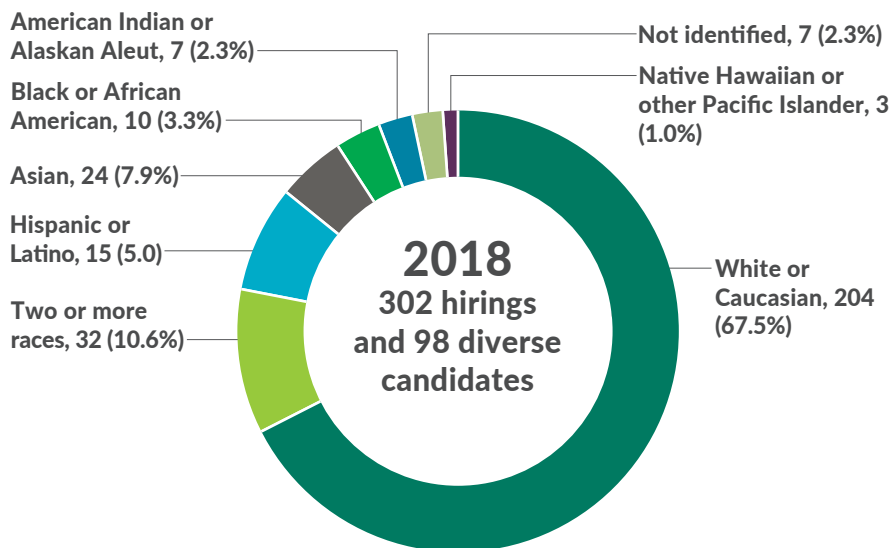
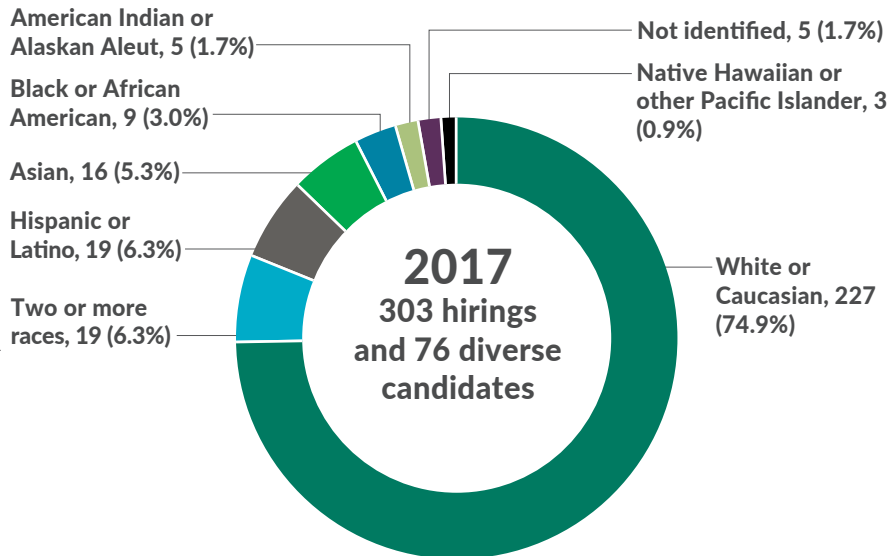
Data source: WSDOT Office of Human Resources and Safety.

Note: Number of employees and retirements are reported for FY2019.

Workforce Development is one of three goals for Results WSDOT, the agency's strategic plan for 2017-2021. WSDOT strives to be an employer of choice—attracting and retaining a skilled, diverse workforce—valuing employee development and engagement, supported by a modern work environment.

WSDOT makes progress on hiring diverse candidates

2017 and 2018; Number of hirings and percent of total hirings for Transportation Engineer 1, Highway Maintenance Worker 2 Class and Ordinary Seaman positions



Data source: WSDOT Office of Human Resources and Safety.

Notes: Percentages may not add to 100 due to rounding.

also striving to increase the number of both qualified women and veteran applicants by 5% per year through June 2021. In FY2019, 28.5% (1,841) of the agency's workforce were women; 7.7% (497) of the agency's workforce were veterans.

WSDOT is working to create a diverse applicant group, particularly among "affected groups". Equal Employment Opportunity federal and state diversity laws identify "affected groups" as Asian/Pacific Islander, African/American/

Black, Hispanic, American Indian/Alaska Native, and female; State law expands the definition for affirmative action purposes to also include persons with disabilities, disabled veterans, Vietnam-era veterans, and persons over 40 years of age.

Most WSDOT employees satisfied with their jobs

Seventy-three percent of WSDOT employees are, in general, satisfied with their jobs, and 67% would recommend the agency as a great place to work, according to the 2018 Washington State Employee Engagement Survey. These percentages have increased by two percentage points and four percentage points, respectively, from 2017. WSDOT aims to increase job satisfaction results to 74% by February 2021, and has surpassed the goal of 66% for job recommendation.

As WSDOT strives to be an employer of choice, efforts like employee engagement surveys, well-being assessments and exit interviews not only deliver performance information, but also provide feedback leading to improvements in the employee experience. Another example of such efforts, WSDOT wellness activities and assessments, was reported in [GNB 68, pp. 14-15](#).

Overall work environment satisfies most WSDOT employees

Sixty-two percent of WSDOT employees are satisfied with their overall work environment, according to the 2018 Washington State Employee Engagement Survey. WSDOT's goal is to

increase satisfaction to 65% by February 2021.

Overall work environment measures include:

- Flexibility – the ability for an employee to adjust scheduled hours as needed;
- Mobility – the ability for an employee to work remotely from home or alternative sites;
- Physical space – the building, furniture, lighting, noise and variety of spaces for different work tasks;
- Technology – the employee's desktop computer, laptop, mobile phone, tablet, remote access ability, and more; and
- Well-being – how the work environment affects an employee's physical, social and emotional health.

Telework rates exceed goal

As of March 2019, WSDOT had exceeded its 12% telework participation goal by 4.2 percentage points; 16.2% of WSDOT's eligible employees telework—work from home or another remote location at least two days a month. This is an increase of 6.2 percentage points from 10% in 2018.

Telework and flexible work schedules help the agency implement Gov. Jay Inslee's Executive Order 16-07, "Building a Modern Work Environment."

Telework is an effective strategy to reduce emissions from employee

commuting and energy consumption in WSDOT facilities. WSDOT believes telework, compressed work weeks and flexible schedules enhance productivity, job satisfaction and morale. These strategies help recruit and retain talent and meet future agency office space requirements.

As of March 31, 2019, 56.9% (3,153) of eligible WSDOT employees were working a compressed work week schedule compared to 56.1% (3,106) reported a year ago. In a compressed work schedule, employees work fewer than 10 days every two weeks, but work longer hours each day. In the same time period, approximately 79.8% (5,462) of eligible WSDOT employees were working flexible schedules compared to 53.8% (3,659) reported one year ago. A flexible work schedule is one outside the core business hours of 8 a.m. to 5 p.m. The agency's participation targets for these are 67% and 63%, respectively. The 26 percentage point improvement in flexible schedules is due to better accounting; that number now reflects ferries workers' flexible schedules that were previously not captured in reporting.

Infant at Work pilot successful, 23 new parents enrolled

From March 2018 to March 2019, 23 eligible employees participated in a program that allowed them to bring their infants to work at WSDOT, instead of having to take leave or find alternate care. The Infant At Work (IAW) program was established as part of the Modern

Work Environment initiative, in an effort to support a positive work/life balance and productivity for eligible employees who were new parents or legal guardians of infants. The IAW Program became WSDOT policy in March 2018 following a successful year-long pilot; to date, 37 parents and their infants have participated.

Supervisors complete entry level management training

In 2018, 175 WSDOT supervisors completed a "Leading Others" supervisory training provided by the state's Department of Enterprise Services, compared to 171 in 2017. In spring 2018, DES launched a new supervisory training for middle managers, called "Leading Teams." In 2018, 39 WSDOT managers completed this course. Leading Others, a pilot in 2016, was adopted as an official training for WSDOT supervisors.

WSDOT has partnered with Department of Enterprise Services to offer five WSDOT-only leadership courses. Two courses currently offered are Leading Others and Leading Teams. Employees are selected to attend training depending on their level within the agency. The training efforts support the agency's Talent Development strategy. WSDOT has a goal of providing leadership training to 500 employees by June 2019.

Contributors include Todd Dowler, Amy Fermo, Krystle Jones, Heidi Mabbott, Jennifer Martin, Alvina Mao, Kate Severson, Pam Smith and Yvette Wixson

74 CAPITAL PROJECT DELIVERY PROGRAMS QUARTERLY UPDATES

No additional Nickel, TPA or Connecting Washington projects done during the quarter

WSDOT did not report any Nickel, Transportation Partnership Account or Connecting Washington highway projects as being operationally completed during the eighth quarter of the 2017–2019 biennium (April through June 2019). The agency has completed 16 highway program CW projects (including studies) since the funding package was passed in 2015. These individual projects may represent only a portion of their respective legislative budget line items.

WSDOT has completed 382 total Nickel and TPA construction projects since July 2003, with 86% on time and 91% on budget. The agency currently has five Nickel and TPA projects underway (see p. 34 for additional information).

The cost at completion for the 382 Nickel and TPA construction projects was approximately \$9.77 billion, 1.6% less than the baseline cost of about \$9.92 billion. As of June 30, 2019, WSDOT had 12 Nickel and TPA projects yet to be completed, with a total value of approximately \$5.54 billion.

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, did not anticipate the economic recession in projecting future growth in fuel tax revenues. The 2003 Nickel and 2005 TPA gas taxes that fund projects are based on a fixed tax rate per gallon and do not change with the price of fuel. 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 \$4.0 billion, roughly \$930 million (18.9%) 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.

Beige Page contributors include Mike Ellis, Penny Haeger, Heather Jones, Thanh Nguyen, Aaron Ward, Dan Wilder, Joe Irwin and Lisa Mikesell

Notable results

- *WSDOT has completed 382 Nickel and TPA projects since 2003, with 86% on time and 91% on budget*
- *WSDOT advertised 42 of 54 Pre-existing Funds projects during the eighth quarter of the 2017–2019 biennium*

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. It is now reported monthly at <http://bit.ly/ProjectDeliveryReports>. This change helps the Gray Notebook better align with WSDOT's Capital Program Development and Management Office and its monthly online version of the Watch List of projects that have or may have significant changes in scope, schedule or budget.

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CURRENT LEGISLATIVE EVALUATION &
ACCOUNTABILITY PROGRAM QUARTERLY UPDATE

Combined Nickel & Transportation Partnership Account Status of projects to date; 2003 through June 30, 2019; Dollars in millions	Number of Projects	Value of
Subtotal of completed construction projects ¹	382	\$9,920.6
Non-construction projects that have been completed or otherwise removed from Nickel/TPA lists ^{2,3}	9	\$205.0
Projects included in the current transportation budget but not yet complete	12	\$5,541.1
Projects that have been deferred indefinitely or deleted and removed from Nickel/TPA lists ^{3,4}	13	\$499.2
Projects now funded by Connecting Washington and removed from Nickel/TPA lists (see GNB 63, p. 35)	5	\$103.3
Total number of projects ⁴ in improvement and prese	421	\$16,269.2
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 2017- 2019 Biennium Budget	Cumulative Program
Total number of projects completed	5	382
Percent completed early or on time	40%	86%
Percent completed under or on budget	80%	91%
Baseline cost at completion	\$2,943.7	\$9,920.6
Current cost at completion	\$2,939.3	\$9,765.9
Percent of total program over or under budget	0.1% 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 June 30, 2019	5	
Percent advertised early or on time	100%	
Total number of projects advertised for construction during the 2017-2019 biennium (July 1, 2017 through June 30, 2019)	0	
Percent advertised early or on time	N/A	
Projects to be advertised: Results of projects now being advertised for construction or planned to be advertised	Combined Nickel & TPA	
Total number of projects being advertised for construction (July 1 through December 31, 2019)	2	
Percent on target for advertisement on schedule or early	50%	
Budget status for the 2017-2019 biennium; Dollars in millions	WSDOT biennial budget	
Budget amount for 2017-2019 biennium	\$1,036.6	
Actual expenditures in 2017-2019 biennium to date (July 1, 2017, through June 30, 2019)	\$698.5	
Total 2003 Transportation Funding Package (Nickel) expenditures	\$85.7	
Total 2005 Transportation Partnership Account expenditures	\$433.8	
Total Pre-existing Funds expenditures	\$179.1	

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 June 30, 2019. **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.

74 ADVERTISEMENT RECORD QUARTERLY UPDATE

Connecting Washington Account projects in construction ¹ Through June 30, 2019; (County); Dollars in millions	Schedule status	Completion date	Total project cost
I-5/Joint Base Lewis-McChord Corridor Improvements (Pierce)			
I-5/Steilacoom-DuPont Rd. to Thorne Ln. - Corridor Improvements	On schedule	Apr-2021	\$332.5
SR 167/SR 509 Puget Sound Gateway (multiple counties)			
SR 509/SeaTac Stage 1 Elements (WSDOT Contribution)	Advanced	Aug-2022	\$49.3
SR 167/I-5 to SR 509 - Stage 1A	On schedule	Apr-2022	\$57.4
I-405/Renton to Bellevue - Corridor Widening (King)			
I-405/Renton to Bellevue - Corridor Widening & Electronic Tolling Lanes (Stage 2)	Delayed	Dec-2024	\$876.0
I-5/116th St. and 88th St. Interchanges - Improvements (Snohomish)			
I-5/116th St. Northeast Interchange - Tulalip Tribes Lead	Delayed	Jul-2019	\$16.9
Land Mobile Radio Upgrade (multiple counties)			
Wireless Communication	Delayed	Nov-2021	\$37.0
SR 520 Seattle Corridor Improvements - West End (King)			
SR 520/Montlake to Lake Washington - Interchange and Bridge Replacement	On schedule	Apr-2023	\$628.1
US 395 North Spokane Corridor (Spokane)			
US 395/North Spokane Corridor - Columbia to Freya	Advanced	Dec-2019	\$20.0
I-5/Marvin Road/SR 510 Interchange (Thurston)			
I-5/SR 510 Interchange - Reconstruct Interchange	Delayed	Dec-2020	\$46.2
I-82/ Eastbound/Westbound On- and Off-Ramps (Yakima)			
I-82/South Union Gap Interchange - Construct Ramps	Advanced	Oct-2019	\$22.9
US 2 Highway Safety (Snohomish)			
US 2/Corridor Improvements	On schedule	Oct-2019	\$2.0
SR 107/Chehalis River Bridge (S. Montesano Bridge) Approach & Rail Repair (Grays Harbor)			
SR 107/Chehalis River Bridge - Structural Rehabilitation	Delayed	Jul-2020	\$21.9
SR 14 Access Improvements (Clark)			
SR 14 Access Improvements	Advanced	Aug-2020	\$7.5
I-90/Medical Lake & Geiger Interchanges (Spokane)			
I-90/Medical Lake Interchange to Geiger Field Interchange - Reconstruction	Advanced	Oct-2020	\$16.0

Data source: WSDOT Capital Program Development and Management.

Note: **1** Connecting Washington advertisements show projects currently in construction, and does not represent a comprehensive list of completed Connecting Washington projects.

Nickel & TPA projects in construction Through June 30, 2019; (County); Dollars in millions	Fund type	Advertised on time	Ad date	Operationally complete date	Award amount
I-5 Concrete Rehabilitation Program (King)	Nickel				
I-5/Northbound Boeing Access Rd. to Northeast Ravenna Bridge - Pavement Repair	Nickel	N/A	Dec-2018	Sep-2019	\$38.6
Work associated with the I-5/Northbound South Spokane St. Vicinity - Concrete Pavement Replacement, and I-5/Northbound I-90 Vicinity to James St. Vicinity - Concrete Pavement Replacement is included in I-5/Northbound Boeing Access Rd. to Northeast Ravenna Bridge - Pavement Repair.					
I-5/Southbound South Lucile St. to Spring St. - Pavement Repair	Nickel	N/A	Mar-2018	Nov-2019	\$8.2
SR 99 Alaskan Way Viaduct Replacement (King)	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.					
SR 99/Alaskan Way and Elliott Way Surface Street Restoration	Nickel/ TPA	✓	Nov-2018	Jan-2023	\$116.8
WSDOT will partially fund the City of Seattle led Alaskan Way/Elliott Way - S. King St. to Bell St Project. The award amount shown above is WSDOT's share of the total bid \$189.1 at award.					
I-5/Tacoma HOV Improvements (Pierce)	Nickel/ TPA				
I-5/SR 16 Interchange - Construct HOV Connections	TPA	✓	Feb-2016	Jul-2019	\$121.6
I-5/Portland Ave to Port of Tacoma Rd. - Northbound/Southbound HOV	Nickel/ TPA	Late	Jan-2018	Oct-2023	\$152.6
I-90/Snoqualmie Pass East - Hyak to Keechelus Dam - Corridor Improvement (Kittitas)	TPA				
I-90/Snowshed to Keechelus Dam to Stampede Pass - Add Lanes/ Build Wildlife Bridges	TPA	Late	Feb-2015	Sep-2019	\$72.8
I-90/Keechelus Dam Phase 1C - Replace Snowshed and Add Lanes	TPA	Late	Apr-2011	Sep-2019	\$177.1
Advertisement was delayed to alleviate fire and safety issues associated with the original snowshed design, resulting in long-term savings.					
I-90/Keechelus Dam to Stampede Pass Phase 2F- Fencing 2A	TPA	✓	Jan-2019	Oct-2019	\$2.8
I-90/Concrete Rehabilitation (multiple counties)	Nickel				
I-90/Bullfrog Rd. Vicinity to Cle Elum Vicinity - Replace/Rehabilitate Concrete	Nickel	N/A	Jan-2019	Nov-2020	\$8.2

Data source: WSDOT Capital Program Development and Management.

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SCHEDULE & BUDGET SUMMARIES QUARTERLY UPDATE

Biennial summary of Nickel and Transportation Partnership Account projects

Costs estimated at completion; Dollars in millions

Cumulative to date	Fund type	Advertised on time ¹	Completed on time	Within scope	Baseline cost	Current cost	Completed on buwudget ²
2017-2019 biennium summary <i>This information is updated quarterly during the biennium</i>	0 Nickel 5 TPA	3 on time 2 late	3 on time 2 late	2	\$2,983.7	\$2,939.3	4 on budget 1 over budget
2015-2017 biennium summary	0 Nickel 11 TPA	7 on time 4 late	10 on time 1 late	11	\$809.9	\$777.7	10 on budget 1 over budget
2013-2015 biennium summary	6 Nickel 15 TPA	16 on time 5 late	15 on time 6 late	21	\$555.7	\$514.0	18 on budget 3 over budget
2011-2013 biennium summary	5 Nickel 36 TPA	31 on time 10 late	32 on time 9 late	41	\$1,485.5	\$1,459.6	37 on budget 4 over budget
2009-2011 biennium summary	16 Nickel 74 TPA	73 on time 17 late	80 on time 10 late	90	\$1,641.6	\$1,597.0	85 on budget 5 over budget
2007-2009 biennium summary	42 Nickel 69 TPA	91 on time 20 late	96 on time 15 late	111	\$1,685.7	\$1,685.2	102 on budget 9 over budget
2005-2007 biennium summary	52 Nickel 24 TPA	71 on time 5 late	68 on time 8 late	76	\$673.9	\$668.8	67 on budget 9 over budget
2003-2005 biennium summary	27 Nickel	25 on time 2 late	27 on time 0 late	27	\$124.6	\$124.4	25 on budget 2 over budget

Data source: WSDOT Capital Program Development and Management.

Notes: Dollar amounts are rounded up. **1** Projects are “on time” if they are operationally complete within the quarter planned in the last approved schedule. **2** Projects are “on budget” if the costs are within 5% of the last approved budget.

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

WSDOT had two change orders of \$500,000 or more during the quarter ending June 30, 2019. The I-90 Floating Bridges Replace Anchor Cables project required a \$1,628,000 change order to excavate anchor cable connections that were buried in up to 20 feet of lakebed sediment and rocks. The I-5 Northbound Martin King Jr. Way to Ravenna Bridge Pavement Repair & More project required an \$831,000 change order to remove and replace an unsuitable subgrade on the roadway.

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>.

74 PRE-EXISTING FUNDS QUARTERLY UPDATE

Current cost to complete actual Pre-existing Fund advertisements \$93.5 million over original value

2017-2019 biennium (July 2017 through June 2019); Eighth quarter (ending June 30, 2019); Dollars in millions

	Number of projects	Original value	Current cost to complete
Total PEF advertisements planned for the 2017-2019 biennium	532	\$1,060.8	\$1,167.9
Actual PEF advertisements June 30, 2019	459	\$941.1	\$1,034.6

Data source: WSDOT Capital Program Development and Management.

WSDOT advertises 459 PEF projects during the 2017-2019 biennium

Advertisement status	Quarter ¹	Cumulative ²
Advanced ³	16	37
On time	1	259
Emergent	6	54
Late	19	109
Total projects advertised	42	459
Early ⁴	0	23
Delayed within the biennium	0	129
Deferred out of the biennium	10	112
Deleted	2	11

Data source: WSDOT Capital Program Development and Management.

Notes: **1** Quarter refers to April through June 2019. **2** Cumulative refers to July 2017 through June 2019. **3** Advanced refers to projects that were moved up from future quarters. **4** Early refers to projects planned for the quarter that were advertised in a previous quarter.

WSDOT advertises 459 Pre-existing Funds projects during the 2017-2019 biennium

WSDOT advertised 42 of 54 Pre-existing Funds projects in the eighth quarter of the 2017-2019 biennium (April through June 2019). Of the 42 total projects advertised this quarter, 16 were advanced from a future quarter, one was on time, six were emergent and 19 were late. Additionally, 10 projects originally scheduled to be advertised during the quarter were deferred out of the biennium, and two were deleted.

At the end of the biennium, cumulative totals for planned and actual advertisements do not always add up when compared to deleted or deferred advertisements due to the addition of emergent and advanced projects. See pp. 37-38 for this quarter's PEF advertisements.

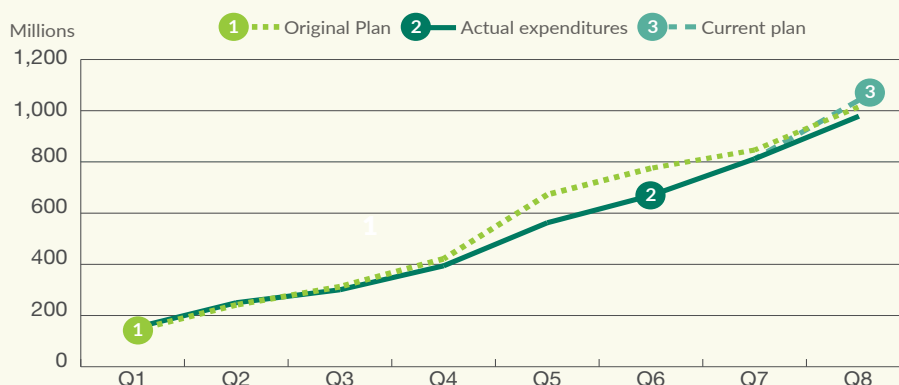
At the close of the 2017-2019 biennium (July 2017 through June 2019), WSDOT's current cost to complete the 460 PEF projects advertised was about \$1.03 billion, approximately \$93.5 million (9.9%) more than the original value of \$941.1 million. See chart at left for additional information.

Combined improvement and preservation cash flows currently lower than original projections

WSDOT originally planned to have \$1.01 billion in cumulative combined PEF improvement and preservation cash flows at the end of the eighth quarter of the 2017-2019 biennium, but had \$985.3 million (approximately \$29.0 million, 2.9% less). At the end of a biennium, funds not spent on active projects are reappropriated into the ensuing biennium, creating an expenditure plan that exceeds the PEF allotment plan. The allotment plan is adjusted when the first supplemental budget is approved. As an additional strategy, WSDOT may also over-program how many preservation projects are planned for a biennium to help ensure it uses all of its federal obligation authority.

Cumulative Pre-existing Funds improvement and preservation combined cash flows during the 2017-2019 biennium slightly lower than planned

Quarter ending June 30, 2019; Planned vs. actual expenditures; Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: Q8 refers to the eighth quarter (April through June 2019) of the 2017-2019 biennium, which runs from July 2017 through June 2019.

WSDOT advertises 42 Pre-existing Funds projects on time during the eighth quarter of the 2017-2019 biennium

April through June 2019

Advanced (16)	
I-5/Maytown and Scatter Creek Safety Rest Area (SRA) - Computer System Upgrade - Olympic Region	SR 163/North of N 54th St. to Point Defiance Landing - Paving
US 195/Horn School SRA - Heating, Ventilation and Air Conditioning Replacement - Eastern Region	I-5 Ridgefield Weigh Station Preservation
Northwest Region Preservation Signing (2019-2021)	South Central Region - Tri-Cities Vicinity - Mitigate Redirectional Landforms
Northwest Region Strategic Bridge Preservation (2019-2021)	South Central Region - 2019-2021 Strategic Bridge Preservation Eastern Washington
I-5/Tributary to California Creek - Fish Passage	US 12/N 16th Ave. Interchange - Mitigate Redirectional Landform
SR 548/Tributary to California Creek - Fish Passage	I-82/Gibbon Rd. Vicinity to 1 Mile West of Yakitat Rd. - Median Cable Barrier
I-5/I-5 Over Pacific Ave. - Seismic Retrofit	I-90/Bullfrog Rd. to Prater Rd. - Mitigate Redirectional Landforms
US 101/North of SR 107 - Stabilize Slope	US 395/Kartchner St. and SR 260 Interchange - Mitigate Redirectional Landforms
On time (1)	
I-5/Southbound Toutle River Bridge - Expansion Joint, Deck Repair and Overlay	
Emergent (6)	
Statewide SRA Water Cleaning Systems - Headquarters	SR 162/Spiketon Creek Bridge - Temporary Bridge
US 2/Nason Creek SRA - Repair Septic System- North Central Region	SR 17/Mesa Vicinity - Emergency Rockfall
SR 20/Loup Loup Pass - Emergency Repair 2019	I-90/0.8 Miles West of Snoqualmie Summit Eastbound - Culvert Repair
Late (19)	
US 12/Bevin Lake Safety Rest Area - ADA Redesign - Southwest Region	SR 302/East of Elgin Clifton Rd. to SR 16 - ADA Compliance
Northwest Region Breakaway Cable Terminal Replacement 2017-2019	SR 302/Purdy Bridge - Concrete Bridge Deck Repair
Northwest Region Breakaway Cable Terminal Replacement - Non-Interstate (2017-2019)	SR 302/Minter Creek - Remove Fish Barrier
SR 530/Sauk-Suiattle Confluence - Chronic Environmental Deficiency Retrofit	SR 302/Little Minter Creek - Remove Fish Barriers
SR 7/North of Alder (Phase 2) - Rock Scaling	Southwest Region - Region/Regionwide Curve Warning Sign Update 2017-2019
SR 7/North of Pilgrim Rd. E - Stabilize Slope	SR 500/Burnt Bridge Creek to 4th Plain Rd. - ADA
US 101/5th St. to S H St. - Paving	SR 500/Burnt Bridge Creek to 4th Plain Rd. - Paving
US 101/5th St. to S H St. - ADA Compliance	SR 500/I-205 Overcrossing Bridge - Replace Expansion Joints
SR 116/Kilisut Harbor - Remove Fish Barrier	US 395/E Elm Road to SR 17 Southbound - Paving
SR 302/East of Elgin Clifton Rd. to SR 16 - Paving	

Deferred (10)

I-5/Interstate Bridge - Restore Lift Span Lock Bar Bearing Clearances	Clark County I-5 Ramp Paving
I-5/Cowlitz River Bridges - Painting	US 2/Fairchild Air Force Base - Signal Replacement
SR 14/0.8 Miles W of Wind River Rd. - Slope Stabilization	US 2/Lawson Rd. - Signal Rehabilitation
SR 14/1.1 Miles W of Wind River Rd. - Slope Stabilization	US 2/Garfield Rd. - Signal Rehabilitation
Clark County I-5 Ramp Paving - ADA	Pierce/Thurston County - Stormwater Retrofit

Deleted (2)

US 12/Rainey Creek Bridge - Chronic Environmental Deficiency	SR 411/Beacon Hill Drive Vicinity - Culvert/Drainage Improvement
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Data source: WSDOT Capital Program Development and Management.

PEF definitions

- **Advanced:** A project from a future quarter which is advertised in the current quarter.
- **Early:** A project with an advertisement date originally scheduled for the current quarter which was advertised in an earlier quarter.
- **On time:** A project that is advertised within the quarter as planned in the biennial budget.
- **Late:** A project that is advertised in the current quarter but missed its original advertisement date.
- **Emergent:** A new project that addresses unexpected needs, such as emergency landslide repair.
- **Delayed:** A project that has not yet been advertised and the advertisement date has been moved out of the quarter being reported to another quarter within the biennium.
- **Deferred:** A project not yet advertised and the advertisement date has been moved out of the quarter being reported to a future biennium.
- **Deleted:** A project that, upon review or due to changing priorities, is no longer required or has been addressed by another project.

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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 (Congestion Relief):** 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 at [GNB archives](#). The archives include every GNB published to date and an easy to navigate chart explaining what edition articles are in.

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. The GNB and GNB Lite are printed in-house by Ronnie Jackson, Trudi Phillips, Talon Randazzo, Andrew Schoen, Larry Shibley and Deb Webb. Distribution assistance is provided by Andrew Poultridge, WSDOT Library. 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 73			GNB 74			GNB 75			GNB 76		
Calendar	Q1 2019			Q2 2019			Q3 2019			Q4 2019		
State Fiscal	Q3 FY2019			Q4 FY2019			Q1 FY2020			Q2 FY2020		
Fed. Fiscal	Q2 FFY2019			Q3 FFY2019			Q4 FFY2019			Q1 FFY2020		

2017-2019 biennial quarters (used by Legislature)

Period	Quarter	Period	Quarter
Jul – Sep 2017	Q1	Jul – Sep 2018	Q5
Oct – Dec 2017	Q2	Oct – Dec 2018	Q6
Jan – Mar 2018	Q3	Jan – Mar 2019	Q7
Apr – Jun 2018	Q4	Apr – Jun 2019	Q8

The Gray Notebook is prepared by:
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Systems Analysis Division
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