

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 82 ■ June 2021



THINKING STRATEGICALLY

INCLUSION, PRACTICAL SOLUTIONS AND WORKFORCE
DEVELOPMENT SET THE COURSE FOR WSDOT'S FUTURE

Slow down

Rise in work zone crashes
hitting home with WSDOT
Incident Response crews

Pass the fish

WSDOT working to
remove barriers for
migratory fish passage

Forward motion

WSDOT taking steps to
make active transportation
safer in Washington

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The Gray Notebook team

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

Note: 1 Due to the pandemic's effects on statewide travel, this article's data does not align with the quarter ending June 30, 2021.

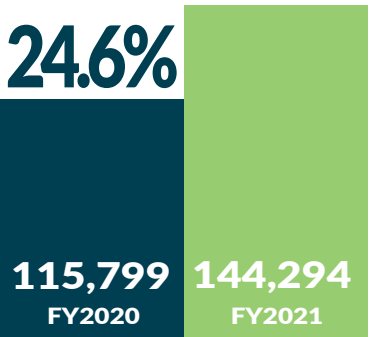
PERFORMANCE HIGHLIGHTS reported for the quarter ending June 30, 2021

36,901
trips completed by WSF in the fourth quarter of FY2021. This comprised 98.9% of the 37,315 regularly scheduled trips

20
PERCENT
decrease in imports and exports from 2019 to 2020

Construction projects completed with Nickel or Transportation Partnership Account funds **383**

THE NUMBER OF PEOPLE FOLLOWING WSDOT'S FACEBOOK PAGE INCREASED



41
Pre-existing Funds projects advertised during the eighth quarter of the 2019-2021 biennium

117
people
who died in traffic crashes in 2020 were pedestrians and bicyclists

11,959
INCIDENTS
responded to by WSDOT Incident Response Teams during the second quarter of 2021, 1,603 (15.5%) more than during the same quarter in 2020

WSDOT COMPLETED **14** FISH PASSAGE PROJECTS IN 2020, IMPROVING ACCESS TO **54.2** MILES OF UPSTREAM HABITAT



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COVID-19 EFFECTS ON STATE
TRANSPORTATION AND WSDOTWashington travel trends up slightly even
as state deals with new COVID-19 strain

Statewide travel continues to trend up slightly as Washington is working through additional COVID-19 challenges that have resulted in an increased number of cases across the state as well as a new mask directive from the Department of Health.

Statewide travel by most modes increases since May 2021

Percentages from select dates in 2020 as well as May 3, 2021 and August 2, 2021 compared to 2019 data; Safety fatality rate per 100 million vehicle miles traveled

Transportation mode	Lowest percentage (date) ¹ 2020	Monday, May 3, 2021 ²	Monday, Aug. 2, 2021 ²
Highway travel	-63% (3/29)	-8%	-5%
Tolling	-80% (3/28)	-33%	-25%
WSF	-87% (3/29)	-35%	-26%
Amtrak Cascades	-98% (4/19)	-83%	-55%
Freight			
Snohomish	-78% ³ (4/12)	-16%	-25%
King	-88% (4/5) ³	-20%	-20%
Pierce	-89% ³ (4/5)	-5%	-9%
Thurston	-44% (4/12)	+2%	0%
Lewis	-65% (4/4)	-6%	2%
Clark	-71% ³ (4/4)	-13%	-9%
Benton	-57% (4/5)	-8%	-9%
Franklin	-62% (4/12)	-8%	-4%
Active Transportation			
Pedestrians	-58% (3/13)	+7%	-34%
Bicyclists	-60% (3/14)	-40%	-28%
Safety & Air travel	2020 lowest rate or percentage	2021 latest data ⁴	
Highway crashes ⁵	0.7 ³ (March)	0.6 (March)	1.1 (July)
Aviation			
Domestic ⁶	-93.1% (April)	-26.1% (May)	-15.9% (June)
International ⁶	-97.8% (April)	-78.9% (May)	-76.2% (June)

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: Due to the pandemic's effects on statewide restrictions and travel, the GNB is using more recent data that does not align with the quarter ending June 2021. ¹ Dates compared to corresponding days in 2019. ² Monday, May 3, 2021 compared to Monday, March 6, 2019. Monday, August 2, 2021 compared to Monday, August 5, 2019. Some percentages have been updated since GNB 80. ³ Some data has been updated from GNB 77 and as a result, corresponding dates may have also changed. ⁴ Most recent data available. ⁵ Crash rate per 100 million vehicle miles traveled. ⁶ Total passengers.

Notable results

- Amtrak Cascades ridership was up to 55% below pre-pandemic levels on August 2, 2021, a 28 percentage point increase from May 3, 2021
- Washington State Ferries ridership was 26% below its pre-pandemic levels as of August 2, 2021, an increase of nine percentage points from May 3, 2021
- Gov. Jay Inslee mandated that all state employees (including school employees) be fully vaccinated by October 18, 2021 as a condition of employment

In August 2021, following an upswing in COVID-19 related cases and revised mask recommendations for indoor venues, Gov. Jay Inslee declared a state of emergency and mandated that all state employees (including school employees) be fully vaccinated by October 18, 2021 as a condition of employment.

Travel in Washington increasing across all modes

As of Monday, August 2, 2021, highway travel was 5% below 2019 levels for the corresponding day, but showed a three percentage point increase from May 3, 2021. Washington State Ferries ridership was down 26% from the corresponding date in 2019 on Monday, August 2, 2021, marking a nine percentage point increase from May 3, 2021. Even though it is still well below its 2019 levels, Amtrak Cascades ridership—at 55% below 2019 levels on August 2, 2021—was up 28 percentage points from May 3, 2021 (refer to the chart on the previous page).

Early in the pandemic, Washington state experienced large increases in the percentages of people walking and bicycling, with both modes frequently much higher than 2019 levels. Active modes for early August 2021 had lower results compared to 2019 levels, with pedestrian travel down 34% and bicycling down 28% as of August 2, 2021. Bicycle counts showed a 12 percentage point increase over those recorded for

May 3, 2021, while pedestrian counts decreased by 41 percentage points during this same period.

Domestic and international air travel had increases compared to 2020 levels. In June 2021 (the most recent month for which data is available), domestic air travel at SeaTac airport was 10.2 percentage points higher than in May 2021, and international air travel was up 2.7 percentage points over the same period. Despite these changes, domestic air travel was 15.9% lower in June 2021 than in June 2019, and international air travel was 76.2% lower for the same period.

WSDOT continues to put health and safety first

In addition to working to comply with mandatory vaccinations, WSDOT has been collaborating with the state Department of Health, the Governor's Office, the state Department of Labor and Industries and the state Emergency Management Division since the COVID-19 pandemic started.

All WSDOT employees able to telework have been doing so since March 2020. In response to the new restrictions and rise in COVID-19 cases, WSDOT's plans to begin phasing employees back into buildings in mid-August 2021 have been postponed. For more information on what WSDOT is doing to keep its employees and the traveling public safe during the pandemic see the [Worker Safety article in GNB 80](#).

WSDOT's COVID-19 dashboard tracks state's multimodal changes

WSDOT tracks the [effects of COVID-19 on multimodal transportation system performance](#) through an interactive online dashboard. The dashboard is updated each weekday and shows changes to modes ranging from highway travel and Washington State Ferries to active transportation and aviation via interactive graphs, maps and tables.

82 WSDOT'S STRATEGIC PLAN

WSDOT's Strategic Plan was developed in 2017 and has three goals: Inclusion, Practical Solutions and Workforce Development. The work of the plan is accomplished through 15 strategies—five for each goal—that are detailed in the [strategic plan dashboard](#). This plan focuses on how the agency makes investments and delivers projects with limited resources.

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

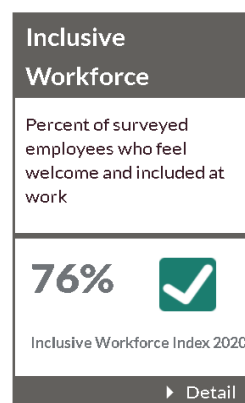
Inclusion strengthens WSDOT's commitment to diversity

Through the Inclusion goal, WSDOT aims to strengthen its commitment to diversity and engagement in all business processes, functions and services to ensure every voice is heard.

WSDOT ensures different perspectives are considered through its Inclusive Workforce strategy. The agency measures this strategy through the Inclusive Workforce Index, which gives equal weight to five statements, as measured by WSDOT employees positive responses in Washington's [State Employee Engagement Survey](#):

- I have the opportunity to give input on decisions affecting my work.
- My agency consistently demonstrates support for a diverse workforce.
- At my workplace, I feel valued for who I am as a person.
- I take initiative to incorporate other's opinions into my work.
- My thoughts and opinions matter at work.

In 2020, WSDOT's Inclusive Workforce Index was 76%, an improvement of five percentage points from 71% in 2018.



Notable results

- *WSDOT's Inclusive Workforce Index was 76% in 2020, an improvement from 71% in 2018*
- *In 2020, 77% of surveyed WSDOT employees understood the three strategic plan goals, an improvement from 63% in 2018*
- *WSDOT's Job Satisfaction Index was 77% in 2020, an improvement from 70% in 2018*

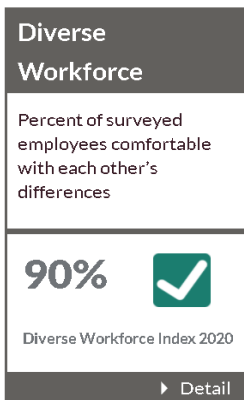
Inclusion becomes part of WSDOT culture

"We added 'Inclusion-Racism-Ethics' as a standing agenda item to our weekly meetings. We didn't really have a plan, or even know what we were going to talk about, but we knew we needed to talk about it. There were a lot of internal agency emails with links to articles and videos. We used some of those as discussion points.

Sometimes we talked for two minutes, sometimes we talked for 30 minutes. A couple of times we had conversations that I can only describe as remarkable.

We can make it a continuing conversation, so we can make it a part of our normal, everyday, mindful vocabulary. I'm pretty sure that's what success looks like."

Koen Swart, WSDOT
(Comment is edited and is an excerpt.)



The Diverse Workforce strategy helps WSDOT reflect, be sensitive to and understand the communities it serves while valuing a diverse workforce. The agency measures this strategy through the Diverse Workforce Index. The index gives equal weight to two statements WSDOT employees scored positively in Washington's State Employee Engagement Survey: "I am comfortable seeking perspectives from people who are different from me," and "People I work with treat others with dignity and respect." In 2020, WSDOT's Diverse Workforce index was 90%, an improvement of six percentage points from 84% in 2018.

Practical Solutions prioritizes cost-effective decisions and partnerships

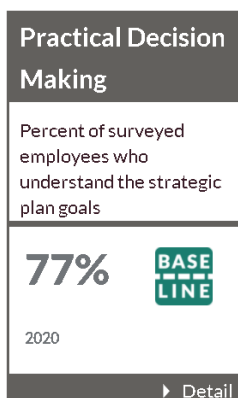
Through the Practical Solutions goal, WSDOT strives to integrate the practices to cost-effectively plan, design, build, operate and maintain the state's transportation system into the agency's culture.

WSDOT's Asset Management strategy determined needs and developed investment strategies to manage system assets to appropriate service levels. As of July 2019, WSDOT developed 100% of the 20 asset management plans, meeting the strategy's target date. The 20 individual asset management plans make up the [Statewide Asset Management Plan](#). These efforts support better decisions, establish standards, improve messaging and help measure performance for all asset classes.



WSDOT's Practical Decision Making strategy is to achieve a common understanding of Practical Solutions and how to apply it throughout the agency and with its partners. With Practical Solutions, decision making focuses on the maximum benefit to the system, rather than the maximum benefit to an individual activity or project. A key step in the adoption of Practical Solutions as a way of doing business is to make sure the concept is understood. To that end, WSDOT is working to create a common understanding, beginning with training and outreach to our employees.

In the 2020 State Employee Engagement Survey, 77% of surveyed employees responded positively to the statement "I understand our strategic plan goals of Inclusion, Workforce Development and Practical Solutions," up 14 percentage points from 63% in 2018.



Practical Decision Making Core Principles

Practical Solutions is guided by the core principles of Practical Decision Making. These ensure that when making decisions, WSDOT:

- Starts with a clear purpose and need;
- Considers resource constraints and life cycle costs;
- Engages stakeholders and looks for partnerships;
- Considers overall system performance;
- Considers incremental, phased solutions; and
- Applies innovation and creativity.

These core principles help WSDOT make decisions that focus on the maximum benefit to the system rather than the maximum benefit to an individual activity or project.

Culture of Inclusion Road Trip supports Workforce Development goal

WSDOT's Olympic Region launched their "Culture of Inclusion Road Trip" in January 2021. The campaign includes a series of educational tools available to help employees learn more about how to have productive, curious and respectful conversations about inclusion.

Offering opportunities to learn and grow—such as the tools available to employees through the Culture of Inclusion Road Trip—directly supports WSDOT's Workforce Development goal.

Employee satisfaction is core to Workforce Development goal

WSDOT works to be an employer of choice, creating a modern workforce while attracting and retaining quality workers to deliver its legislative, regulatory, and service requirements.

WSDOT's Employee Engagement strategy is to encourage and act on employee feedback. The agency measures this strategy through the Job Satisfaction Index. The index gives equal weight to five statements WSDOT employees scored positively in Washington's State Employee Engagement Survey: "In general, I'm satisfied with my job" and "I would recommend my agency as a great place to work". In 2020, WSDOT's Job Satisfaction Index was 77%, up seven percentage points from 70% in 2018.

WSDOT's Talent Development strategy is to invest in employees through training and other opportunities. The agency measures this strategy through the Washington State Employee Engagement Survey. In 2020, 65% of surveyed employees responded positively to the question "I have opportunities at work to learn and grow." This was a one percentage point improvement from 64% positive in 2018 and an eight percentage point improvement from 57% positive in 2016.

Employee Engagement

Percent of surveyed employees satisfied with working at WSDOT

77%



2020

► Detail

Talent Development

Percent of surveyed employees satisfied with their opportunities at work to learn and grow

65%



2020

► Detail

WSDOT measures performance and adjusts

WSDOT's Strategic Plan establishes performance measures, helping the agency know where it is making progress and where it needs to adjust. As in any continuous improvement effort, WSDOT has tried some things, adjusted, and tried again. WSDOT's Strategic Plan performance is tracked on a dashboard that can be viewed at <https://bit.ly/wsdotdashboard>.

WSDOT's vision, mission and values guide the agency toward success

WSDOT's vision is that Washington travelers have a safe, sustainable and integrated multimodal transportation system. The agency's mission is to provide safe, reliable and cost-effective transportation options to improve communities and economic vitality for people and businesses. WSDOT's values represent how the agency does business every day—guiding principles that influence behavior. They are safety, engagement, innovation, integrity, leadership and sustainability.

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STATEWIDE TRANSPORTATION
POLICY GOALS DASHBOARD

Statewide policy goal/ WSDOT performance measure	Previous period	Current period	Goal	Goal met	Five-year trend (unless noted)	Desired trend
Safety						
Rate of traffic fatalities per 100 million vehicle miles traveled statewide ¹ (Annual measure: calendar years 2018 & 2019)	0.87	0.84	<1.00	✓		↓
Rate of recordable incidents for every 100 full-time WSDOT workers (Annual measure: calendar years 2019 & 2020)	4.7	4.4	<5.0	✓		↓
Preservation						
Percentage of state highway pavement in fair or better condition by vehicle miles traveled (Annual measure: calendar years 2018 & 2019)	91.4%	92.9%	≥ 90%	✓		↑
Percentage of state bridges in fair or better condition by bridge deck area (Annual measure: fiscal years 2019 & 2020)	92.9%	93.8%	≥ 90%	✓		↑
Mobility² (congestion relief)						
Highways: Vehicle Miles Traveled (VMT) on state highways (Annual measure: calendar years 2018 & 2019)	35.4 billion	35.4 billion	*	N/A		Not applicable
Highways: Average incident clearance times for all Incident Response program responses (Calendar quarterly measure: Q2 2020 & Q2 2021)	13.4 minutes	15.1 minutes	*	N/A		↓
Ferries: Percentage of trips departing on time ³ (Fiscal quarterly measure: year to year Q4 FY2020 & Q4 FY2021)	95.1%	85.2%	≥ 95%	—		↑
Rail: Amtrak Cascades on-time performance ⁴ (Annual measure: calendar years 2019 & 2020) ⁵	58%	62%	≥ 88%	—		↑
Environment						
Number of WSDOT stormwater management facilities constructed (Annual measure: fiscal years 2019 & 2020)	66	106	*	N/A		Not applicable
Cumulative number of WSDOT fish passage improvement projects constructed (Annual measure: calendar years 2019 & 2020)	352	365	*	N/A		↑
Stewardship						
Cumulative number of Nickel and TPA projects completed⁵ and percentage on time⁶ (Biennial quarterly measure: Q7 2019-2021 & Q8 2019-2021, trendline for percentage on time)	383/ 86%	383/ 86%	≥ 90% on time	—	 (Five-quarter trend)	↑
Cumulative number of Nickel and TPA projects completed⁵ and percentage on budget⁶ (Biennial quarterly measure: Q7 2019-2021 & Q8 2019-2021, trendline for percentage on budget)	383/ 91%	383/ 91%	> 90% on budget	✓	 (Five-quarter trend)	↑
Variance of total project costs ⁵ compared to budget expectations⁶ (Biennial quarterly measure: Q7 2019-2021 & Q8 2019-2021)	Under budget by 1.5%	Under budget by 1.5%	On or under budget	✓	 (Five-quarter trend)	Not applicable

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: (*) = goal has not been set. Dash (—) = goal was not met in the reporting period. **1** The Statewide Transportation Policy Goal for this performance measure is different than the federal Transportation Performance Management goal for the same measure. **2** Mobility does not yet include goals for people walking/biking for transportation. **3** Washington State Ferries' on-time departures include any trip recorded by automated tracking as leaving the terminal within 10 minutes of scheduled time. **4** Amtrak Cascades' on-time performance includes any trip arriving within 10 or 15 minutes, depending on the route, of scheduled arrival time. **5** Construction projects only. **6** Projects are on time if they are completed within the quarter planned in the last approved schedule, and on budget if costs are within 5% of the budget set in the last approved state transportation budget.

82 TRANSPORTATION PERFORMANCE MANAGEMENT

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

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

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

Washington's Strategic Highway Safety Plan (Target Zero) aims to achieve the goal of zero fatalities and serious injuries by 2030, which differs from the federal TPM targets listed below (refer to box at right).

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

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

Washington's traffic safety goal is zero deaths

The word "target" is the required label on the "safety target setting" calculations under federal law and WSDOT is required to report a five-year rolling average. That does not mean the rolling-average numbers reported here represent the state's traffic safety goal; that goal remains set at zero deaths.

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

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

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: The PM1 targets for 2021 were submitted on August 31, 2020, using the five-year rolling average of 2015-2019 for current baseline data. ¹ The Strategic Highway Safety Plan for Washington (Target Zero) aims to achieve the goal of zero fatalities and serious injuries by 2030. 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 (for example, pedestrians and bicyclists) who died or were seriously injured as a result of a crash with a motorist in Washington. ⁴ Includes bicyclists and pedestrians.

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

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

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

TPM folios available

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

MAP-21 performance measures by program area		Current data/ 2-year actuals	2-year target ^{1,2}	4-year target ^{1,2}	Penalty
Pavement and Bridges (PM2)		23 CFR Part 490 ID No. 2125-AF53			
Pavement					
Percent of Interstate pavement on the NHS in good condition		39.8% ³	N/A	30%	No
Percent of Interstate pavement on the NHS in poor condition		1.7% ³	N/A	4% ⁴	Yes
Percent of non-Interstate pavement on the NHS in good condition		45.2% ³	45%	18%	No
Percent of non-Interstate pavement on the NHS in poor condition		17.4% ³	21%	5%	No
Bridges					
Percent of NHS bridges classified in good condition (weighted by deck area)		34.7%	30%	30%	No
Percent of NHS bridges classified in poor condition (weighted by deck area)		6.4%	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)					
Percent of person-miles traveled on the Interstate System that are reliable		77%	70%	68%	No
Percent of person-miles traveled on the Non-Interstate NHS System that are reliable		80.8%	N/A	61%	No
National Freight Movement Program					
Truck Travel Time Reliability (TTTR) Index		1.54	1.70	1.75	No
Congestion Mitigation & Air Quality Program					
Non-Single Occupancy Vehicle (SOV) travel in Seattle urbanized area (NHS)		33.1%	32.8%	33.2%	No
Peak hours of Excessive Delay per capita in Seattle urbanized area (NHS)		23.2	N/A	28	No
All Pollutants (kg/day) ²		1,222.870	366.285	658.300	No
Carbon Monoxide (CO) (kg/day) ²		714.710	309.000	309.060	No
Particulate Matter less than 10 microns (PM ₁₀) (kg/day) ²		274.640	0.305	224.000	No
Particulate Matter less than 2.5 microns (PM _{2.5}) (kg/day) ²		56.750	2.100	8.700	No
Nitrogen Oxides (NOX) (kg/day) ²		176.770	54.880	116.540	No

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

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

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ACTIVE TRANSPORTATION:
ANNUAL SAFETY REPORT

Pedestrian and bicyclist fatalities stay steady from 2019 to 2020, remain above 2011 levels

There was one more fatality involving people walking, biking, traveling in wheelchairs and using other small rideable devices on Washington roadways in 2020 (117 people) than in 2019 (116 people). Combined pedestrian and bicyclist fatalities were 48.1% higher in 2020 than in 2011 (79 people; refer to chart below). While there has been some fluctuation in the numbers of pedestrian and bicyclist fatalities over the last 10 years, the long-term trend shows an overall increase.

Pedestrian and bicyclist serious injuries decrease in 2020

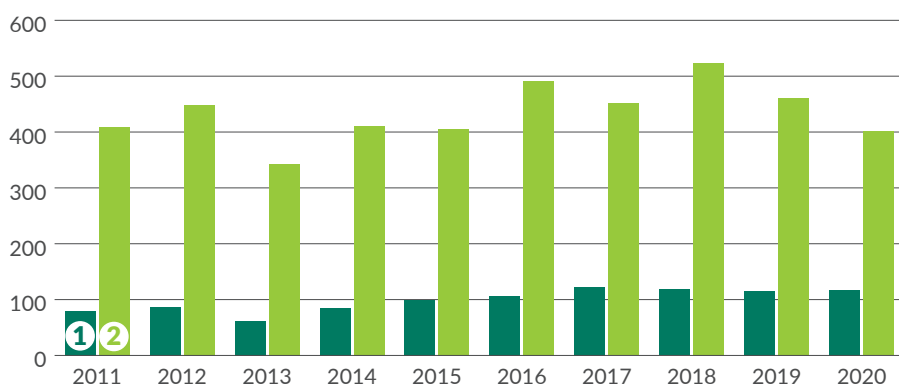
Between 2019 and 2020, the total number of traffic-related serious injuries to people walking and bicycling decreased 13.0% from 461 to 401 (refer to chart below). Traffic-related serious injuries to people walking and biking have risen and fallen several times over the 10-year period from 2011 through 2020, resulting in an overall decrease of 2% from 409 serious injuries in 2011 to 401 in 2020.

Combined pedestrian and bicyclist fatalities in Washington state hold steady from 2019 to 2020, serious injuries decline for second year in a row

Combined pedestrian¹ and bicyclist fatalities in Washington state; Combined pedestrian and bicyclist serious injuries in Washington state; 2011 through 2020

① Combined pedestrian and bicyclist fatalities

② Combined pedestrian and bicyclist serious injuries



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

Notes: Some numbers have changed since previous editions of the Gray Notebook due to updates within the Fatality Analysis Reporting System. 1 Pedestrians include people in wheelchairs and those using small rideable devices such as skateboards and scooters, in addition to those walking. 2 Data for 2020 is preliminary.

Notable results

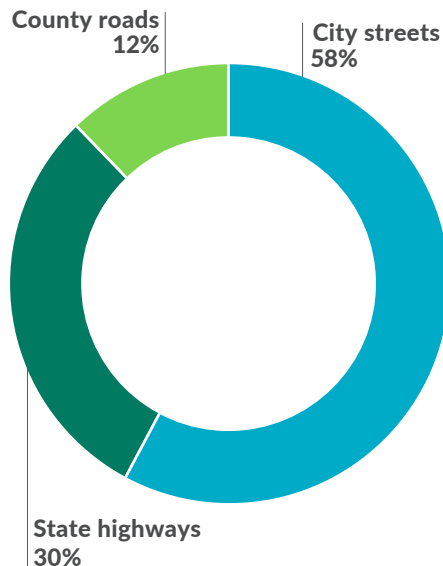
- Combined pedestrian and bicyclist traffic fatalities held relatively steady, going from 116 deaths in 2019 to 117 deaths in 2020
- Serious injuries to people walking and bicycling decreased 13.0% from 461 in 2019 to 401 in 2020
- About 22% of those who died or were seriously injured in traffic crashes during 2020 were pedestrians and bicyclists
- From 2010 to 2020, 86% of pedestrian and bicyclist fatalities occurred on roads with posted speeds above 25 mph

Target Zero

Target Zero, Washington's strategic highway safety plan, aims to reduce traffic fatalities and serious injuries to zero by 2030. Washington state is not on track to meet this goal. Bold actions and changes are needed to get to zero.

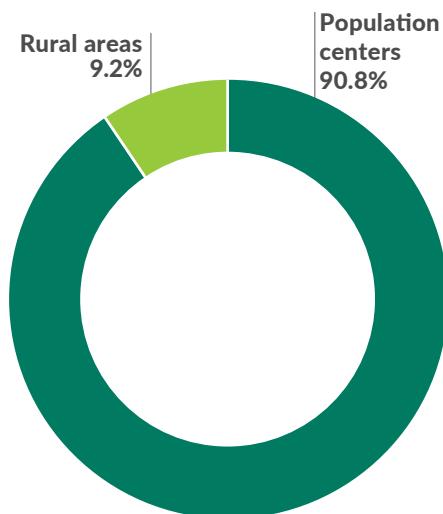
Majority of bicyclist and pedestrian fatality and serious injury crashes in last decade were on city streets

Bicyclist and pedestrian fatality and serious injury crashes; 2020



Over 90% of bicyclist and pedestrian fatality and serious injury crashes occur in population centers

Bicyclist and pedestrian fatality and serious injury crashes in Washington; 2020



Data: WSDOT Active Transportation Division.

Notes: Percentages may not add to 100 due to rounding. Population centers include cities, towns and census designated places and the roadways in population centers may be owned by the state, counties, cities or towns.

Bicyclists and pedestrians are over-represented in fatal and serious injury crashes

Crashes involving people who walk and bike represented 22% of all fatal and serious injury traffic crashes in 2020 even though walking and biking for transportation historically represent about 12% of all trips.

Majority of bicyclist, pedestrian fatality and serious injury crashes occur in population centers

In 2020, 58% of fatality and serious injury crashes involving people walking and bicycling occurred on city streets. Additionally, 30% of pedestrian and bicyclist fatality and serious injury crashes occurred on state routes; for 2010-2019 that figure was 27%. Twelve percent occurred on county roads; for 2010-2019 that figure was 11%. Regardless of road type, 90.8% of pedestrian and bicyclist fatality and serious injury crashes were in population centers (cities, towns and county-owned census-designated places; refer to charts at left).

The higher concentration of bicyclist and pedestrian fatalities and serious injuries on city streets and state routes or county roads in population centers reflects the shorter distances between destinations in populated areas—which encourage active transportation trips—and larger concentrations of pedestrians, bicyclists and motorists.

Higher speed limits closely correlated with pedestrian and bicyclist fatality crashes

From 2011 to 2020, 86% of pedestrian and bicyclist fatality crashes in Washington state occurred on roads with posted speed limits above 25 mph. This distribution is part of a long-standing pattern. Over the last 10 years, posted speeds were more closely correlated with vulnerable road user fatalities and serious injuries than any other crash-related contributing circumstance or factor (such as crashes related to intersections or crossing the street).

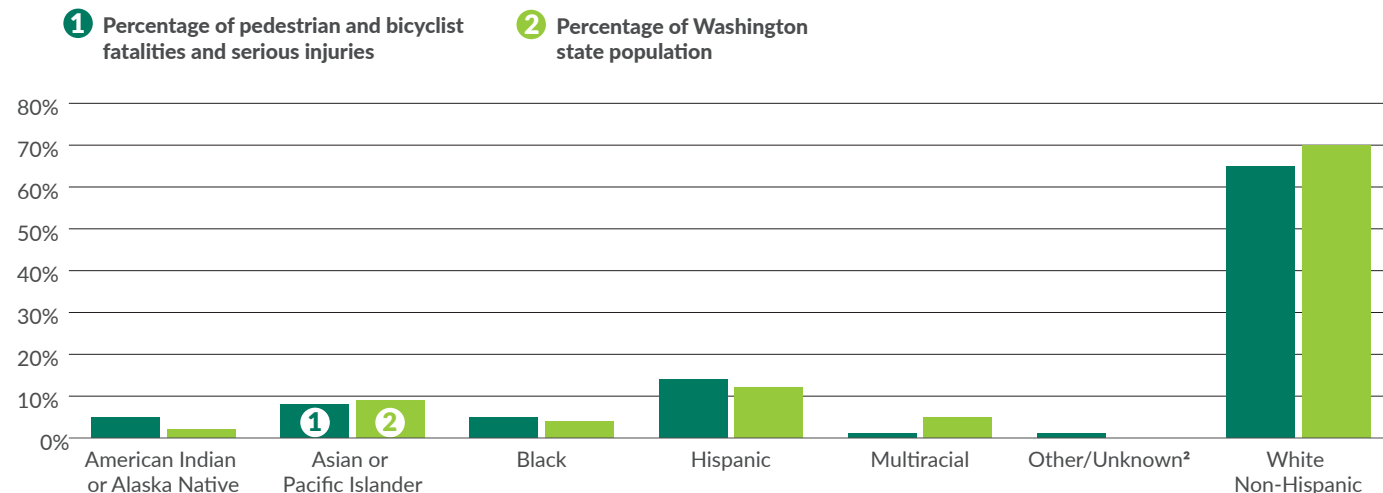
Severe crashes more likely for pedestrians and bicyclists crossing the street and at intersections

People crossing the street at intersection and non-intersection locations made up 63% of fatal and serious injury crashes involving pedestrians in 2020. In the same year, 43% of fatal and serious injury crashes involving bicyclists were intersection-related.

Dedicated places for walking or bicycling are not available on every roadway where people need to walk or bicycle along or across the road. Current data collection does not always inform WSDOT whether or not walking and bicycling infrastructure was available at crash locations, or the types of infrastructure or crossing controls that were present.

American Indian/Alaska Native, Black, Hispanic Washingtonians over-represented in pedestrian and bicyclist fatalities

*Pedestrian and bicyclists fatalities in Washington state by race/ethnicity;
Population of Washington state by race/ethnicity; 2010-2019¹*



Data source: Washington Traffic Safety Commission and Washington State Office of Financial Management.

Notes: **1** The most recent available data for this measure is for the 10-year period 2010-2019. **2** Population data does not include the category other/unknown.

Rates of pedestrian, bicyclist traffic crashes vary by demographic

The percentages of pedestrian and bicyclist fatalities from 2010-2019 involving people who are American Indian/Alaska Native, Black, or Hispanic were greater than the percentage of those race/ethnicity groups in the total population.

American Indian/Alaska Native Washingtonians made up 5% of the states pedestrian and bicyclist fatalities during this period, but 2% of the population. Similarly, 5% of pedestrian and bicyclist fatalities in Washington during this period involved Black people, who made up 4% of the state's population. Finally, while 12% of the state's population was Hispanic, 14% of pedestrian and bicyclist fatalities involved a Hispanic person (refer to chart above). The over-representation of these groups indicates a need for a commitment to

equity for historically transportation-disadvantaged populations.

WSDOT updates Highway Safety Improvement Program Implementation Plan

WSDOT's 2021 Highway Safety Improvement Program Implementation Plan, released in summer 2021, includes a chapter specific to active transportation. It is intended to address the increasing trend of fatal and serious injury crashes for those who walk and bike by identifying factors associated with crash potential, equity and demand. To prioritize safety investments, it proposes using analysis completed as part of the Active Transportation Plan to identify locations on the state system that are considered gaps. These gap locations are places where infrastructure and traffic

COVID-19 shows shift in walking, bicycling trends

During the months immediately following Gov. Jay Inslee's March 23, 2020 "Stay Home, Stay Healthy" order, Washington state saw large shifts in the numbers of people walking and bicycling, with both modes seeing daily increases of as much as 100 percent from 2019 to 2020. Understanding whether these changes will persist requires data over more time. By May 1, 2021, pedestrian travel was down about 8% from 2019 levels, while bicycle travel was up by about 9%. For detailed daily data, see [WSDOT's COVID-19 Multimodal Transportation System Performance Dashboard](#).

Cooper Jones Active Transportation Safety Council

The Cooper Jones Active Transportation Safety Council works to decrease deaths and serious injuries involving walkers, bicyclists and those using other non-vehicle methods of transportation. The council's name honors Cooper Jones, a 13-year-old boy who died after being struck from behind by a driver as Cooper participated in a road race in Spokane County.

The council makes recommendations on active transportation safety to organizations that have the authority to implement the recommendations. These organizations include state agencies, the Governor's Office, and the Legislature.

For more information on the Council, including its 2019 Annual Report, see https://bit.ly/WA_ATSC.

control treatments that serve people walking and biking are needed. Proposed modifications to address the identified need include proven treatments such as traffic safety cameras in school zones, changes to road configurations, bike lanes, sidewalks and a variety of intersection improvements.

Active Transportation Safety Council discusses meaning of safety

In 2020, the Cooper Jones Active Transportation Safety Council (refer to box at left) began a series of discussion papers entitled "Whose Mobility Matters?" The group's first paper was published on the subject of [allowing the "due care" standard to apply to people who walk on roadways](#).

As of August 2021, members of the ATSC were working on another paper in this series to expand understanding of how proposed actions affect safety for all. Traffic safety is often understood in the immediate, individual context—a person's risk of being struck by a driver, for example. As the ATSC is now discussing, whether or not a person feels "safe" on the street is also a function of the roadway's design, maintenance, and operations; the treatment they receive based on characteristics such as race, gender, or disability; their exposure to pollutants and emissions; and other systemic and societal forces affecting health, well-being, and the ability to participate fully in community life. This discussion fits into the governor's directive to apply an equity framework as well as the principles in the Healthy

Environment for All Act passed by the legislature in 2021.

In addition to this series, the ATSC develops papers examining technical issues. The group's first report, [Automated Traffic Enforcement Systems: A Key Component for Increasing Safe Walking and Biking to Schools](#), was also published in 2020. A paper on "All Things Speed-Related" will be forthcoming in 2021, building on the concepts in [the speed management work group's policy framework](#).

WSDOT publishes Part 1 of Active Transportation Plan

WSDOT published [Part 1 of its Active Transportation Plan](#) in May 2021. The plan approaches assessing level of traffic stress based on roadway characteristics for state routes with an emphasis on reducing the potential for crashes in population centers. It is also the first statewide plan to lay out an equity framework for understanding where crash history aligns with state and societal history, reinforcing how essential it is to address the effects of this legacy.

WSDOT approached development of the ATP by building on earlier work around pedestrian safety such as the [2018 Pedestrian Safety Action Plan](#), funded by Federal Highway Administration. To implement one of that plan's action recommendations, WSDOT staff led a multi-disciplinary, multi-agency work group that developed policies and guidelines around speed management for injury minimization. The resulting framework is publicly available on [the WSDOT pedestrian safety web page](#), along with additional speed management resources.

As part of developing the ATP, WSDOT studied route directness as a tool for understanding active transportation networks in population centers, and how highways can act as barriers to active transportation users. Based on FHWA's Guidebook for Measuring Multimodal Network Connectivity, the tool calculates a Route Directness Index (refer box at right) that quantifies the amount of out-of-direction travel required to cross a state highway—essentially the “detour” created by lack of safe crossing opportunities. [A final report from the study](#) is now available on the WSDOT website.

WSDOT has begun plan implementation with an emphasis on data and decision processes that support safety. As one example, WSDOT is refining how it calculates some of the quantitative evaluation methods such as RDI and Level of Traffic Stress (refer to box at below right). The agency is also exploring incorporating roadway data from local transportation systems. The overarching goal is to create an easy-to-use interface that allows both use and updates of data to inform planning, scoping, design, and operations.

Second part of Active Transportation Plan to address performance metrics

The Active Transportation Plan Part 2—scheduled to be complete at the end of 2021—covers policies, strategies, actions and performance metrics. The draft safety performance metrics being considered in the draft plan include:

- Eliminate pedestrian and bicyclist traffic crash fatalities
- Eliminate fatal and serious injury pedestrian traffic crashes involving people 65 years or older*
- Injury minimization speed limits – increase state route mileage with posted speeds of 25 mph or less in population centers
- Lower Bicyclist Level of Traffic Stress
- Lower Pedestrian Level of Traffic Stress
- Increase Miles of Bicycle Facilities - facility length
- Increase Miles of Pedestrian Facilities - facility length
- Non-signalized intersection crossings - Level of Traffic Stress lowered
- Ramp crossings - Level of Traffic Stress lowered
- Eliminate transportation disparities
- Reduce air pollution emissions
- Increase grant making to high-need communities.

Route Directness Index

The Route Directness Index is a tool that communicates the difference between direct, "as the crow flies" distance from an origin to a destination, and the distance a person must actually travel to make that trip. An RDI of 1 means that these two distances are the same, while an RDI of 2 means that a person must travel twice the direct distance in order to make the trip.

In general, higher RDI values are associated with increased physical effort, travel time, and exposure to weather for bicyclists and pedestrians, which can reduce the efficiency and appeal of walking or bicycling.

Level of Traffic Stress

Level of Traffic Stress is a quantitative assessment of roadway/traffic elements that affect safety and mobility for people who walk or ride a bicycle on a particular road. Using a combination of roadway characteristics, geographic location and surrounding land use, it rates roads from LTS 1 (least stressful) to LTS 4 (most stressful). LTS is calculated separately for bicyclists and pedestrians. For more information on LTS methodology, refer to the Active Transportation Plan Part 1 and [Gray Notebook 71, p. 31](#).

WSDOT estimates that 37% of state highways in population centers have sidewalks, but data is incomplete

For the ATP, WSDOT estimated that 37% (449 miles) of state highways in population centers had some sidewalk present. However, this estimate was based on incomplete data—as of October 6, 2020, the agency estimated that approximately 308 miles of state highway in population centers had not yet been evaluated for sidewalk presence. Additionally, evaluation for sidewalk presence does not include information about the width of the sidewalk, presence of buffers, or ADA suitability.

Understanding the availability of sidewalk is critical to developing pedestrian Level of Traffic Stress measures. While useful for high-level, statewide estimation of pedestrian gap presence in population centers, the data currently available does not allow a given location to be assigned an LTS score based on sidewalk presence or absence.

WSDOT using equity criteria to evaluate applications for its active transportation grant programs

In evaluating applications for the Pedestrian and Bicycle Program and the Safe Routes to School programs for the 2021-2023 funding cycle, WSDOT found relatively few jurisdictions had submitted proposals in locations that rank high on equity factors such as the percentage of children eligible for free or reduced-cost school meals. Because of the Healthy Environment for All Act, one of the agency's goals going into the next round of these programs is to have them better address equity disparities. Increasing the number of applications with proposals in locations that rank high in equity factors, as well as applications from high-need communities that have not applied in the past, represents increased opportunities for the people who live in these communities.

Proposed changes in the process, such as greater outreach and support to local agencies that serve a higher proportion of people of color and low-income populations, will be outlined in the December 1, 2021 PBP and SRTS status report to the legislature.

Contributors include Mike Bernard, Barb Chamberlain, Charlotte Claybrooke, Brian Wood, Helen Goldstein and Joe Irwin

82 TRAVEL INFORMATION ANNUAL REPORT

WSDOT's social media following continues to grow

WSDOT's social media following continued its upward trend during fiscal year 2021 (July 1, 2020 through June 30, 2021). WSDOT Facebook page followers increased 24.6% from 115,799 in FY2020 to 144,294 in FY2021.

WSDOT has 13 Twitter accounts. The two most popular accounts are "@wsdot" and "@wsdot_traffic". During FY2021, @wsdot's following increased by 2.7%, from 295,131 to 303,334. The @wsdot_traffic account saw a slight decrease in following, losing 0.27% over the fiscal year from 475,840 to 474,550.

WSDOT Twitter accounts that saw substantial growth in followers included:

- The @wsdot_east account, which informs travelers of east of the Cascade Mountains, increased 25.5% from 15,310 to 19,214 followers over FY2021.
- The @wsdot_passes account, which informs travels crossing the state's mountain passes, increased 19.2% from 35,938 to 42,827 followers over FY2021.

WSDOT's Instagram has experienced steady growth in followers since the agency began using it in March 2016—the account currently has around 30,700 followers. Images and videos posted by WSDOT in FY 2021 received 170,785 likes. The highest "like" count on a single image and video was a snowplow clearing the road on US 2 highway, which had 2,800 likes.

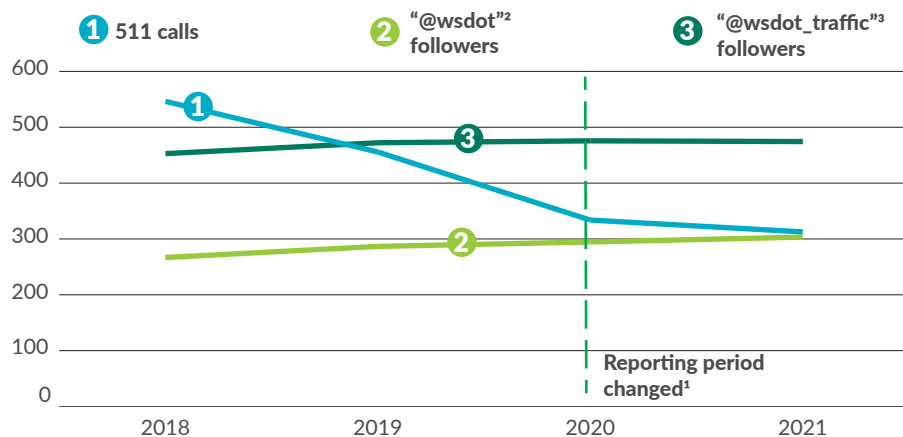
WSDOT's 511 travel information calls decrease

The number of calls to WSDOT's 511 travel information phone system decreased 6.3% to 312,668 calls during the 2021 reporting period, down from 333,781 from the 2020.

Contributors include Justin Belk, Jeremy Bertrand, Carlson Brooke, Takahide Aso and Manouchehr Goudarzi

WSDOT's Twitter followers increase and 511 calls decrease

2018 through 2021¹; Numbers in thousands



Data source: WSDOT Communications Office

Notes: **1** The reporting period for 2020 and 2021 is July 1, 2020 through June 30, 2021. The reporting period for 2018 and 2019 is April 1 through March 31. **2** WSDOT's Twitter account. **3** WSDOT's Northwest Region traffic information Twitter account.

Notable results

- The number of WSDOT's Facebook page followers increased 24.6% from 115,799 in FY2020 to 144,294 in FY2021
- Twitter account "@wsdot" followers increased 2.7% from 295,131 in FY2020 to 303,334 in FY2021

COVID-19 results in less WSDOT web visits

WSDOT's travel information website had about 120 million page views during FY2021, down 6.9% from FY2020. Gov. Jay Inslee's COVID-19 related Stay at Home order meant fewer people traveling, which resulted in less website traffic.

WSDOT mobile app downloads decrease

WSDOT's mobile app download decreased 20.6% from 197,466 in FY2020 to 156,861 in FY2021

WSDOT using TikTok

Due to the success of the other WSDOT social media platforms, the agency started a TikTok account in early June FY2021.

WSDOT website undergoing a redesign

Agency staff have started a mobile-first, user-centered design process to redesign the external website with a planned launch date of fall 2021.

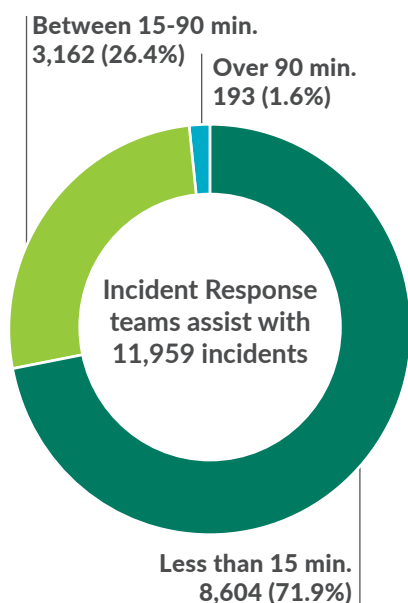
82 INCIDENT RESPONSE QUARTERLY UPDATE

Notable results

- WSDOT responded to 11,959 incidents during the second quarter of 2021, 1,603 (15.5%) more than during the same quarter in 2020
- WSDOT cleared incident scenes in an average of 15 minutes and 6 seconds during the second quarter of 2021, one minute and 42 seconds (12.7%) slower than in the same quarter in 2020
- In the second quarter of 2021, IR teams provided an estimated \$22.6 million in economic benefit by reducing the effects of incidents on drivers
- For every \$1 spent on WSDOT's IR program, the traveling public received \$15.10 in economic benefit

WSDOT clears majority of traffic incidents in 15 minutes or less

Second quarter 2021; Times to clear incidents; Number and percentage of incidents



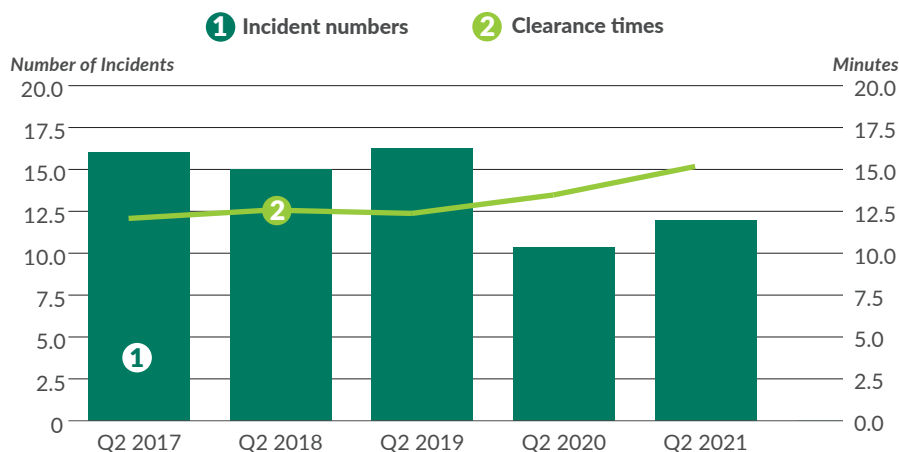
Data source: Washington Incident Tracking System.

WSDOT Incident Response teams help improve driver safety at 11,959 incidents

WSDOT's Incident Response teams assisted at 11,959 incidents during the second quarter (April through June) of 2021. On average, the IR teams responded to an incident scene every 10 minutes and 57 seconds during the quarter. There were 1,603 (15.5%) more incidents during the second quarter of 2021 than in the same quarter of 2020, when there were 10,356 incidents. The higher number of incidents is due to an increase in traffic over the same period in 2020 when COVID-19 travel restrictions were in place. To learn more about how the pandemic affected travel during the quarters, visit <https://bit.ly/COVID19dash>.

Number of incident responses up 15.5% during the second quarter of 2021, clearance times also increase

Second quarters 2017 through 2021; Number of incidents responded to in thousands; 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 2021) is considered preliminary. In the previous quarter (Q1 2021), WSDOT responded to 10,968 incidents, clearing them in an average of 15.8 minutes. These numbers have been confirmed and are now finalized.

During the second quarter of 2021, IR cleared 11,959 incidents in an average of 15 minutes and 6 seconds. This is one minute and 42 seconds (12.7%) slower than the average incident clearance time for the same quarter in 2020.

Of the 11,959 total incidents, 8,604 (71.9%) lasted less than 15 minutes, 3,162 (26.4%) lasted 15-90 minutes and 193 (1.6%) lasted more than 90 minutes. During the second quarter of 2021, there were 7.8% more incidents lasting less than 15 minutes than during the same quarter in 2020. There were also 42.9% more incidents lasting 15-90 minutes and 18.4% more incidents lasting more than 90 minutes in the second quarter of 2021 than in the second quarter of 2020.

IR program provides \$22.6 million in economic benefit during the quarter

Incident Response teams help alert drivers about incidents and clear roadways to reduce the likelihood of new incidents.

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.

WSDOT's assistance at incident scenes provided an estimated \$22.6 million in economic benefit during the second quarter of 2021 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 \$12.9 million of IR's economic benefit for the quarter resulted from reduced traffic delay.
- WSDOT helps prevent secondary incidents by proactively managing traffic at incident scenes. About \$9.7 million of IR's economic benefit resulted from preventing an estimated 2,249 secondary incidents and resulting delay. This figure is based on Federal Highway Administration data that estimates 20% of all incidents are secondary incidents.

Every dollar WSDOT spent on the IR program during the first quarter of 2020 provided drivers \$15.1 in economic benefit.

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.

WSDOT's Incident Response teams provide an estimated \$22.6 million in economic benefit

Second quarter 2021; 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.	8,604	21.4%	5.0	\$10.9	\$5.0
Between 15 and 90 min.	3,162	58.8%	32.2	\$29.9	\$13.0
Over 90 min.	193	83.9%	170.2	\$10.9	\$4.6
Total	11,959	32.5%	15.1	\$51.7	\$22.6
Percent change from the second quarter of 2020	↑15.5%	↑3.5%	↑12.7%	↑31.1%	↑30.3%

Data source: Washington Incident Tracking System.

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

1 Teams were unable to locate 713 of the 11,959 incidents. Because an IR team attempted to respond, these incidents are included in the total incident count. Other performance measures do not include incidents that were not located.

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 the IR program's methods for calculating benefits.

WSDOT teams respond to 193 over-90-minute incidents

IR teams assisted at the scene of 193 incidents that lasted more than 90 minutes during the second quarter of 2021. This is 30 more incidents—an 18.4% increase—compared to the same quarter in 2020. While these over-90-minute incidents accounted for 1.6% of all incidents, they resulted in 21.1% of all incident-related delay costs.

Seven of the 193 over-90-minute incidents took six hours or more to clear—and are referred to as extraordinary incidents. This is two fewer extraordinary incidents than in the same quarter in 2020. The seven extraordinary incidents in the second quarter of 2021 took an average of eight hours and 11 minutes to clear, accounting for 2.2% of all incident-induced delay costs.

The average incident clearance time for all over-90-minute incidents was two hours and 50 minutes. This is about four minutes faster than in the same quarter in 2020. Excluding the seven extraordinary incidents, WSDOT's average clearance time for over-90-minute incidents was two hours and 49 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 Vince Fairhurst, Tony Leingang, Michele Villnave, Takahide Aso and Hui Dong

Customer feedback:

- "Lauri was so kind and so helpful. Hire more like her!! We are two senior ladies with a grandchild in the car. We felt blessed to have her arrive."
- "Dennis and Rick showed up to help. They were very courteous and made sure I was safe. They were very professional. Thank you for your service."
- "I was very impressed with Mr. Henson's courtesy, helpfulness and desire to reassure me of both my safety and that he was able to fix my auto. He is a valuable employee!!"

Rise in work zone crashes a growing concern in the state

The recent increase in [work zone crashes](#) is a major concern to WSDOT and those who work on state highways. This includes IR team members, who suffered serious injuries and experienced numerous close calls in work zones because of travelers speeding, not paying attention, or driving impaired or driving under the influence. WSDOT urges drivers to move over, slow down, pay attention and stay calm while driving through work zones.



The aftermath and close-up (left) of a work zone crash in which an Incident Response Team member was seriously injured. The crash occurred on I-405 near Bothell in May 2021 when a vehicle crashed into his truck as he assisted at the site of another collision.

82 WASHINGTON STATE FERRIES QUARTERLY UPDATE

WSF service reliability decreases in the fourth quarter of fiscal year 2021

There were 37,315 regularly scheduled ferry trips during the fourth quarter of FY2021 (April through June 2021). Washington State Ferries completed 98.9% (36,901) of these trips. This missed the annual service reliability performance goal of 99% and was 0.3 percentage points lower than the fourth quarter in FY2020.

There were no scheduled trips on the Anacortes/Friday Harbor/Sidney, B.C. route as the international border remains closed due to COVID-19 concerns. For more information about the impacts of COVID-19 on travel, visit the COVID-19 Multimodal Transportation System Performance Dashboard at <https://bit.ly/COVID19dash>.

During the quarter, 433 trips were cancelled with 19 replaced for a total of 414 net missed trips. This was 128 more net missed trips than the same quarter of FY2020.

Of the 433 canceled trips, 162 were related to vessel mechanical issues (refer to chart at right). In April, a failed turbo on the M/V *Tillikum* caused 26 cancellations, and a steering malfunction on the M/V *Chelan* resulted in 12 cancellations. In May, a main engine went out of service on the M/V *Samish*, causing 13 cancellations. In June, a steering failure on the M/V *Salish* led to an additional 66 cancellations of which 36 could not be replaced because no relief vessel was available. Later in June, the M/V *Salish* experienced a main engine failure that resulted in 15 cancellations, and an oil leak on the M/V *Chelan* caused eight canceled trips. The remaining 22 cancellations due to vessel mechanical issues were on various vessels with no more than six occurrences on any vessel.

Insufficient crewing accounted for the second-highest category of cancellations with 106 trips canceled on various routes during the quarter. WSF has faced significant crew staffing issues due to the COVID-19 pandemic. Additionally, training has been a challenge with fewer sessions held to bring on new crew members.

Tides accounted for 61 cancellations, 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 tidal variations have a more significant impact there than on other routes.

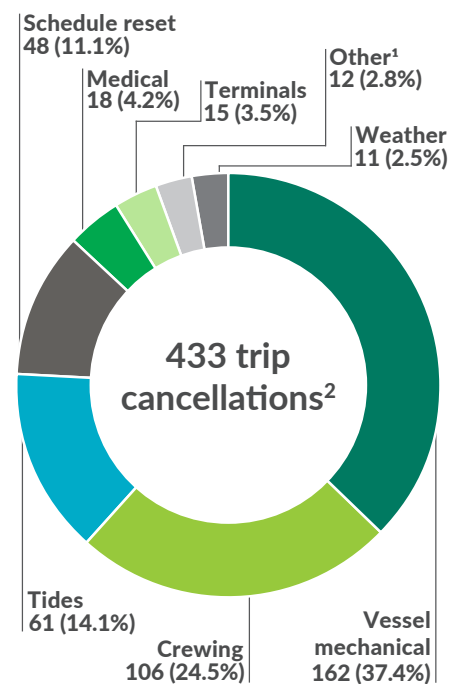
There were 48 schedule resets, which occur when a vessel is so far behind schedule that it is necessary to show a missed trip to get the vessel back on schedule. Medical emergencies accounted for 18 cancellations; malfunctions at terminals caused 15 cancellations; and weather events such as fog and high seas led to 11 cancellations. The remaining 12 cancellations were due to a variety of reasons with no more than four cancellations for any one cause.

Notable results

- WSF completed 36,901 (98.9%) of its 37,315 regularly scheduled trips in the fourth quarter of fiscal year 2021
- WSF ridership was approximately 4.8 million in the fourth quarter of fiscal year 2021, with 2.28 million (190.5%) more passengers than the corresponding quarter in FY2020
- WSF on-time performance was 85.2% in the fourth quarter of fiscal year 2021

Vessel mechanical issues cause the majority of cancellations

Fourth quarter (April - June) FY2021



Data source: Washington State Ferries.

Notes: Fiscal years run from July 1 through June 30. As a result, April through June 2021 represents the fourth quarter of FY2021.

Percentage totals may not add to 100 due to rounding. ¹ The category for "Other" includes issues at terminals, and events such as disabled vehicles, environmental issues and non-vessel related incidents that can impact operations.

² WSF replaced 19 of the 433 canceled trips for a total of 414 net missed trips.

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

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

Route	On-time performance (fourth quarter)				Trip reliability (fourth quarter)			
	FY2020	FY2021	Status	Trend	FY2020	FY2021	Status	Trend
San Juan Domestic	84.1%	66.5%	-17.6%	↓	99.6%	98.5%	-1.1%	↓
Anacortes/Friday Harbor/Sidney, B.C. ¹	N/A	N/A	N/A	↔	N/A	N/A	N/A	↔
Edmonds/Kingston	99.1%	97.7%	-1.4%	↓	99.0%	99.8%	0.8%	↑
Fauntleroy/Vashon/Southworth	95.5%	84.8%	-10.7%	↓	99.7%	99.7%	0.0%	↔
Port Townsend/Coupeville	99.5%	88.3%	-11.2%	↓	96.2%	95.5%	-0.7%	↓
Mukilteo/Clinton	99.1%	95.0%	-4.1%	↓	98.5%	99.5%	1.0%	↑
Point Defiance/Tahlequah	99.3%	93.9%	-5.4%	↓	99.1%	99.8%	0.7%	↑
Seattle/Bainbridge Island	92.6%	76.3%	-16.3%	↓	100%	98.5%	-1.5%	↓
Seattle/Bremerton	98.5%	86.7%	-11.8%	↓	100%	96.0%	-4.0%	↓
Total system	95.1%	85.2%	-9.9%	↓	99.2%	98.9%	-0.3%	↓

Data source: Washington State Ferries.

Notes: FY = fiscal year (July 1 through June 30). As a result, April through June 2021 represents the fourth quarter of FY2021. 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. ¹ Due to COVID-19, there were no scheduled trips to or from Sidney, B.C. during the quarter.

Ridership increases 190.5% during the quarter

With 4,799,472 boardings during the fourth quarter of FY2021 WSF experienced ridership that was nearly double that of the same quarter of FY2020 (2,518,923). WSF ridership continues to rebound from the near-historic lows that occurred due to the impacts of the initial stages of COVID-19.

The Seattle/Bainbridge route experienced the largest gain in ridership, with 654,279 (293.9%) more passengers compared to the fourth quarter of FY2020. The San Juan domestic route had the second highest percentage increase, with 324,440 (233.6%) more riders than the same quarter last year.

On-time performance decreases during quarter

On-time performance was 85.2% in the fourth quarter of FY2021, 9.9 percentage points lower than in the same quarter in FY2020. This means 5,357 sailings did not leave the dock within 10 minutes of the scheduled time. The quarterly rate missed WSF's annual on-time performance goal of 95% (refer to chart above).

On-time performance decreased on all routes compared to the fourth quarter of FY2020. The Edmonds/Kingston route had the smallest drop in on-time performance with a 1.4 percentage point decrease from 99.1% to 97.7%. This route and the Mukilteo/Clinton route were the only routes to achieve the annual on-time performance goal of 95%.

The San Juan Domestic route experienced the most significant change in on-time performance compared to the same quarter in FY2020, with a decrease of 17.6 percentage points from 84.1% to 66.5%.

The Seattle/Bainbridge Island route had a decrease of 16.3 percentage points from 92.6% to 76.3% in on-time performance. High ridership as noted in the previous section, translates to more vessels being fully loaded with vehicles, which takes more time to load and unload. Combined with ongoing construction at Colman Dock in Seattle that affects vessel unloading, on-time performance declined.



See an interactive map version of this article at bit.ly/GNBferriesmap.

WSF farebox revenue increases in fourth quarter

Farebox revenue was \$49 million for the fourth quarter of FY2021 (refer to graph at right). This was about \$330,000 (0.7%) below projections for the quarter.

Annual revenue for the entirety of FY2021 was about \$1.1 million (0.7%) under projections, with automobile/driver fares rebounding faster than passenger fares.

Passenger injury rate decreases while employee injury rate increases

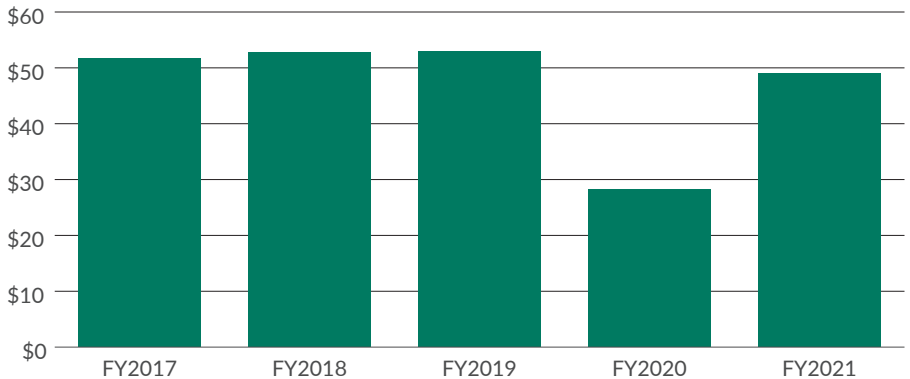
The rate of passenger injuries was 0.63 per million riders in the fourth quarter of FY2021, a decrease from 1.19 in the corresponding quarter of FY2020. This represents three total passenger injuries per quarter in both years, but the rate was lower in FY2021 due to higher ridership.

The passenger injury rate during the quarter achieved WSF's annual goal of having one or fewer injuries per million riders.

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 FY2020 to 8.7 during the same period in FY2021. This represents 10 more injuries than in the same quarter in FY2020, and missed WSF's annual goal of having a rate of fewer than 7.6 crew injuries per 10,000 revenue service hours.

WSF farebox revenue increased in fourth quarter of FY2021

WSF farebox revenue; Fourth quarters FY2017-2021; Dollars in millions



Data source: Washington State Ferries

WSF listens to feedback from passengers

WSF received 429 complaints and 25 compliments during the fourth quarter of FY2021, compared to 379 complaints and 11 compliments during the same quarter in FY2020.

One way to compare this information is to use a ratio of complaints per 100,000 riders. Based on this method, there were 15.0 complaints per 100,000 riders in FY2020 and 8.94 complaints per 100,000 riders in FY2021, a decrease of 6.1 complaints per 100,000 riders.

The category with the most complaints in both years was employee behavior with 2.5 complaints per 100,000 riders (122) in FY2021 compared to 4.4 per 100,000 riders (111) in the fourth quarter of FY2020. The second highest category of complaints were related to vessel/terminal operations with 1.2 complaints per 100,000 riders.

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

Customer feedback:

"Hi - my husband and I were terrible ferry customers this Saturday, and I wanted to send a message to apologize and to thank your ferry workers for their patience and professionalism. We've only been riding WSF for 20 years, but somehow forgot that the ferry starts loading BEFORE it departs, and our car was sitting all by itself in the parking lot when we got back with our coffee. Staff safely got us in the right place for the next ferry, but in sitting in the parking lot for an extra hour, we ran down our battery, and the car wouldn't start when we got to Bainbridge Island. Ferry staff were there in an instant with a jump. You all do a good job. Thank you!"

(Comment edited and is an excerpt)

82

FISH PASSAGE
ANNUAL REPORT

Notable results

- WSDOT completed 14 fish passage projects statewide in 2020, improving access to 54.28 miles of upstream fish habitat
- Since 2013, WSDOT has corrected 86 fish passage barriers within the case area of the 2013 injunction, improving access to 383 miles of salmon and steelhead habitat
- Projections show an additional \$2.4 billion of funding is needed through the 2029-2031 biennium in order to comply with the federal injunction

WSDOT improves access to over 54 miles of potential upstream habitat

WSDOT completed 14 fish passage barrier correction projects statewide in 2020, restoring fish access to 54.28 miles of potential upstream habitat. Thirteen of the projects were located in an area designated by a March 2013 federal injunction that requires WSDOT to restore access to 90% of blocked habitat within the area by 2030 (for more information, visit <https://wsdot.wa.gov/Projects/FishPassage/default.htm>). The other fish passage project, located along SR 401 in Pacific County near the Washington/Oregon border, replaced a culvert that was retrofitted with a fishway in 1996 but had since reverted to a barrier.

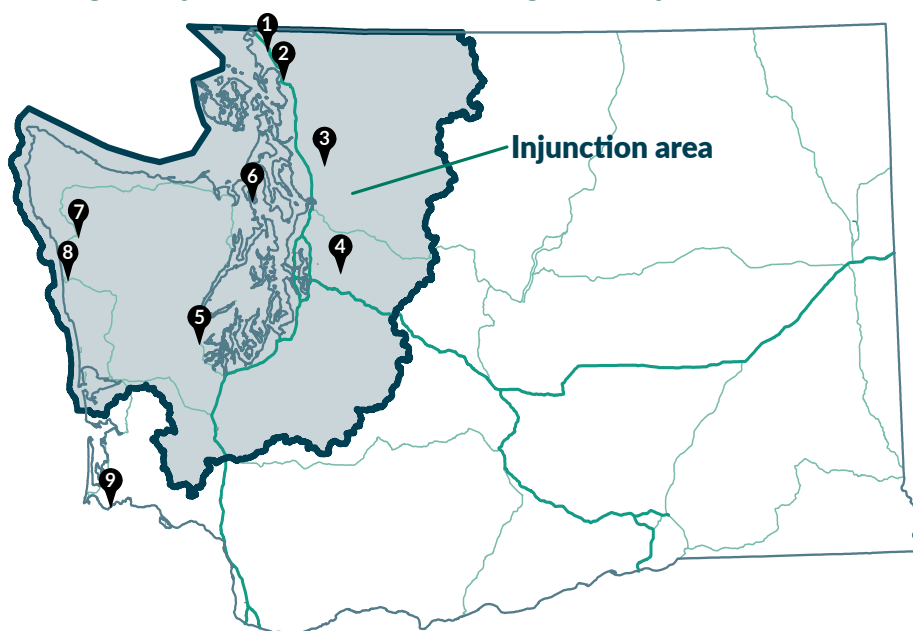
As of June 2021, WSDOT had corrected 86 fish passage barriers within the injunction area. These corrections improved access to about 383 miles of previously blocked salmon and steelhead habitat within the federal injunction case area. WSDOT must correct approximately 450 additional barriers by 2030 to comply with the injunction. These numbers are updated as new information is collected regarding the condition of existing and corrected barriers, which can change over time.

WSDOT plans to complete 20 fish passage barrier corrections in 2021, including 17 that were subject to the injunction. When complete, these projects will open up approximately 110.35 miles of potential fish habitat.

WSDOT completes 14 fish passage projects in 2020, including 13 in injunction area

Map No.	Road	Body of water
1	I-5	Tributary to California Creek
1	SR 548	Tributary to California Creek
2	SR 11	Hoag's Creek
3	SR 530	Trafton Creek
4	SR 202	Patterson Creek
4	SR 202	Two (2) tributaries to Patterson Creek ¹
4	SR 203	Loutsis Creek
5	US 101	Coffee Creek
6	SR 116	Kilisut Harbor
7	US 101	Tributary to Hoh River
8	US 101	Harlow Creek
8	US 101	Fisher Creek
9	SR 401	Hungry Harbor ²

Notes: ¹ This project includes two barrier corrections. ² This project was outside of the injunction area.

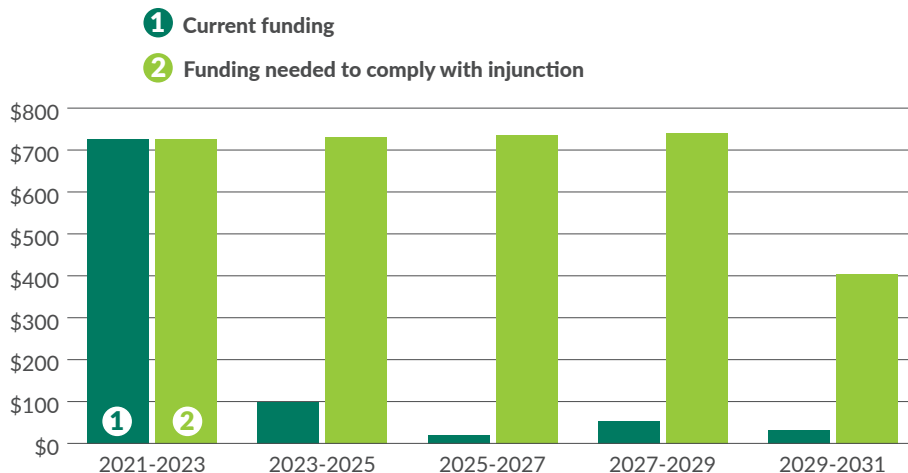


Data source: WSDOT Environmental Services Office.

Notes: Numbers on markers correspond with numbers in the table on the left. Numbers 1, 4 and 8 have multiple fish passage barrier correction sites in the same area.

WSDOT's projected funding falls well short of estimated funding needed to comply with federal fish passage injunction

2021-2023 biennium through 2029-2031 biennium; Dollars in millions



Data source: WSDOT Capital Program Development and Management Division.

Notes: Funding sources for fish passage barrier corrections planned in the 2021-2023 biennium are currently unknown.

WSDOT plans to meet the federal injunction requirements by using innovative delivery, partnership coordination, and constant improvement based on data driven feedback. Barrier correction projects are applicable to the injunction if they correct highway culverts that are documented barriers to salmon or steelhead and are within the injunction area.

A total of \$1.4 billion has been allocated to fund the fish passage program through the 2029-2031 biennium. However, in order to comply with the terms of the injunction, it is estimated that an additional \$2.4 billion is needed (refer to graph above).

As of June 2021, WSDOT has corrected 365 fish passage barriers statewide, restoring access to approximately 1,215 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 occur. The values are tallied each June for annual reporting purposes.

Fish passage monitoring ensures barrier corrections are functional and fish passable

In 2020, WSDOT inspected 51 individual sites—in accordance with the [Monitoring Plan](#)—to evaluate the performance of previously-completed fish passage projects. Of the 51 inspections, 35 were interval inspections, including 16 Post-Construction Compliance Inspections, seven Over-Winter Inspections, and 13 Long-Term Evaluations. WSDOT also conducted Increased Monitoring Evaluations at 16 sites in 2020.

Fish passage monitoring is part of a vital feedback loop that assists WSDOT in making data-driven decisions regarding designing and maintaining fish passable structures.

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.



Before: The SR 401 old crossing at Hungry Harbor was a corrugated metal culvert 5 feet in diameter that blocked Chinook, coho, steelhead and sea run cutthroat from reaching upstream spawning habitat.

After: The new crossing is a concrete box culvert 18.1 feet wide and 12 feet high. The project included restoring approximately 175 feet of stream channel upstream of SR 401 and enhancing the floodplain. Photo credit: Columbia River Estuary Study Taskforce.



Strategic Plan Goal Inclusion

WSDOT exemplifies Inclusion—through community engagement—by coordinating fish passage barrier correction efforts with landowners, local governments and tribal entities.

Hungry Harbor fish passage partnership

In 2020, a concrete box culvert was constructed on SR 401 for an unnamed tributary to the Columbia River at Hungry Harbor. This completed the third and final phase of a large-scale restoration effort known as the Columbia-Pacific Passage habitat restoration project, a partnership between WSDOT and the Columbia River Estuary Study Taskforce.

This multi-phased project involved restoration at three separate tributaries to the Columbia River along the Washington shoreline. The project at Hungry Harbor restored tidal processes, expanded and enhanced wetlands, and vastly improved juvenile and adult fish access for foraging, rearing, and spawning. Juvenile salmon were observed in the new habitat immediately after the project was completed. Funding sources included WSDOT, the Salmon Recovery Funding Board, Bonneville Power Association, Lower Columbia River Estuary Partnership, Lower Columbia Fish Recovery Board, and the US Fish and Wildlife Service.

Coffee Creek barrier correction

Coffee Creek is located in Mason County and crossed US 101. This project relocated Coffee Creek to avoid replacing the existing culvert under US 101 and the on/off ramps to Shelton-Matlock Road. This approach satisfies the injunction by avoiding the need for a highway crossing. This project benefits chum, coho, steelhead, and sea run cutthroat trout, improving access to 13.3 miles of habitat. Adult salmon were observed spawning in the [new streambed](#) within months of project completion.

Contributors include Marc Hershfield, Susan Kanzler, Damon Romero, Hui Dong and Dustin Motte

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>.



Before: The three culverts on Coffee Creek under US 101 were a barrier to fish passage. Scoping meeting at the Coffee Creek US 101 culvert outlet on October 3, 2013.

After: The culvert on Coffee Creek at US 101 was abandoned and the stream realigned to incorporate a bridge on Shelton-Matlock Road, allowing access to potential upstream spawning habitat for fish.



82 FREIGHT SEMI-ANNUAL REPORT

Washington state imports and exports drop 20% from 2019 to 2020

Washington state's total imports and exports transported by any mode in 2020 were valued at \$90.2 billion, a 20% decrease from \$113 billion in 2019. According to the U.S. Census Bureau, Washington was the 14th most trade-dependent state in the country per capita in 2020, dropping from 11th most trade-dependent state in 2019. Until 2019, Washington had been among the top 10 most trade-dependent states every year since 2008.

A 68.5% decline in civilian aircraft and parts exported through Washington contributed substantially to the decrease in international trade, with total civilian aviation exports dropping from \$25.4 billion in 2019 to \$8 billion in 2020. This drop was primarily due to the continued grounding of the Boeing 737 Max airliner in 2020.

Pandemic-related changes in international shipping impact international imports and exports in Washington state

Disruptions in all freight supply chains during the COVID-19 pandemic led to significant bottlenecks, rising shipping costs, shortages of shipping containers, bulging warehouse and distribution facilities, and shortages of port workers and truck drivers.

Additionally, as Americans ordered more goods imported from China and other Asian markets, some Asian ocean carriers began refusing to wait for their containers to be reloaded with U.S. exports before returning to Asia after delivering their goods to Pacific Northwest ports. Returning to Asia with faster-moving, empty ships was more financially viable than returning with ships slowed by full loads of American goods. As a result, U.S. export goods were stranded on docks or in warehouses, leading to significant impacts on the freight and trade network. This has been particularly concerning for Washington's agriculture industry, because many of the state's top export products are perishable foods and farm products.

As a result of these changes in shipping patterns, Washington exports, which have historically made up approximately 60% of the state's international trade, dropped to 46% in 2020 (with imports making up the remaining 54%). In addition, exports to China (Washington's largest trade partner) totaled \$9.1 billion in 2020—up 1% from \$9.0 billion in 2019, when exports were heavily impacted by tariffs (see [Gray Notebook 78 p. 27](#)) and down 42.3% from \$15.9 billion in 2018.

Notable results

- *Total Washington state imports and exports were valued at \$90 billion in 2020, down 20% from 2019*
- *The number of freight trucks entering Washington from Canada decreased from 645,732 crossings in 2019 to 607,387 in 2020*
- *Washington waterborne freight tonnage decreased 9.5% from 2018 to 2019*
- *Air cargo tonnage in Washington increased 1.9%, from 1.95 million tons in 2018 to 1.99 million tons in 2019*

WSDOT facilitates multimodal freight transportation

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. For more information on WSDOT's freight rail programs, see the Freight Semi-Annual Report in Gray Notebook 76 (at https://bit.ly/Freight_GNB76).

WSDOT also provides policy analysis and planning coordination for the movement of goods in commerce statewide. For additional information, see <https://wsdot.wa.gov/Freight/default.htm>

COVID-19 results in mixed bag of changes in truck traffic on state highways

Many locations on Washington state highways saw large increases in truck traffic volumes between 2019 and 2020. These changes, which included a more than 15% increase on US 101 near Olympia, reflect the higher demand for shipped goods during the pandemic in that area. Meanwhile, state highways at other locations, for example US 12 near Yakima and US 2 near Wenatchee, saw truck traffic

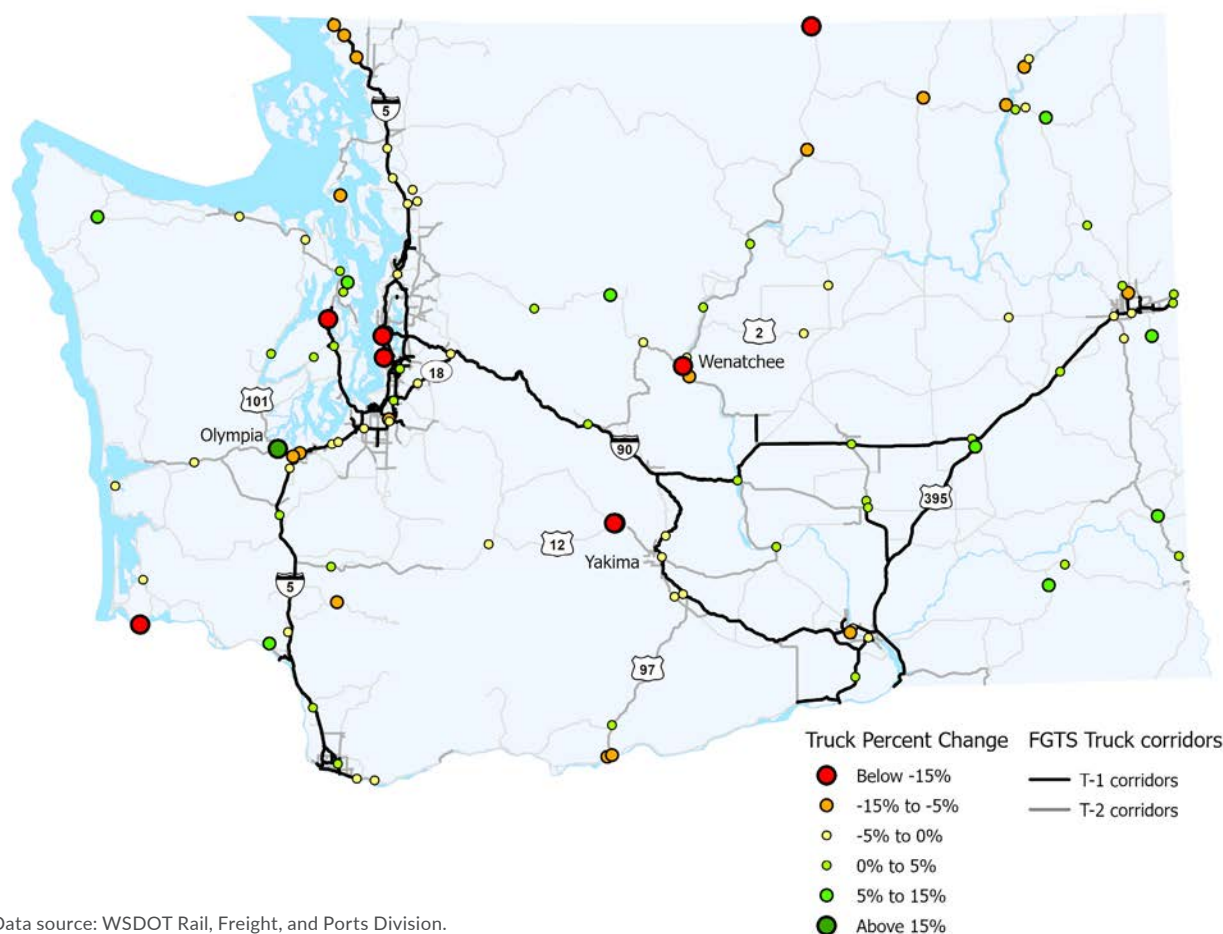
volumes drop by more than 15% as delays and bottlenecks affected the freight network. Many of the largest changes, both increases and decreases, occurred on state routes and U.S. highways, rather than on interstates (refer to map below).

Truck traffic on Washington's two busiest interstates, Interstate 5 and Interstate 90, saw fewer changes between 2019 and 2020. Overall, the truck traffic volume on these

two corridors remained relatively steady from 2019 to 2020, with the changes in recorded truck traffic volumes at most monitored locations on these corridors ranging between 5% lower and 5% higher. Because most interstate truck traffic in Washington travels on these two highways, the relatively minor changes suggest that the COVID-19 pandemic had a small impact on interstate truck traffic volume.

Truck traffic volume in Washington state increases in some locations, decreases at others from 2019 to 2020

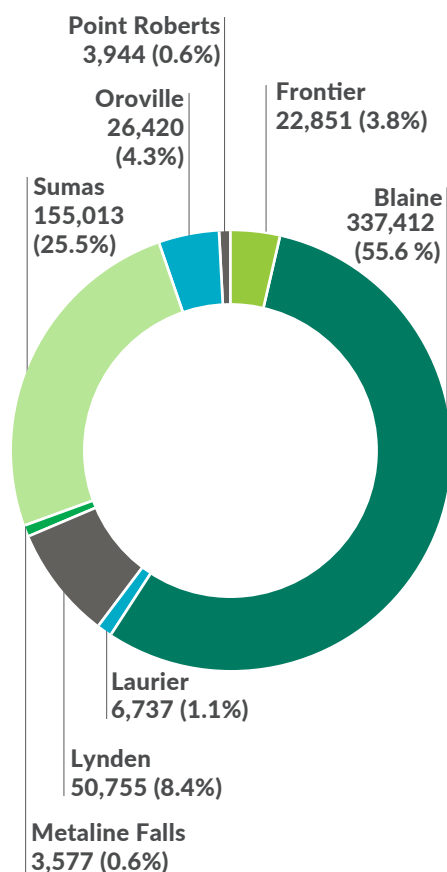
Percentage change from 2019 to 2020



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

Majority of trucks entering Washington from Canada cross the border at Blaine

Truck crossings from Canada into Washington at the border; 2020



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

Notes: Graph does not include truck crossings at Ferry (23 crossings in 2020), Port Angeles (89 crossings in 2020), Boundary (165 crossings in 2020), Danville (401 crossings in 2020), or Friday Harbor (zero crossings in 2020).

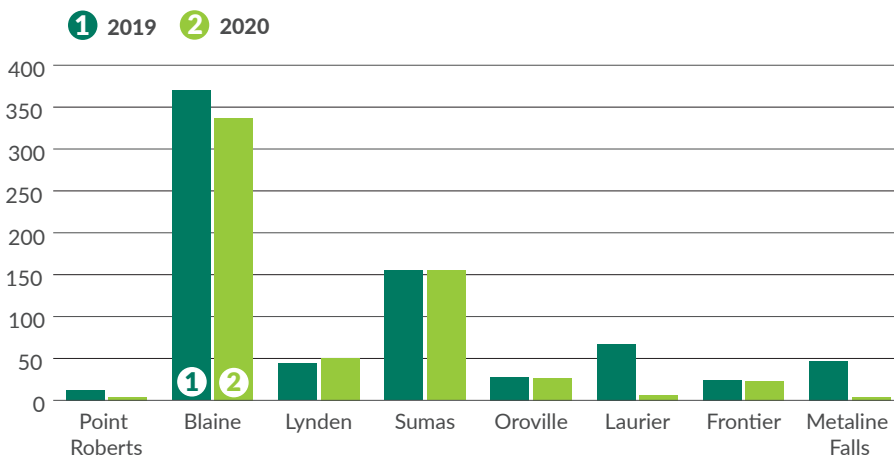
Washington sees a decrease in trucks entering from Canada in 2020

The number of freight trucks entering Washington from Canada decreased by 5.9%, from 645,732 in 2019 to 607,387 in 2020. In both years, the bulk of the traffic was at the Blaine and Sumas border crossings. In 2020, 337,412 trucks entered Washington at the Blaine crossing on I-5, down 8.8% from the 369,777 that used this crossing in 2019. The Sumas crossing on State Route 9 had 155,013 trucks enter Washington in 2020, nearly the same number as in 2019.

While the border between the United States and Canada was closed to non-essential travel for much of 2020 due to the COVID-19 pandemic, it remained open to freight traffic throughout the year. However, the two most rural border crossings, at Laurier and Metaline Falls, both saw substantial decreases in border crossings (refer to chart below). Freight movements at both of these crossings are generally related to supplies for vacation-related industries, which were heavily impacted by the pandemic.

Freight truck border crossings concentrated at Blaine and Sumas

Truck crossings (in thousands) from Canada into Washington at the border; 2019 and 2020



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

Notes: Graph does not include truck crossings at Ferry (23 crossings in 2020 and 62 in 2019), Port Angeles (89 crossings in 2020 and 436 in 2019), Boundary (165 crossings in 2020 and 297 in 2019), Danville (401 crossings in 2020 and 666 in 2019), or Friday Harbor (zero crossings in both 2020 and 2019).

Northwest Seaport Alliance sees a decrease in containerized waterborne cargo in 2020

In 2020, the Northwest Seaport Alliance (which includes the merged marine cargo operations from the ports of Seattle and Tacoma) handled 3.32 million 20-foot equivalent units (refer to box at right) of containerized cargo. This was a 12.2% drop from 3.78 million TEUs in 2019 (refer to chart below). This decline in containerized freight

volume at these ports—the largest in Washington state—was primarily due to the disruptions in normal shipping activity caused by the COVID-19 pandemic, as well as the continuing tariff war with China.

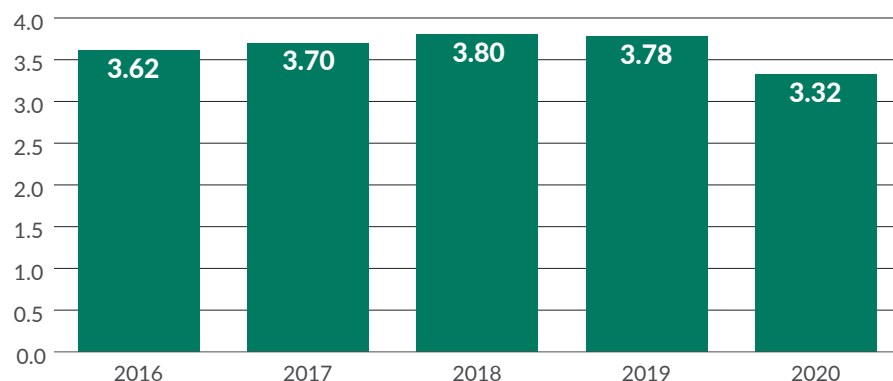
Statewide 2020 data for waterborne freight was not available at the time of publication.

20-foot equivalent units

Containerized port freight is measured in 20-foot equivalent units (TEUs). One TEU is the amount of freight that can be carried in one 20-foot marine cargo container. Cargo containers carry many different types of freight and come in different lengths; for example a 40-foot container can hold two TEUs of cargo.

Northwest Seaport Alliance¹ sees decrease in containerized waterborne cargo

Containerized volume of waterborne cargo in millions of TEUs²; 2016 through 2020



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

Note: **1** The Northwest Seaport Alliance includes the merged marine cargo operations of the ports of Seattle and Tacoma. **2** TEU stands for “Twenty-foot equivalent unit” (refer to box at right for definition).



Ships carrying containerized freight at the Port of Seattle.

Over 71% of waterborne freight shipped in Washington in 2019 was categorized as foreign

In 2019, approximately 112.4 million tons of waterborne freight were shipped in Washington, down 9.5% from 124.2 million tons in 2018. This decrease in waterborne freight activity was due primarily to declines in international exports of food and food products, and in international imports of petroleum.

Waterborne freight is categorized as foreign, domestic or intrastate (with both origin and destination in Washington). In 2019, 55% of waterborne freight was international export and 16.3% was international import. Domestic shipment accounted for 21.3% and the remaining 7.4% was intrastate freight (refer to chart below).

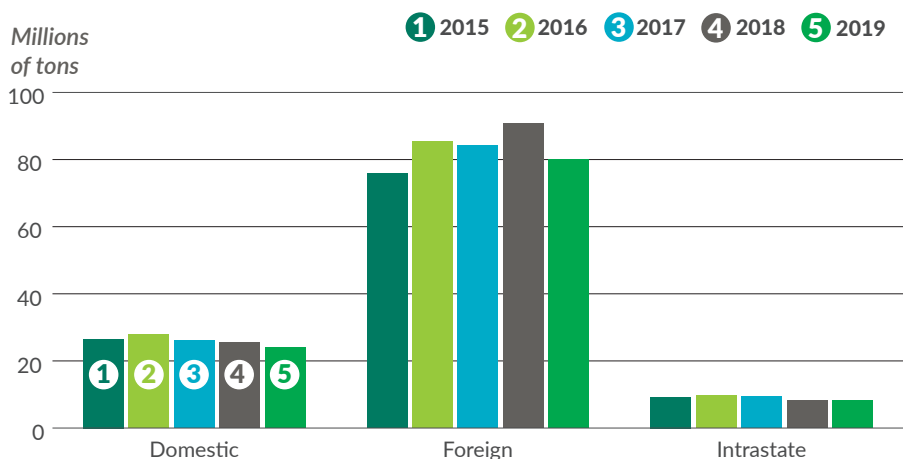
Foreign freight activity decreased 11.6% from 90.6 million tons in 2018 to 80.1 million tons in 2019. Domestic freight activity decreased 6.1% from 25.4 million tons in 2018 to 23.9 million tons in 2019, while intrastate freight activity increased 2.3% from 8.15 million tons to 8.34 million tons.

The top commodities shipped to, from and within Washington state by water include food and food products (such as grain, oilseeds and other agricultural products), petroleum products and crude petroleum (refer to chart below). In 2019, food and food products comprised 40.0% of the state's total waterborne freight shipped, which was mostly exported to foreign markets. Petroleum products made up 13.6% and crude petroleum comprised 11.1%. The quantities of both food/food products and petroleum products shipped decreased from 2018 to 2019 by 11.1% and 1.8%, respectively. Crude petroleum decreased by 9.0% over the same period.

When data is available on 2020 shipping activities for the entire state, it is expected to show marked changes from 2018 and 2019 international shipping trends due to the COVID-19 pandemic.

Majority of waterborne freight in Washington crosses international borders

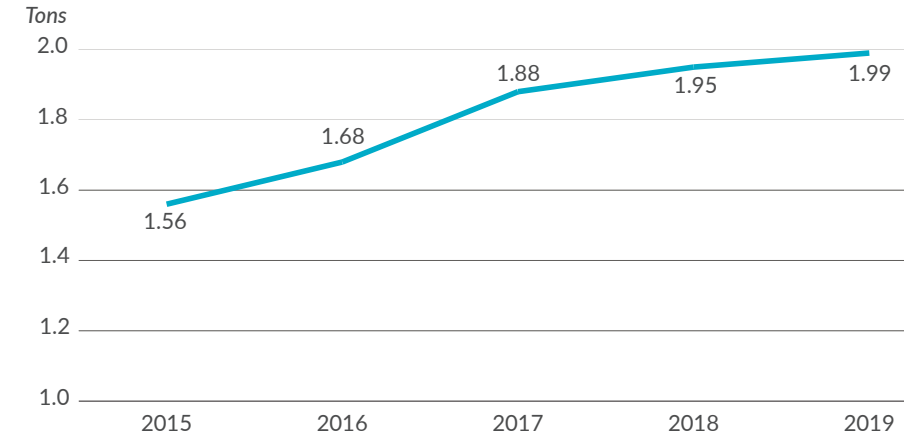
2015 through 2019; Tonnage in millions; Domestic, foreign and waterborne freight



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

Washington total air cargo continues to increase in 2019

2015 through 2019; Tonnage measured in millions; Plane plus cargo weight



Data source: Federal Aviation Administration.

Air cargo tonnage increases 1.9% from 2018 to 2019

Washington airports handled 1.99 million tons of cargo (plane plus cargo weight) in 2019, continuing an upward trend that began in 2013. In 2019, the most recent year for which statewide data is available, air cargo tonnage grew by 1.9% from 1.95 million tons in 2018. Much of this increase can be attributed to the 21% increase in cargo shipped through Snohomish County (Paine Field) Airport between 2018 and 2019.

Sea-Tac Airport continued to handle the bulk of all air cargo in the state in 2019, with 62.4% of the statewide total according to the Federal Aviation Administration. Sea-Tac Airport also provides daily, non-stop service to 91 domestic and 27 international destinations.

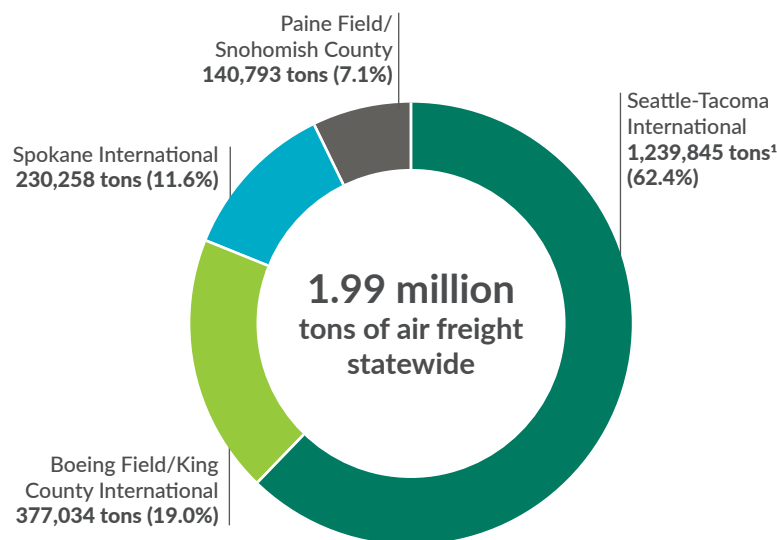
Sea-Tac air cargo tonnage holds steady from 2019 to 2020

According to the Port of Seattle, Sea-Tac handled approximately 454,584 metric tons of total cargo (not including plane weight) in 2020—an increase of 0.2% from 453,549 metric tons in 2019.

However, the percentage changes do not tell the entire story. Significant shifts occurred between international and domestic freight traffic. Sea-Tac's international cargo levels decreased by 33.2% from 2019 to 2020 due to a drop in international passenger flights carrying belly cargo, while the domestic air cargo went up by 14.6%, primarily due to e-commerce and express deliveries as demand increased during the COVID-19 pandemic.

Seattle-Tacoma airport moves majority of state's air freight in 2019

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

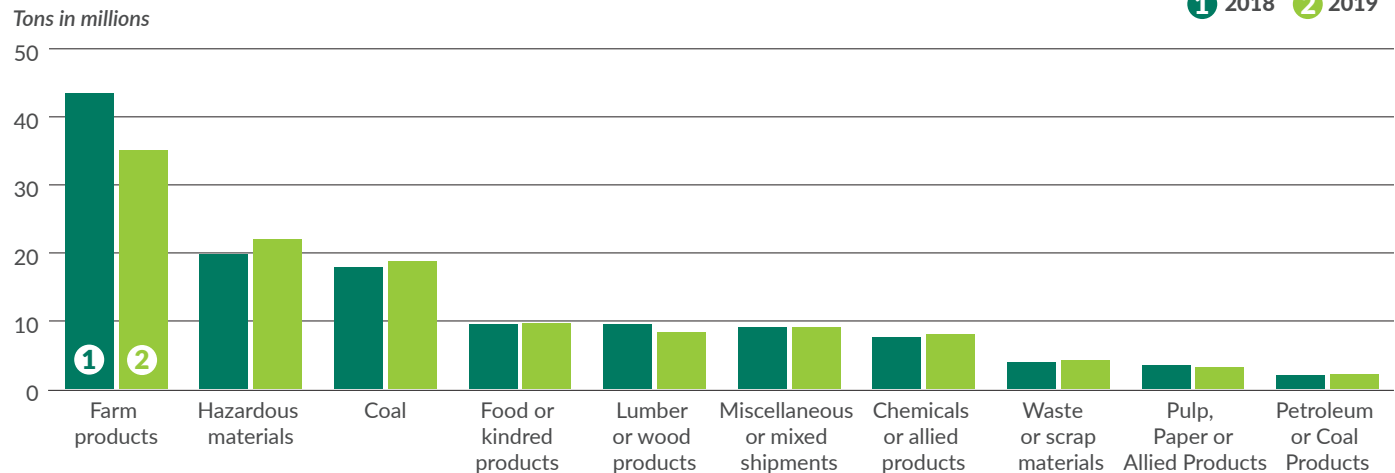


Data source: Federal Aviation Administration.

Note: ¹ Tonnage reported in this chart includes the weight of the planes. Seattle-Tacoma International Airport also reports tonnage of freight handled excluding plane weight; this figure was 453,549 metric tons of total cargo in 2019, and 454,584 metric tons of total cargo in 2020.

Farm products continue to make up largest share of freight shipped by rail in Washington state in 2019

2018 and 2019; Commodities shipped by rail; Tonnage in millions



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

Freight rail tonnage decreases by 4.5% in 2019

Railroads in Washington state transported 129 million tons of freight in 2019, a 4.5% decrease from the 135 million tons transported in 2018. The overall decrease was driven by a drop in farm product shipments.

The amount of inbound rail freight (freight that originated outside Washington and was transported to a destination within the state) decreased 6.6% from 71.7 million tons in 2018 to 67 million tons in 2019. Inbound freight made up 51.8% of all statewide rail freight in 2019. Freight rail shipments passing through Washington (with both origin and destination outside the state) accounted for 29.6% (38.2 million tons) of total rail freight tonnage, compared to 40.6 million tons in 2018. Approximately 17.2 million tons of outbound rail freight (which had an in-state origin and an out-of-state destination) was transported in Washington state

in 2019, making up 13.3% of total freight rail tonnage. The remaining 5.3% (6.8 million tons) of rail freight was intrastate, with both origin and destination inside Washington.

Over 19% fewer farm products shipped by rail in 2019 than in 2018

In 2019, 35 million tons of farm products (such as soybeans, corn, wheat and dried peas) were shipped by rail in Washington state, a 19.5% decrease from the 43.5 million tons shipped in 2018 (refer to chart above). This decrease was driven largely by the decline in corn shipped by rail, which dropped 60% from 23.8 million tons in 2018 to 9.5 million tons in 2019. The decrease in corn shipments was associated with less corn originating in the Midwest. The decline in corn exports was largely due to higher U.S. prices impacted by planting delays and reduced crop yields in 2019.

In contrast, soybean shipments by rail increased 47% from 8 million tons in 2018 to 11.9 million tons in 2019. This increase was driven

largely by rebounding soybean exports to China. Additionally, the amount of wheat shipped by rail increased by 16.2%, from 9.2 million tons in 2018 to 10.7 million tons in 2019; this in part due to increasing wheat exports to foreign markets including Philippines and Taiwan.

Over 11% more hazardous material shipped by rail in 2019 than in 2018

Railroad shipments of hazardous materials increased by 11.3% in 2019 with 21.9 million tons compared to 19.7 million tons in 2018. Shipments of hazardous materials—such as petroleum crude oil, ethyl alcohol, asphalt, propane gas and petroleum/shale oil—increased largely due to more traffic from North Dakota to Washington and traffic passing through Washington on its way from Idaho to California. Rail shipments of coal increased by nearly 6%, going from 17.7 million tons in 2018 to 18.8 million tons in 2019, largely driven by coal shipments from Wyoming to Washington and Washington to Oregon.

Contributors include Janet Matkin, Cara Motte, Wenjuan Zhao, and Helen Goldstein

82 CAPITAL PROJECT DELIVERY PROGRAMS QUARTERLY UPDATES

Connecting Washington project and contract and Nickel/TPA contract complete

The Connecting Washington project for the State Route 107/Chehalis River Bridge - Structural Rehabilitation, a contract for the Interstate 90/Medical Lake Interchange to Geiger Field Interchange - Reconstruction, and a Nickel/Transportation Partnership Account contract for the State Route 99/Alaskan Way Viaduct Demolition & Battery Street Tunnel Decommissioning were operationally complete by WSDOT during the eighth quarter of the 2019-2021 biennium (for more information refer to pp. 36-37). An example of an operationally complete project might include a new overpass that is open to traffic, but still has items like landscaping or permanent striping that are yet to be finished.

While WSDOT did not complete any additional Nickel/Transportation Partnership Account projects during the quarter, it has completed a total of 383 of the original Nickel and TPA construction projects since July 2003—with 86% on time and 91% on budget. The cost at completion for the 383 Nickel and TPA construction projects (which are included in the original 421 Nickel and TPA projects) was approximately \$10.3 billion, 1.5% less than the baseline cost of \$10.5 billion. The agency currently has four Nickel and TPA projects underway (refer to p. 39 for additional information).

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

Fuel tax collections show 2003 and 2005 revenue forecasts, which were used to determine project lists, 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 estimated to be \$4.0 billion, approximately \$991 million (20.1%) less than the original 2005 projection.

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

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

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

Notable results

- *WSDOT completed a Connecting Washington project and contract, and a Nickel/TPA contract during the eighth quarter of the 2019-2021 biennium*
- *WSDOT advertised 41 of 48 Pre-existing Funds projects during the eighth quarter of the 2019-2021 biennium*
- *WSDOT has completed 383 Nickel and TPA projects since 2003, with 86% on time and 91% on budget*

WSDOT's Watch List projects available online:

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

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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, 2021; Dollars in millions	Number of Projects	Value of Program
Subtotal of completed construction projects ¹	383	\$10,485.5
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	11	\$4,989.7
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 preservation budget	421	\$16,282.7
Schedule and budget summary Nickel & TPA combined: Results of completed construction projects in the current Legislative Transportation Budget and prior budgets; Dollars in millions	Completed in 2019- 2021 Biennium Budget	Cumulative Program
Total number of projects completed	1	383
Percent completed early or on time	0%	86%
Percent completed under or on budget	100%	91%
Baseline cost at completion	\$564.9	\$10,485.5
Current cost at completion	\$564.5	\$10,330.3
Percent of total program over or under budget	0.1% under	1.5% under
Advertisement record: Results of projects entering the construction phase or under construction	Combined Nickel & TPA	
Total current number of projects in construction phase as of June 30, 2021	4	
Percent advertised early or on time	100%	
Total number of projects advertised for construction during the 2019-2021 biennium (July 1, 2019 through June 30, 2021)	1	
Percent advertised early or on time	0%	
Projects to be advertised: Results of projects now being advertised for construction or planned to be advertised	Combined Nickel & TPA	
Projects being advertised for construction (July 1, 2021 through December 31, 2021)	1	
Percent on target for advertisement on schedule or early	0%	
Budget status for the 2019-2021 biennium; Dollars in millions	WSDOT biennial budget	
Budget amount for 2019-2021 biennium	\$714.6	
Actual expenditures in 2019-2021 biennium to date	\$445.4	
Total 2003 Transportation Funding Package (Nickel) expenditures	\$22.2	
Total 2005 Transportation Partnership Account expenditures	\$275.4	
Total Pre-existing Funds expenditures	\$104.3	

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, 2021. **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.

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COMPLETED PROJECTS
& CONTRACTS

Notable results

- *A Connecting Washington project and contract, and a Nickel/TPA contract were operationally complete during the eighth quarter of the 2019-2021 biennium*

GNB reporting on
projects and contracts

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

Connecting Washington project and contract, and Nickel/TPA contract operationally complete during the quarter

A Connecting Washington project and contract, and a Nickel/Transportation Partnership Account contract were operationally complete by WSDOT during the eighth quarter of the 2019-2021 biennium (April through June 2021).

Interstate 90/Medical Lake Interchange to Geiger Field Interchange - Reconstruction

(Spokane County)

Operationally complete: June 18, 2021

This Connecting Washington contract is part of a larger project to address increasing congestion related to continuing private and commercial development between Spokane and Cheney adjacent to Interstate 90 as well as higher traffic demands on the Medical Lake and Geiger Field interchanges.

Budget: The contract was completed for \$21.2 million, which was over the originally-programmed budget of \$18.0 million and includes a cost risk for right-of-way that is currently in condemnation proceedings.

After costs decreased by \$2 million due to favorable bids, the project had several increases. The largest of which is the risk associated with right of way acquisition in which the landowner did not accept WSDOT's offer, resulting in condemnation proceedings. The state's COVID-19 response and related measures delayed the landowner's appraisal process, as well as the condemnation trial. WSDOT's and the landowner's appraisals differ by approximately \$4.1 million. The condemnation trial, which could find in favor of the landowner, is scheduled for September 2021. An additional \$800,000 increase was related to the discovery of unsuitable materials.

Schedule: The contract was operationally complete in June 2021, approximately two years later than the originally-programmed schedule of November 2019.

The contract's operationally complete date was delayed from October 2020 to June 2021 because the associated work necessitated two construction seasons. In response to the Governor's COVID-19 stay at home order, WSDOT directed a temporary construction suspension on most projects throughout the state. This caused a construction delay of approximately seven months in the project's delivery.

State Route 99/Alaskan Way Viaduct Demolition & Battery Street Tunnel Decommissioning

(King County)

Operationally complete: June 13, 2021

This substantial Nickel/Transportation Account Partnership contract is part of the larger SR 99 Alaskan Way Viaduct Replacement project. After the State Route 99 tunnel under downtown Seattle opened to traffic in 2019, this contract demolished the Alaskan Way Viaduct and ramps at Seneca and Columbia streets. It also decommissioned the Battery Street Tunnel.

Budget: This contract was completed for \$153.2 million approximately \$13.0 million below the last approved budget of \$165.2 million.

As a larger and lengthier contract, there were numerous cost changes throughout the demolition and decommissioning work, all of which were adversely affected by the delayed construction of the tunnel for SR 99.

Near the project's close, a cost, schedule and spending plan change decreased the project by \$12.1 million as \$8.5 million in unrealized risk was retired. In addition, \$5 million in local funding was added to the budget. These reductions were partially offset by change orders from the contractor (the largest being for COVID 19 suspension at \$813,000).

This change also defers \$2 million from the 2019-2021 contract budget to 2021-2023 as the contractor work is not yet complete and will carry over into the next biennium along with project close-out.

Schedule: The contract was operationally complete in June 2021, approximately two months later than the planned schedule of April 2021. Because it was completed in the same quarter as planned, the project is considered to be on time with the last approved schedule.

Significant schedule changes occurred when revised Seattle City Light utility requirements led to duct bank revisions that delayed work by six months. In response to the Governor's COVID-19 stay at home order, WSDOT directed a temporary construction suspension on most projects throughout the state. This caused a construction delay of approximately seven months in the project's delivery.

State Route 107/Chehalis River Bridge - Structural Rehabilitation

(Grays Harbor County)

Operationally complete: May 24, 2021

This Connecting Washington project replaced the timber structure on the bridge's south approach, replaced all of the bridge railing, and removed and replaced the existing portal beams to raise the vertical clearance to the 16-foot, 6-inch requirement to extend the service life of the bridge.

Budget: This project was completed for \$21.8 million approximately \$9.3 million above the originally programmed budget of \$12.5 million. Initially, the project's estimated total cost increased by \$4 million to \$16.5 million due to a seismically vulnerable location with poor soil conditions that required additional analysis and bridge rehabilitation work. It was further increased by approximately \$880,000 to \$17.4 million due to the June 2018 inflation adjustment.

Finally, the project's estimated total cost increased by \$4.5 million from \$17.4 million to \$21.9 million at award because of increased construction costs related to escalating steel costs. These added Steel Cost Adjustment Generalized System of Preferences to the project, structure shaft construction and rock excavation and hauling.

Schedule: The project was operationally complete in May 2021, approximately two years later than the originally programmed schedule of March 2019. Initially, the project was delayed by one year to perform additional expert complex modeling analysis needed from the site being in a seismically vulnerable location with poor soil conditions. Then, the project was further delayed by a year due to permitting requirements and missing the in-water work window.

82 ADVERTISEMENT RECORD QUARTERLY UPDATE

Connecting Washington Account projects in construction ¹ Through June 30, 2021; (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	Delayed	Aug-2021	\$242.9
SR 167/SR 509 Puget Sound Gateway (multiple counties)			
SR 509/SeaTac Stage 1 Elements (WSDOT Contribution)	Advanced	Nov-2022	\$48.8
SR 167/I-5 to SR 509 - Stage 1A	Delayed	Aug-2021	\$54.0
SR 509/I-5 & SR 516 I/C ² to 28th/24th Ave. South - SR 509 Completion Stage 1	Delayed	Jun-2025	\$488.5
I-405/Renton to Bellevue - Corridor Widening (King)			
I-405/Renton to Bellevue - Corridor Widening & ETL ³ (Stage 2)	Delayed	Dec-2024	\$790.0
I-405/Toll Vendor for Renton to Bellevue - Toll System	On schedule	Sep-2024	\$44.5
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 - I/C and Bridge Replacement	Delayed	Apr-2023	\$628.1
SR 520/I-5 to Lake Washington - Bridge Replacement - Mitigation	On schedule	Jun-2024	\$26.3
SR 520/I-5 Interchange - Improvement	Delayed	Aug-2023	\$ 112.6
US 395 North Spokane Corridor (Spokane)			
US 395/North Spokane Corridor BNSF - Second Railroad Alignment	Delayed	Oct-2021	\$79.5
US 395/NSC Wellesley Ave. Improvements	On schedule	Oct-2022	\$36.7
US 395/NSC Spokane River to Columbia	On schedule	Oct-2022	\$50.0
US 395/NSC Spokane River to Columbia - Shared Use Path	On schedule	Jun-2022	\$13.3
US 395/NSC Sprague Ave. to Spokane River	Delayed	Sep-2026	\$334.2
I-5/Marvin Road/SR 510 Interchange (Thurston)			
I-5/SR 510 I/C - Reconstruct I/C	Delayed	Jul-2021	\$46.8
I-90/Eastgate to SR 900 - Corridor Improvements (King)			
I-90/Eastgate to SR 900 - Corridor Improvements	Delayed	Oct-2021	\$73.0
US 12/Walla Walla Corridor Improvements (Walla Walla)			
US 12/Nine Mile Hill to Frenchtown Vicinity - Build New Highway	Delayed	Jul-2023	\$160.4
I-90 Snoqualmie Pass - Widen to Easton (Kittitas)			
I-90/Easton Hill to W. Easton I/C Westbound - Replace Bridge/Build Detour	Delayed	Sep-2021	\$14.5
I-90/Cabin Creek I/C Eastbound - Replace Concrete Panels	Delayed	Sep-2021	\$536,010 ⁴
I-90/Barker to Harvard - Improve Interchanges & Local Roads (Spokane)			
I-90/Barker to Harvard - Westbound On-Ramp Improvement	Delayed	Oct-2021	\$1.4
I-90/Barker to Harvard - Add Lane Harvard Rd. Bridge	Delayed	Oct-2021	\$3.4
I-90/Barker to Harvard Phase 2 - Improve Interchanges and Local Roads	On schedule	Jul-2022	\$12.6
I-90/Medical Lake & Geiger Interchanges (Spokane)			
I-90/Medical Lake I/C to Geiger Field I/C - Reconstruction Phase 2	Delayed	Sep-2022	\$6.3
SR 305 Construction - Safety Mobility Improvements (Kitsap)			
SR 305/Johnson Rd. - Roundabout	Delayed	Feb-2022	\$5.9

Data source: WSDOT Capital Program Development and Management.

Note: **1** Connecting Washington advertisements show projects currently in construction, and do not represent a comprehensive list of completed Connecting Washington projects. **2** I/C = Interchange **3** ETL = Electronic Toll Lanes. **4** Amount as listed, not in millions.

Connecting Washington Account projects in construction Through June 30, 2021; (County); Dollars in millions (continued)	Schedule status	Completion date	Total project cost
I-405/NE 132nd Interchange - Totem Lake (King)			
I-405/NE 132nd Street Interchange Improvements	On schedule	Dec-2023	\$83.0
SR 501/I-5 to Port of Vancouver (Clark)			
SR 501/I-5 to Port of Vancouver - Intersection and Profile Improvements	Delayed	Jun-2022	\$6.4
SR 520/148th Ave NE Interchange - Overlake Access Ramp (King)			
SR 520/148th Ave NE Interchange - Overlake Access Ramp	Delayed	Oct-2022	\$68.4

Data source: WSDOT Capital Program Development and Management.

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

Data source: WSDOT Capital Program Development and Management.

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

WSDOT had three change orders of \$500,000 or more during the quarter ending June 30, 2021.

1) Work associated with the SR 202, Evans Creek & Patterson Creek Fish Passage project was deleted from the original contract following design and redesign discussions, resulting in a \$3.9 million credit that will be used for construction of the project at a later date. 2) A settlement agreement with a contractor on the Lewis and Clark Bridge, Superstructure Painter project resulted in a change order of \$3.5 million. 3) Unexpected costs and work suspensions associated with response to COVID-19 on the I-405, Renton to Bellevue Widening and Express Toll project resulted in a change order of \$12 million.

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>.

82 PRE-EXISTING FUNDS QUARTERLY UPDATE

WSDOT advertises 41 Pre-existing Funds projects in the eighth quarter of the biennium

WSDOT advertised 41 of 48 Pre-existing Funds projects in the eighth quarter of the 2019-2021 biennium (April through June 2021). Of the 41 total projects advertised, four were on time, 15 were emergent, and 22 were late. Of the remaining seven projects originally scheduled to be advertised during the quarter, WSDOT deferred six out of the biennium, and deleted one.

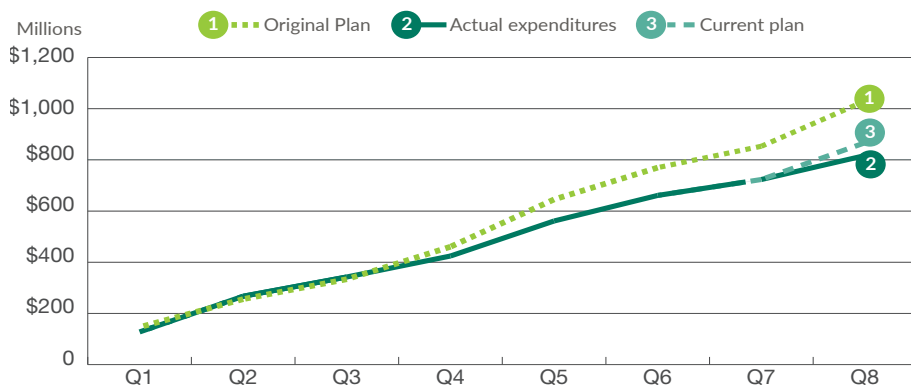
As of June 30, 2021, WSDOT's current cost to complete the 278 PEF projects advertised through the eighth quarter of the 2019-2021 biennium was about \$964.3 million, approximately \$216.6 million (29.0%) more than the original value of \$747.7 million (refer to chart at right). This difference was primarily due to the large number of emergent projects during the biennium.

Cash flows currently lower than original projections

WSDOT originally planned to have slightly over \$1.0 billion in cumulative combined PEF improvement and preservation cash flows at the end of the eighth quarter of the 2019-2021 biennium, but had \$816.8 million, approximately \$213.3 million (20.7%) less in actual expenditures. Current cash flows can vary from originally planned cash flows for a number of reasons. For example, emergent projects may add cash flow to the current reporting quarter, whereas project deletions can remove cash flow. The original plan—which is the 2019 delivery plan—does not change during the first four quarters of the biennium but may be updated in the fifth quarter to reflect any revisions to the original 2020 delivery plan. As the biennium continues, the agency uses these original plans as goals to achieve while working to meet projections set forth in the current plan. The current plan is more fluid and reflects quarterly changes due to projects being emergent, delayed, deferred, advanced or deleted.

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

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



Data source: WSDOT Capital Program Development and Management.

Note: Q8 refers to the eighth quarter (April through June 2021) of the 2019-2021 biennium, which runs from July 2019 through June 2021.

Current cost to complete PEF advertisements \$105.2 million more than original value

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

	Number of projects	Original value	Current cost to complete
Planned PEF advertisements for the 2019-2021 biennium	276	\$1,671.5	\$1,677.8
Actual PEF advertisements through the eighth quarter	278 ¹	\$747.7	\$964.3

Data source: WSDOT Capital Program Development and Management.

Note: 1 Numbers have been updated and corrected from previous versions of the GNB published during this biennium.

WSDOT advertises 278 PEF projects during the 2019-2021 biennium

Advertisement status	Quarter ¹	Cumulative ²
Advanced ³	0	14
On time	4	112
Emergent ⁴	15	80
Late	22	72
Total projects advertised	41	278
Early ⁵	0	16
Delayed within the biennium	0	104
Deferred out of the biennium	6	33
Deleted	1	12

Data source: WSDOT Capital Program Development and Management.

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

WSDOT advertises 41 Pre-existing Funds projects during the eighth quarter of the 2019-2021 biennium

April through June 2021

On time (4)	
Northwest Region Strategic Bridge Preservation 2021-2023	Southwest Region - Regionwide Basic Safety - Guardrail 2019-2021
US 101/Indian Creek - Remove Fish Barrier	South Central Region 2021-2023 Strategic Bridge Preservation Eastern Washington
Emergent (15)	
I-90/Homer Hadley East Approach Bridge - Modular Expansion Joint	I-82 Et Al South Central Region Strategic Pavement Preservation
I-90 Et Al Strategic Pavement Preservation 2021	South Central Region 2021 Regionwide Breakaway Cable Terminals Replacement - Freeway
US 101/South of Cosmopolis - Stabilize Slope	I-82/SR 821 to US 97 Safety Features - Roadside Hardware
US 101/Jefferson/Clallam County Fish Barriers - Remove Fish Barriers	I-182/Richland to Pasco Safety Features - Roadside Hardware
SR 112/West of Jim Creek Landslides - Emergency Repairs	SR 240/I-182 to US 395 Safety Features - Roadside Hardware
Southwest Region 2019-2021 Regionwide - Crack Seal	US 395/10th Ave. to I-182 Safety Features -Roadside Hardware
I-5/Ridgefield Port of Entry - Impact Attenuator	SR 823/I-82 to Selah Safety Features - Roadside Hardware
US 97/Scale House Rd. Vicinity to Ski Lodge Rd. Vicinity - Paving	
Late (22)	
SR 9 & SR 92/Lake Stevens Vicinity - Rumble Strip Installation	I-5/SB E. Fork Lewis River to N. Fork Lewis River - Concrete Rehabilitation
US 2/Gold Bar Vicinity - Virtual Weigh in Motion	SR 14/Wood Creek to Alderdale Rd. Vicinity - Chip Seal
SR 9/Lake Creek and Norway Park Creek - Fish Passage	SR 14/1.7 Miles East of Bingen - Slope Stabilization
I-90/Lacey V. Murrow Bridge - Anchor Cable Replacement	US 97/Centerville Rd. Vicinity to Scale House Rd. Vicinity - Paving
I-90/Homer M. Hadley Bridge - Anchor Cable Replacement	SR 501/I-5 to W 26th Ave. Extension Vicinity Including Couplet - Paving
SR 169/Ravensdale Creek - Fish Passage	SR 507/Noble Lane to First St. Including Couplet with Exceptions - ADA
SR 513/Montlake Bridge - Grid Deck Replacement	SR 508/1 Mile West of Onalaska - Slope Stabilization
SR 513/Montlake Bridge - Expansion Joint Repair	US 97/W Wapato Rd. Vicinity to Wapato Canal Northbound - Paving
SR 513/Montlake Bridge - Mechanical Rehabilitation	US 97/McDonald Rd. and Becker Rd. - Intersection Improvements
SR 105 Spur/Intersection South of Ocean Ave and Montesano St. - Intersection Improvements	SR 20/Sherman Pass Road Weather Information System Housing and Generator Rebuild
SR 4/Skamokawa Vicinity to 0.3 Miles West of SR 432 - Chip Seal	I-90/Mullan Rd. Crossing - Bridge Deck Repair
Deferred (6)	
SR 8/Elma SRA - Unisex Restroom Installation - Olympic Region	SR 203/Unnamed Tributaries to Snoqualmie River - Fish Passage
I-90/Ryegrass Eastbound/Westbound SRA - Traffic Counter Installation - South Central Region	SR 7/SR 507 to South of S 38th St. - Paving
SR 202/Skunk Creek & Patterson Creek - Fish Passage	US 101/Astoria-Megler Bridge - Paint Deck Trusses
Deleted (1)	
South Central Region 2019-2021 Region Wide Basic Safety - Guardrail	

Data source: WSDOT Capital Program Development and Management.

82

STATEWIDE TRANSPORTATION POLICY GOALS
& GRAY NOTEBOOK INFORMATION GUIDE

Statewide transportation policy goals

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

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

Gray Notebook edition
archives available online

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

GNB reporting periods

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

GNB credits

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

Calendar, state fiscal and federal fiscal quarters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	GNB 81			GNB 82			GNB 83			GNB 84		
Calendar	Q1 2021			Q2 2021			Q3 2021			Q4 2021		
State Fiscal	Q3 FY2021			Q4 FY2021			Q1 FY2022			Q2 FY2022		
Fed. Fiscal	Q2 FFY2021			Q3 FFY2021			Q4 FFY2021			Q1 FFY2022		

2019-2021 biennial quarters (used by Legislature)

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

The Gray Notebook is prepared by:
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