

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 81 ■ March 2021



WEIGHING IN

WSDOT'S COMMERCIAL VEHICLE SERVICES KEEP FREIGHT HAULERS ROLLING

Tracking progress

Amtrak Cascades takes a closer look at its pandemic passenger levels

Team-oriented

Incident Response crews help ensure drivers are safe and moving

Nature's helpers

WSDOT reduces impact on the environment with new mitigation sites

COVID-19 Effects on State Transportation and WSDOT ¹	3	Environment	Statewide Transportation Policy Goals & Gray Notebook Information Guide	33
Strategic Plan	5	Wetlands Protection Annual Report		
Statewide Transportation Policy Goals Dashboard	6	Economic Vitality		
Transportation Performance Management	7	Commercial Vehicle Services Annual Report	22	
Mobility		Stewardship		
Incident Response Quarterly Update	9	Capital Project Delivery Programs Quarterly Updates	26	
Washington State Ferries Quarterly Update	12	Current Legislative Evaluation & Accountability Program	27	
Amtrak Cascades Annual Report	15	Advertisement Record	28	
		Pre-existing Funds	32	

The Gray Notebook team

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PERFORMANCE HIGHLIGHTS reported for the quarter ending March 31, 2021

SIX SITES
that included
14.39 ACRES
added to WSDOT's
WETLAND & STREAMS
inventory in 2020

98.2 of WSF's
PERCENT scheduled
trips were
completed during
the third quarter of
FY2021

8%

fewer vehicles traveling on monitored state highways on Monday, May 3, 2021 than on Monday, May 6, 2019 due to Washington's continued response to the **COVID-19** pandemic

383 of 421 projects
completed
with **Nickel** or
Transportation
Partnership
Account funds

\$24.7 in operating costs
MILLION avoided by the
trucking industry in
2020 due to WSDOT's
weigh station
bypass program

On the cover: A truck approaches a Virtual Weigh-in-Motion station on SR 221 near Prosser, part of WSDOT's weigh station bypass program.

Note from the Table of Contents: 1 Due to the pandemic's effects on statewide restrictions and travel and the availability of more recent data, the GNB is using updated data that does not align with the quarter ending March 31, 2021.

\$21.8 in economic benefit
MILLION provided by WSDOT's
Incident Response
teams clearing
10,968 incidents
during the quarter

79% decrease in
ridership on
Amtrak Cascades
in 2020 compared
to 2019

38 of 81 WSDOT
Pre-existing Funds
projects advertised
during the quarter

81

COVID-19 EFFECTS ON STATE
TRANSPORTATION AND WSDOTWashington travel trends up slightly as state
on track for full reopening by June 30

Statewide travel continues to trend up slightly following Washington's continued push toward economic recovery from the COVID-19 pandemic. All 39 counties are now in Phase 3 of reopening and on track for a full reopening by June 30.

Statewide travel by most modes increases since March 2021

Percentages from select dates in 2020 as well as March 1, 2021 and May 3, 2021 compared to 2019 data; Safety fatality rate per 100 million vehicle miles traveled

Transportation mode	Percent low (date) ¹ 2020	Monday, March 1, 2021 ²	Monday, May 3, 2021 ²
Highway travel	-63% (3/29)	-9%	-8%
Tolling	-80% (3/28)	-36%	-33%
WSF	-87% (3/29)	-38%	-35%
Transit	-77% (4/22)	-61%	-59% ³
Amtrak Cascades	-98% (4/19)	-83%	-83%
Freight			
Snohomish	-78% ⁴ (4/12)	-16%	-16%
King	-88% (4/5) ⁴	-14%	-20%
Pierce	-89% ⁴ (4/5)	-7%	-5%
Thurston	-44% (4/12)	+3%	+2%
Lewis	-65% (4/4)	-1%	-6%
Clark	-71% ⁴ (4/4)	-9%	-13%
Benton	-57% (4/5)	-2%	-8%
Franklin	-62% (4/12)	-24%	-8%
Active Transportation			
Pedestrians	-58% (3/13)	+30%	+7%
Bicyclists	-60% (3/14)	+117%	-40%
Safety & Air travel	2020 rate/percent	Dec. 2020 ⁵	March 2021 ⁵
Highway crashes ⁶	0.7 ⁴ (Mar)	1.0	0.6
Aviation			
Domestic ⁷	-93.1% (Apr)	-65.2%	-43.1%
International ⁷	-97.8% (Apr)	-84.1%	-81.9%

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: 1 Dates compared to corresponding days in 2019. 2 Monday, March 1, 2021 compared to Monday, March 4, 2019. Monday, May 3, 2021 compared to Monday, May 6, 2019. Some percentages have been updated since GNB 80. 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 March 2021. 3 Not all transit agencies are providing the most recent data used for this dashboard. 4 Some data has been updated from GNB 77 and as a result, corresponding dates may have also changed. 5 Most recent data available. 6 Crash rate per 100 million vehicle miles traveled. 7 Total passengers.

Notable results

- Highway travel has steadily increased as COVID-19 restrictions are lifted and was up to 8% below pre-pandemic levels on May 3, 2021, a one percentage point increase from March 1, 2021
- Washington State Ferries ridership was 35% below its pre-pandemic levels as of May 3, 2021, an increase of three percentage points from March 1, 2021

In early May 2021, Gov. Jay Inslee enacted a pause to changes in the county phases due to a plateau in COVID-19 activity. This pause was lifted in mid-May as state health officials announced COVID-19 cases were starting to decline throughout Washington. As the state continues to focus on increasing vaccination rates it is allowing 50% capacity for most indoor activities until June 30, when it plans to return to full capacity for the vast majority of public indoor spaces.

Public elementary and junior high schools throughout Washington have been allowing part-time, in-person classes since April and transitioned to a four-day week in May, with some students opting to continue learning completely online.

Travel in Washington increasing across all modes

As of Monday, May 3, 2021, highway travel was 8% below 2019 levels for the corresponding day, Washington State Ferries ridership was down 33% and public transit ridership at participating agencies was down an average of 57%. Amtrak Cascades ridership—at 83% below 2019 levels on May 3, 2021—was up four percentage points from March 1, 2021.

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 May 2021 had mixed results compared to 2019 levels, with pedestrian travel up 7% and bicycling down 40% as of May 3, 2021.

Domestic and international air travel had positive results compared to 2020 levels. In March 2021 (the most recent month for which data is available), domestic air travel at SeaTac airport was 22.1 percentage points higher than in December 2020, and international air travel was up 2.2 percentage points over the same period. Despite these changes, domestic air travel was 43.1% lower in March 2021 than in March 2019, and international air travel was 81.9% lower for the same period.

WSDOT continues to put health and safety first

WSDOT has been working closely 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.

Beginning in April 2020—following direction from the Governor's Office—WSDOT implemented a safe restart to construction, ensuring that employees who work in the field and those who must work in the office

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.

follow stringent safety guidelines, including:

- Temperature checks
- Handwashing
- Physical distancing, and
- Personal protective equipment

All WSDOT employees able to telework have been doing so since March 2020, and plans are underway to begin phasing them back into buildings in mid-August 2021. 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](#).

81

WSDOT'S STRATEGIC PLAN

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

Under the strategic plan, WSDOT's focus on Workforce Development ensures the agency attracts and retains a quality workforce to meet its legislative, regulatory, service and public expectations. WSDOT engages employees, communities and partners to collaboratively deliver 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.

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

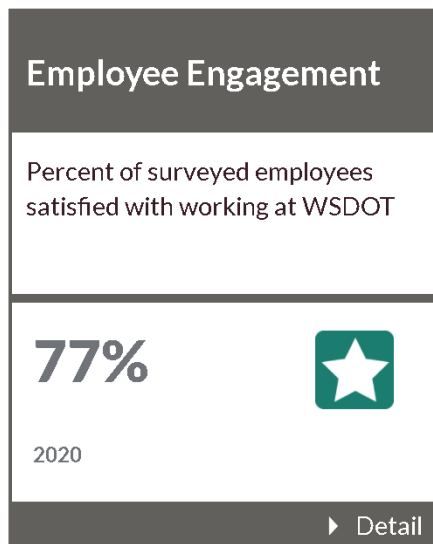
Workforce Development: Employee Engagement

To be an employer of choice, WSDOT continues to work to distinguish itself as a desirable place to work and as a result, employees have opportunities for growth and development, from training, mentoring, and advancement and even lateral movement to expand their experience within the agency.

WSDOT surveys employees annually. Survey results and targets for the two statements "In general, I'm satisfied with my job" and "I would recommend my agency as a great place to work" are equally weighted in the job satisfaction index. The aim is to increase the percentage of surveyed WSDOT employees who respond positively to the statements.

In 2020, a total of 4,595 WSDOT employees responded to the survey. The agency scored a 77% positive response rate (80% positive score for job satisfaction and a 74% positive score for recommending the agency as a great place to work), exceeding the agency's goal of 70% by February 2021. WSDOT is currently developing a new target.

Select the box at right to learn more about WSDOT's "Employee Engagement" strategy, part of the agency's Workforce Development Goal.



WSDOT's Vision

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

WSDOT's Mission

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

■ Inclusion Goal

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

■ Practical Solutions Goal

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

■ Workforce Development Goal

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

WSDOT's Values

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

81

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% ²	92.9% ²	≥ 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						
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: Q1 2020 & Q1 2021)	13.5 minutes	15.8 minutes	*	N/A		↓
Ferries: Percentage of trips departing on time ³ (Fiscal quarterly measure: Q3 FY2020 & Q3 FY2021)	95.3%	92.1%	≥ 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 2018 & 2019)	345	329	*	N/A		↑
Stewardship						
Cumulative number of Nickel and TPA projects completed⁵ and percentage on time⁶ (Biennial quarterly measure: Q6 2019-2021 & Q7 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: Q6 2019-2021 & Q7 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: Q6 2019-2021 & Q7 2019-2021)	Under budget by 1.5%	Under budget by 1.5%	On or under budget	✓	 (Five-quarter trend)	Not applicable

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: (*) = goal has not been set. Dash (—) = goal was not met in the reporting period. **1** The Statewide Transportation Policy Goal for this performance measure is different than the federal Transportation Performance Management goal for the same measure. The separate goals for reducing pedestrian/bicyclist fatalities to zero were not met (see [GNB 79, p. 7](#)) as the five-year rolling average trend line is moving upward even with some decline in 2019. **2** Excludes chip seal pavement. **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.

81 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 (see 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.

81 INCIDENT RESPONSE QUARTERLY UPDATE

WSDOT Incident Response teams help improve driver safety at 10,968 incidents

WSDOT's Incident Response teams assisted at 10,968 incidents during the first quarter (January through March) of 2021. On average, the IR teams responded to an incident scene every 11 minutes and 41 seconds during the quarter. There were 2,200 (16.7%) fewer incidents during the first quarter of 2021 than in the first quarter of 2020 (13,168). Less people traveling as a result of the COVID-19 pandemic translated into fewer incidents on the highways compared to previous years. To learn more about how the pandemic affected travel during the quarter, visit <https://bit.ly/COVID19dash>.

Average clearance times increase slightly over the past five years

First quarters; 2017 through 2021; Number of incident responses in thousands; Clearance times in minutes



Data source: Washington Incident Tracking System.

Notes: The data above only accounts for incidents to which an IR unit responded. IR data reported for the current quarter (Q1 2021) is considered preliminary. In the previous quarter (Q4 2020), WSDOT responded to 10,000 incidents, clearing them in an average of 15 minutes and 48 seconds. Data for Q4 2020 has been confirmed and finalized.

On average, IR teams cleared each of the 10,968 incidents in 15 minutes and 48 seconds. This is two minutes and 18 seconds (17.0%) slower than the average incident clearance time for the same quarter in 2020.

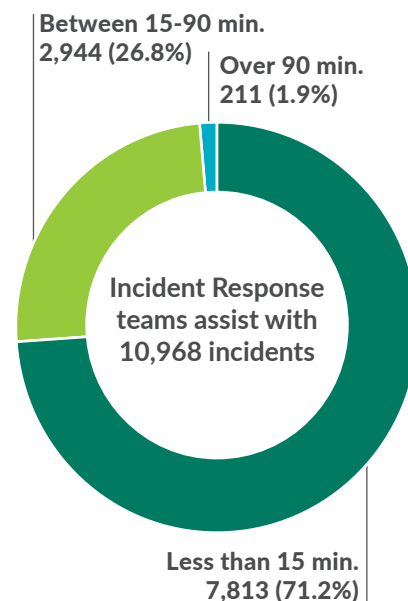
Of the 10,968 total incidents, 7,813 (71.2%) lasted less than 15 minutes, 2,944 (26.8%) lasted 15-90 minutes and 211 (1.9%) incidents lasted more than 90 minutes. During the first quarter of 2021, compared to the same quarter in 2020, there was a 24.1% increase in the number of incidents lasting more than 90 minutes, while there were 9.9% fewer incidents lasting 15-90 minutes, and 19.7% fewer incidents lasting less than 15 minutes.

Notable results

- WSDOT responded to 10,968 incidents during the first quarter of 2021, 2,200 (16.7%) fewer than during the same quarter in 2020
- WSDOT cleared incidents in an average of 15 minutes and 48 seconds during the first quarter of 2021, over two minutes (17.0%) slower than the same quarter in 2020
- In the first quarter of 2021, IR teams provided an estimated \$21.8 million in economic benefit by reducing the effects of incidents on drivers
- For every \$1 spent on WSDOT's IR program, \$14.56 was returned in economic benefit to the traveling public during the quarter

WSDOT clears majority of traffic incidents in 15 minutes or less

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



Data source: Washington Incident Tracking System.

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 teams respond to 211 over-90-minute incidents

IR teams assisted at the scene of 211 incidents that lasted more than 90 minutes during the first quarter of 2021. This is 41 more incidents—a 24.1% increase—than the same quarter in 2020. While these over-90-minute incidents accounted for 1.9% of all incidents, they resulted in 23.1% of all incident-related delay costs (see chart on p. 11).

Nine of the 211 over-90-minute incidents took six hours or more to clear (referred to as extraordinary incidents). This is four more extraordinary incidents than the same quarter in 2020. Each of the nine extraordinary incidents in first quarter of 2021 took an average of eight hours and 19 minutes to clear, accounting for 7.8% of all incident-induced delay costs for the quarter.

The average incident clearance time for all over-90-minute incidents was two hours and 46 minutes. This is about 13 minutes slower than the same quarter in 2020. Excluding the nine extraordinary incidents, WSDOT's average clearance time for over-90-minute incidents was two hours and 45 minutes.

WSDOT focuses on safety when clearing incidents, working to reduce incident-induced delay as well as the potential for secondary incidents. Secondary incidents occur in the congestion resulting from a prior incident and may be caused by distracted driving, unexpected slowdowns or debris in the roadway.

WSDOT's Incident Response teams provide an estimated \$21.8 million in economic benefit

First 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.	7,813	21.5%	4.9	\$9.9	\$4.6
Between 15 and 90 min.	2,944	59.4%	32.9	\$28.5	\$12.4
Over 90 min.	211	84.8%	166.7	\$11.6	\$4.9
Total	10,968	33.0%	15.8	\$49.9	\$21.8
Percent change from the first quarter of 2020	↓16.7%	↑4.3%	↑17.0%	↓0.7%	↓1.4%

Data source: Washington Incident Tracking System.

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

¹ Teams were unable to locate 596 of the 10,968 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.

IR program provides \$21.8 million in economic benefit during the quarter

The IR teams help alert drivers about incidents and clear roadways to reduce the likelihood of additional incidents. WSDOT's assistance at incident scenes provided an estimated \$21.8 million in economic benefit during the first 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 \$12.5 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 \$9.4 million of IR's economic benefits resulted from preventing an estimated 2,074 secondary incidents and resulting delay. This figure is based on Federal Highway Administration data that estimates 20% of all incidents are secondary incidents.

Based on WSDOT's budget for IR, every \$1 spent on the program during the first quarter of 2020 provided drivers \$14.56 in economic benefit.

Incident numbers do not correlate with the cost of incident-induced delay

The 10,968 incidents during the quarter had a total incident-induced delay cost of \$49.9 million.

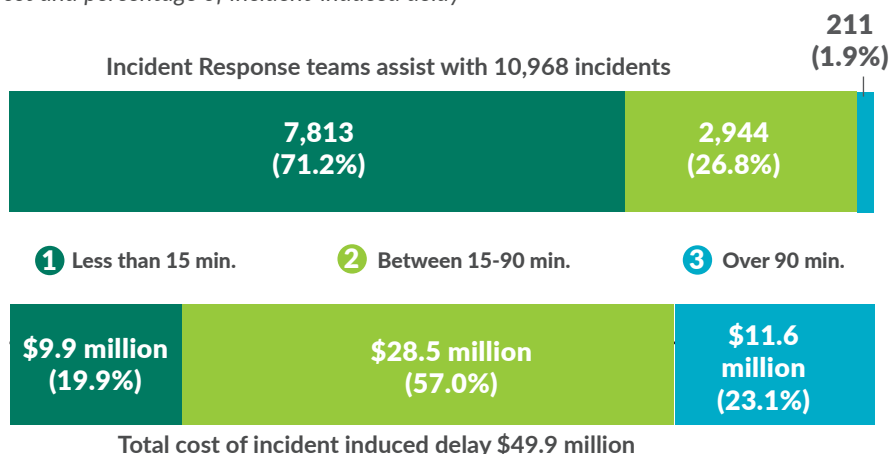
Incidents lasting less than 15 minutes accounted for 71.2% of total incidents but only 19.9% of total costs. Incidents lasting 15-90 minutes accounted for 26.8% of all incidents, but 57.0% of total costs. Incidents lasting more than 90 minutes made up 1.9% of all incidents for the quarter but accounted for 23.1% of total costs (see chart below).

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

Cost of incident-induced delay not proportional to response numbers

First quarter 2021; Number and percentage of incidents; Time to clear incidents; Cost and percentage of incident-induced delay



Data source: Washington Incident Tracking System.

Customer feedback:

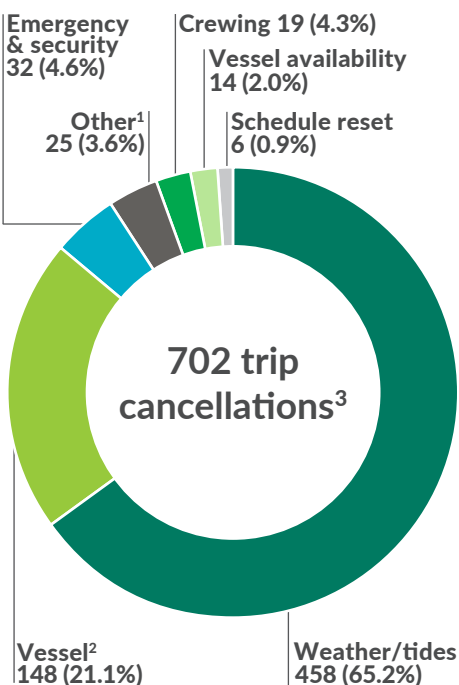
- "Kyle was very helpful. I want you to know how much I appreciate the excellent service you provided. Keep doing it Kyle, you are an amazing person."
- "Ken was Superman! I was so appreciative of him changing my tire so quickly! Complete lifesaver."
- "After a 4 hour wait for AAA, we were still stranded on highway 104 in a snowy mess. Brandon got us towed and home safe. We were two very happy 70-year-olds. Great Job!!"

Notable results

- **WSF completed 35,556 (98.2%) of its 36,216 regularly scheduled trips in the third quarter of fiscal year 2021**
- **WSF ridership was approximately 3.1 million in the third quarter of fiscal year 2021, which was 943,000 (23.1%) less than in the corresponding quarter in FY2020**

Weather causes most cancellations for the quarter

Third quarter (January - March) FY2021;
Number of cancellations and percentage
of total cancellations per category



Data source: Washington State Ferries.

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

¹ The category for "Other" includes issues at terminals, and events like disabled vehicles, environmental reasons and incidents that can impact operations. ² The category "Vessel" refers to cancellations due to mechanical issues. ³ WSF replaced 42 of the 702 canceled trips for a total of 660 net missed trips.

WSF misses annual service reliability goal

Washington State Ferries has been operating on a modified winter schedule since March 2020 due to the COVID-19 pandemic. WSF management is reviewing service levels based on four criteria (pillars)—ridership demand, crew availability, vessel availability and financial resources—in an ongoing effort to provide the level-of-service that can best fit within these parameters.

There were 36,216 regularly scheduled ferry trips during the third quarter of fiscal year 2021—7% fewer than the 38,921 trips in the same quarter of FY2020. WSF completed 98.2% (35,556) of regularly scheduled trips in the third quarter of FY2021, missing the annual service reliability performance goal of 99% by 0.8 percentage points. This was 1.0 percentage point lower than in the same quarter in FY2020 (see table below).

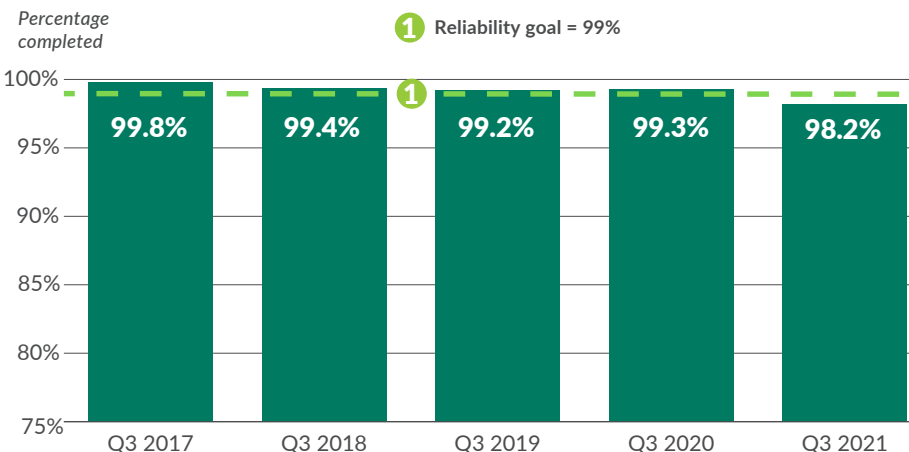
In the third quarter of FY2021, WSF canceled 702 trips and replaced 42 of them, resulting in 660 net missed trips. This was 371 more than the 289 net missed trips during the same quarter in FY2020.

Of the 702 trips canceled during the quarter, 458 (65.2%) were due to weather and tides. During [record-setting snowfall in February](#), some crew members were unable to get to vessels and this accounted for 179 trip cancellations. Another 144 cancellations resulted from WSF's activation of its severe weather schedule, which reduces service on every route except the Point Defiance/Tahlequah and Port Townsend/Coupeville routes. High winds and gale warnings resulted in 86 canceled trips, and tides accounted for 49 cancellations.

The second highest cancellation category was vessel breakdowns (148). In February, a clutch problem on the M/V *Cathlamet*—which was a result of

WSF service reliability decreases over five-year period

Third quarters; Fiscal years 2017 through 2021; Percentage of scheduled ferry trips completed



Data source: Washington State Ferries.

Notes: Fiscal year = July 1 through June 30. As a result, January through March 2021 represents the third quarter of FY2021.

WSF on-time performance and reliability decline in the third quarter of fiscal year 2021

January through March, FY2020 and FY2021; Annual on-time goal = 95%; Annual service reliability goal = 99%

Route	On-time performance (third quarter)				Service reliability (third quarter)			
	FY2020	FY2021	Status	Trend	FY2020	FY2021	Status	Trend
San Juan Domestic	82.6%	71.0%	-11.6%	↓	99.4%	99.2%	-0.2%	↓
Anacortes/Friday Harbor/Sidney, B.C. ¹	100%	N/A	N/A	N/A	100%	N/A	N/A	N/A
Edmonds/Kingston	99.3%	98.8%	-0.6%	↓	99.9%	98.4%	-1.4%	↓
Fauntleroy/Vashon/Southworth	96.8%	92.5%	-4.3%	↓	98.9%	98.6%	-0.3%	↓
Port Townsend/Coupeville	98.2%	98.0%	-0.2%	↓	93.5%	92.6%	-0.9%	↓
Mukilteo/Clinton	99.2%	98.7%	-0.5%	↓	99.9%	98.5%	-1.4%	↓
Point Defiance/Tahlequah	99.2%	98.6%	-0.7%	↓	99.9%	100%	0.1%	↑
Seattle/Bainbridge Island	95.3%	94.7%	-0.6%	↓	99.9%	98.6%	-1.3%	↓
Seattle/Bremerton	95.7%	97.8%	2.1%	↑	100%	94.1%	-5.9%	↓
Total system	95.3%	92.1%	-3.2%	↓	99.3%	98.2%	-1.0%	↓

Data source: Washington State Ferries.

Notes: FY = fiscal year (July 1 through June 30). As a result, January through March 2021 represents the third quarter of FY2021. A trip is considered delayed when a vessel leaves the terminal more than 10 minutes after the scheduled departure time. Numbers shown in the table have been rounded to the nearest tenth and may not add up. ¹ The Anacortes/Friday Harbor/Sidney, B.C. route was closed during the quarter due to COVID-19.

warranty repairs to the reduction gear following a planned reduction gear overhaul preservation activity —caused the vessel to go out of service and miss 110 trips. In March, a main diesel engine electronic control unit failure on the M/V *Tokitae* resulted in 22 missed trips. The remaining 16 vessel-related cancellations occurred on five routes due to various mechanical issues.

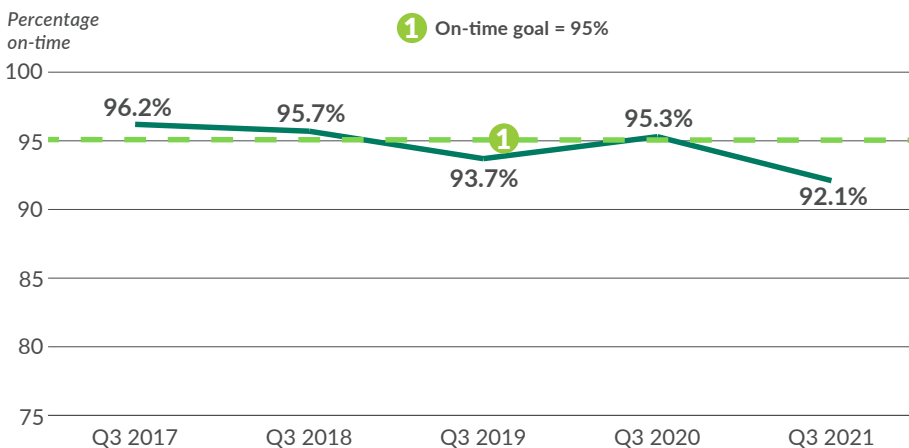
The majority (30) of the 32 Emergency & Security cancellations were due to medical emergencies. Nineteen other cancellations occurred due to lack of crew availability when WSF was unable provide the minimum crew to meet U.S. Coast Guard requirements.

WSF misses on-time performance goal

On-time performance was 92.1% in the third quarter of FY2021,

On-time performance for WSF down in five-year trend

Third quarters; Fiscal years 2017 through 2021; Percentage of ferry trips reported as on-time¹



Data source: Washington State Ferries.

Notes: Fiscal year = July 1 through June 30. As a result, January through March 2021 represents the third quarter of FY2021. ¹ A trip is considered delayed when a vessel leaves the terminal more than 10 minutes after the scheduled departure time.

3.2 percentage points lower than the same quarter in FY2020, and 2.9 percentage points below WSF's annual on-time performance goal of 95%.

On-time performance decreased on seven of the eight routes compared to the third quarter of FY2020. On average, 7.9% (2,742)

of the scheduled trips did not leave terminals within 10 minutes of the scheduled departure time. The San Juan Domestic route had 71.0% on-time performance, a decrease of 11.6 percentage points from the same quarter last year (82.6%). Excluding the San Juan domestic route, the system had a 96.4% on-time performance.

The only route with an improvement in on-time performance was the Seattle/Bremerton route, which increased 2.1 percentage points—from 95.7% to 97.8%—compared to the same quarter in FY2020.

Ridership decreases in the third quarter of FY2021

WSF ridership was approximately 3.1 million during the third quarter of FY2021. This was about 943,000 (23.1%) fewer passengers than in the corresponding quarter of FY2020.

Due to the effects of the pandemic, more people are telecommuting, and fewer people are traveling for non-essential purposes. Accordingly, walk-on ridership was down 67.3% compared to the same quarter in FY2020. The number of riders who drove vehicles onto the ferry was 23.1% less than during the third quarter of FY2020. Vehicle passengers decreased by 7.0% compared to the same quarter last year. To reduce the possible spread of the COVID-19 virus, customers are encouraged to remain in their cars, and are required to wear masks.

For more information about how COVID-19 has affected transportation in Washington, visit: <https://bit.ly/COVID19dash>.

Revenue follows ridership, trends down for the quarter

Farebox revenue was \$30.8 million for the third quarter of FY2021. Farebox revenue was \$2.4 million (7.3%) less than in the same quarter in FY2020, and about \$2.1 million (6.4%) less than projected revenue (\$32.9 million).

Rate of passenger injuries decreases, rate of employee injuries increases

The rate of passenger injuries per million riders improved from 1.96 in the third quarter of FY2020 to 1.27 in the same quarter of FY2021. This represents four fewer injuries than the third quarter of FY2020, but missed WSF's goal of 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 6.3 in the third quarter of FY2020 to 10.1 in the third quarter of FY2021. This represents nine more injuries than in the same quarter of FY 2020, and missed WSF's goal of 7.6 or fewer injuries per 10,000 revenue service miles.

Customer feedback: WSF goes above and beyond

"Customer called to compliment deck staff regarding how well her boarding is being handled and how they pay attention to the fact that her mirrors are fixed so makes a difference where she is placed on the boat."

Passenger complaints decrease for the quarter

There were 305 complaints in the third quarter of FY2020 and 208 during the same period in FY2021. As such, the ratio of complaints per 100,000 riders was 7.47 in the third quarter of FY2020, and 6.63 in the same quarter of FY2021. The area with the most complaints was employee behavior with 58 (15.7%), which represents 1.8 complaints per 100,000 riders. There were 10 compliments in the third quarter of FY2021, compared to 18 in the same quarter of FY2020.

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



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

81 AMTRAK CASCADES ANNUAL REPORT

Amtrak Cascades ridership drops dramatically in 2020 due to COVID-19 pandemic

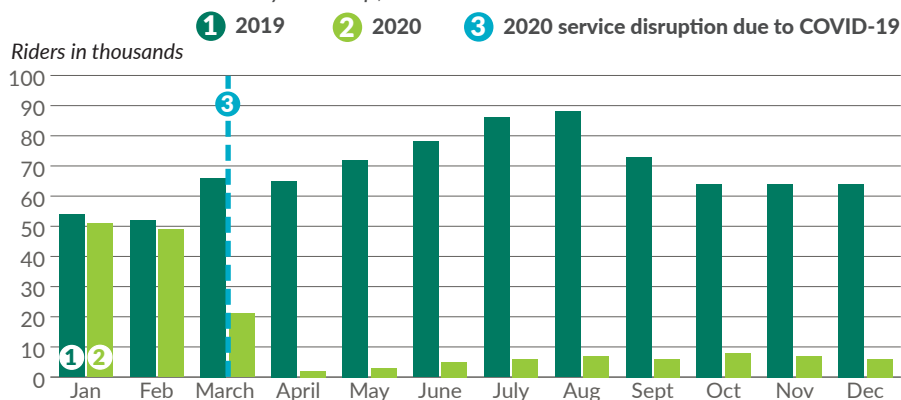
A total of 172,000 people rode Amtrak Cascades trains in 2020—a 79% decrease from 824,000 in 2019 (see chart below). This severe decline was caused by the COVID-19 pandemic, which resulted in:

- Directives from Gov. Jay Inslee to reduce non-essential travel,
- New safety protocols to protect passengers and staff, including limiting ticket sales to 50% of available seats (to allow for physical distancing),
- Closure of the Canadian border, and
- A significant reduction in service levels.

All of these factors contributed to the drop in ridership, and consequently in revenue, that began in March 2020 (see chart below).

COVID-19 pandemic causes steep drop in 2020 Amtrak Cascades ridership

Amtrak Cascades monthly ridership; 2019 and 2020



Data source: WSDOT Rail, Freight and Ports Division.

Note: Beginning in March 2020, all Amtrak Cascades service between Seattle and Vancouver, B.C. was suspended, and service between Seattle and Portland, Oregon was reduced from four daily round trips to one.

Following seven-year-high ridership levels in 2019, and anticipating additional daily trips in 2020, Amtrak Cascades entered 2020 with a projection of one of its best ridership years ever. More than 100,000 passengers rode the trains in January and February, which ultimately accounted for nearly 60% of the ridership for the entire year. Ridership dropped to 21,420 passengers in March 2020—68.2% below March 2019 ridership. In April, this number plummeted to 1,704 passengers riding the trains—a 97.0% decrease from April 2019 levels. Subsequent months saw decreases of between 88% and 96% from 2019 levels (see chart above).

Pre-pandemic Amtrak Cascades train service consisted of four daily round trips between Seattle and Portland, Oregon; two daily round trips between Seattle and Vancouver, British Columbia; and two daily round trips between Portland and Eugene, Oregon. In March 2020, as a result of the spread of COVID-19, Amtrak Cascades reduced service to one daily roundtrip between

Notable results

- Amtrak Cascades ridership dropped 79% to 172,000 passengers in 2020 compared to 2019
- Amtrak Cascades ticket revenue decreased 80% from \$33.2 million in 2019 to \$6.5 million in 2020
- On-time performance improved from 58% in 2019 to 62% in 2020, but remained below the target of 88%

WSDOT tracking effects of COVID-19 pandemic

WSDOT has developed an interactive online dashboard to keep Washington citizens informed about the impacts pandemic-related closures are having on multimodal transportation statewide—including the impacts to the Amtrak Cascades passenger rail service. This dashboard is updated daily.

To view WSDOT's COVID-19 Multimodal Transportation System Performance Dashboard, visit <https://bit.ly/COVID19dash>.

Measuring station use

Amtrak Cascades measures use at each station by “on-offs,” or the number of riders who get on or off trains at a given station. For example, someone who rides Amtrak Cascades from Kelso to Seattle is counted as one passenger using the Kelso station and as one passenger using the Seattle station.

Passenger on-offs break down ridership at the station level, reflecting which stations are most heavily used by Cascades riders. This station-level usage information helps determine staffing levels and resource needs at individual stations.

Amtrak updates ridership reporting methods

Effective on October 1, 2019, Amtrak revised their ridership reporting policy by excluding riders who purchased a ticket but did not cancel it or board the train from official reported ridership. Cascades ridership reported for 2019 and 2020 have been adjusted in this edition of the Gray Notebook to reflect that policy change.

Seattle and Eugene. All other train service was suspended, including all service north of Seattle (due to the Canadian border closure). WSDOT continuously monitored ridership levels and safety standards to determine whether resuming additional trips was warranted, and as a result continued the single, daily round trip for the remainder of 2020.

Passenger on-offs decrease by 79% from 2019 to 2020

The two busiest stations on the Amtrak Cascades corridor—King Street Station in Seattle and Union Station in Portland—saw approximately 81% and 79% fewer ons and offs in 2020 than in 2019, respectively (see table below). All stations north of Seattle, where service was suspended beginning in March 2020 due to the pandemic-related closure of the Canadian border,

Total number of passengers getting on or off trains at Amtrak Cascades stations decreases 79% from 2019 to 2020 due to COVID-19 pandemic

Passengers getting on or off trains, rounded to the nearest thousand; 2019 and 2020

Station	2019 ¹	2020	Change
Vancouver, B.C. ²	169,000	19,000	-89%
Bellingham ²	54,000	9,000	-83%
Mount Vernon ²	16,000	3,000	-81%
Stanwood ²	6,000	1,000	-83%
Everett ²	23,000	4,000	-83%
Edmonds ²	22,000	3,000	-86%
Seattle	508,000	97,000	-81%
Tukwila	35,000	10,000	-71%
Tacoma	84,000	24,000	-72%
Olympia	55,000	15,000	-73%
Centralia	21,000	7,000	-67%
Kelso	26,000	8,000	-69%
Vancouver, WA	78,000	21,000	-73%
Portland ³	419,000	90,000	-79%
Oregon City ³	13,000	4,000	-69%
Salem ³	36,000	11,000	-69%
Albany ³	19,000	6,000	-68%
Eugene ³	46,000	13,000	-72%
Other ⁴	17,000	1,000	-94%
Total	1,647,000	346,000	-79%

Data source: WSDOT Rail, Freight and Ports Division.

Notes: Beginning in March 2020, all Amtrak Cascades service between Seattle and Vancouver, B.C. was suspended, and service between Seattle and Portland was reduced from four daily round trips to one. ¹ Amtrak made a change to its methods for reporting ridership in October 2019 (see box at right). The numbers of 2019 on-offs have been adjusted to reflect the new methodology, and may vary slightly from numbers published in Gray Notebook 77. ² Station is located between Seattle and Vancouver, B.C. ³ Station is located in Oregon. ⁴ Other includes RailPlus passengers, riders whose origin and destination was unknown, and passengers who deferred their trip to another day.

saw decreases in passenger ons and offs of more than 80%. The largest decrease occurred at the Vancouver, British Columbia station, which had 89% fewer Amtrak Cascades passenger ons and offs in 2020 than in 2019.

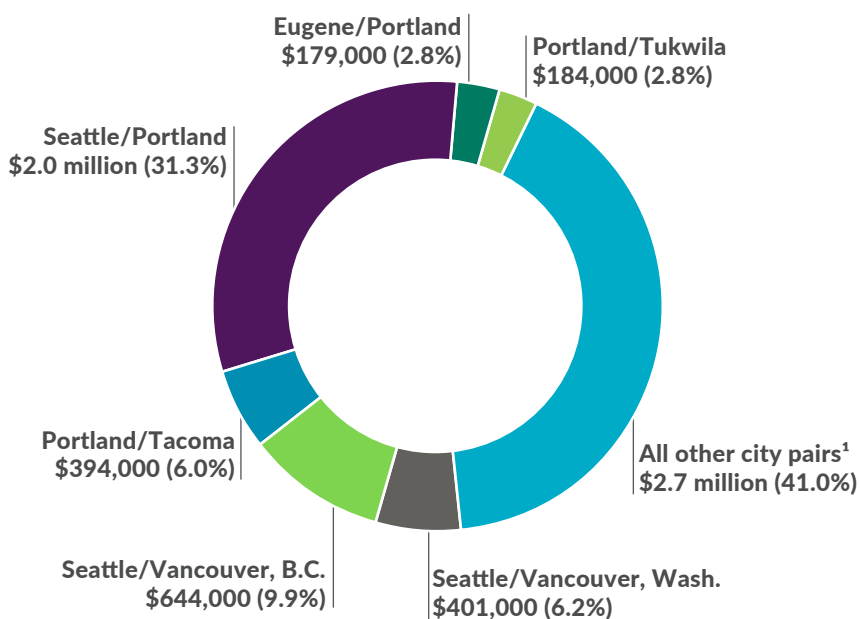
Ticket revenue decreases 80% to \$6.5 million in 2020

Amtrak Cascades experienced an 80% decrease in ticket revenue in 2020, which dropped from \$33.2 million in 2019 to \$6.5 million in 2020. The Seattle-to-Portland travel segment accounted for \$2 million (31.3%) of ticket revenue, the largest share of any city pair (see chart below). Ticket revenue on that segment alone was down 81% from \$10.5 million in 2019.

The WSDOT-sponsored section of the Amtrak Cascades corridor accounted for \$6.5 million in ticket sales in 2020, representing 97% of revenue for the entire Amtrak Cascades corridor. This segment also generated an additional \$200,000 in revenue through food and beverage sales and other fees, bringing the segment's total 2020 revenue to \$6.7 million—82% lower than the \$35.2 million in total revenue during 2019.

Top six city pairs account for 59% of ticket revenue in 2020

2020; Dollar value and percent of total dollar value by segment



Data source: WSDOT Rail, Freight and Ports Division.

Notes: Amtrak Cascades runs 467 miles from Vancouver, B.C. to Eugene, Oregon. Percentages may not add to 100 due to rounding. ¹ The category "All other city pairs" includes over 120 additional city pairs as well as riders not associated with a specific city pair.

Amtrak Cascades

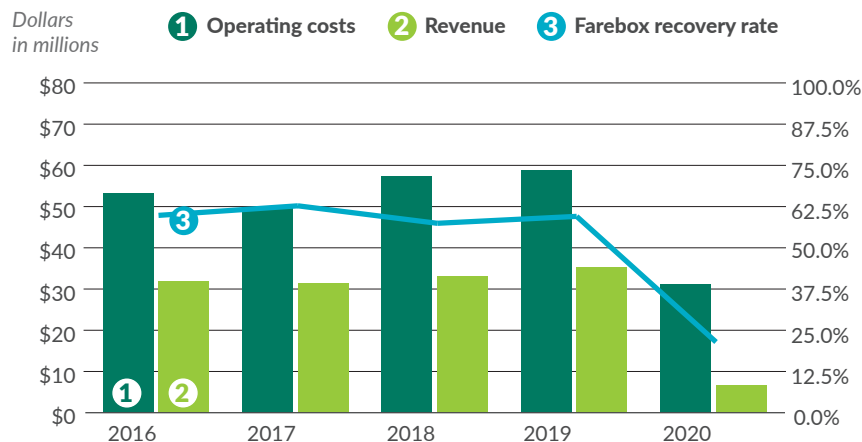
Amtrak Cascades is an intercity passenger rail service that operates between Vancouver, B.C. and Eugene, Oregon.

The service is jointly funded and managed by WSDOT and the Oregon Department of Transportation. WSDOT oversees the portion of the Amtrak Cascades corridor between Vancouver, B.C. and Portland, Oregon, while ODOT has primary responsibility for service between Portland and Eugene. WSDOT and ODOT pay Amtrak to operate the service.

Amtrak Cascades operates on privately owned tracks; BNSF owns the tracks in Washington and British Columbia, and Union Pacific owns the tracks in Oregon. Dispatching services are provided by BNSF in Washington, Union Pacific in Oregon and Canadian National in British Columbia. Stations along the Amtrak Cascades route are owned by a variety of entities, including cities, transit agencies, and railroads.

Amtrak Cascades revenue, costs and farebox recovery rate all drop in 2020

2016 through 2020; Amtrak Cascades annual operating costs and revenues in dollars; Amtrak Cascades annual farebox recovery rate



Data source: WSDOT Rail, Freight and Ports Division.

Note: Prior to Gray Notebook 77 (for the quarter ending March 31, 2020), Amtrak Cascades operating costs, revenue and farebox recovery rate were reported on the fiscal year.

Washington Amtrak Cascades farebox recovery rate decreases

Total revenue (tickets, food and beverage, and other fees) covered 21.7% of WSDOT-funded Amtrak Cascades' \$31 million total operating costs in 2020. This was a decrease of 38.1 percentage points from 59.8% in 2019. This percentage, called the farebox recovery rate, is the ratio between total revenue and total operating costs.

While revenue decreased by \$28.5 million in 2020, operating costs decreased by \$27.8 million over the same period. These operating costs reflect decreases in variable costs such as the number of trains operating, fuel consumption and Amtrak staffing. However, fixed costs, such as those associated with stations, insurance and host railroad fees, remained the same, resulting in a decrease in the farebox recovery rate.

Support from the Federal Coronavirus Aid, Relief, and Economic Security Act provided WSDOT with a \$7.1 million credit against Amtrak Cascades operating costs to help offset some of those costs.

Amtrak Cascades' on-time performance improves

Washington's Amtrak Cascades trains were on time 62% of the time in 2020, up from 58% in 2019. In 2018, Amtrak Cascades' on-time performance goal was changed from 80% to 88%. This goal was contractually negotiated by WSDOT, Amtrak, and BNSF (see chart on p. 19).

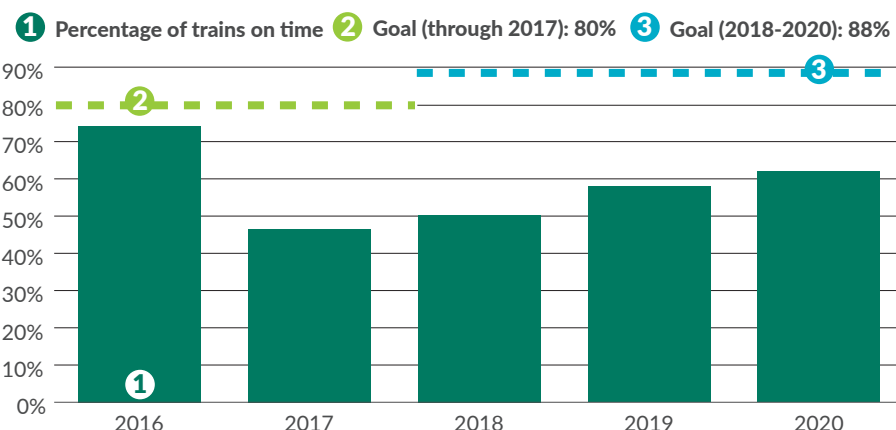
Amtrak Cascades trains between Portland and Vancouver, British Columbia (the portion of the Amtrak Cascades corridor which WSDOT oversees) experienced 34,964 minutes (over 582 hours) of delay

Train interference delays

Train interference delays occur when two trains try to use the same section of track, forcing one train to slow or wait on a siding (a short piece of track off the main line) while the other train passes. Additionally, when one train is delayed and operating outside its allotted time slot, it can affect other trains operating on the corridor.

Amtrak Cascades on-time performance improves in 2020

2016 through 2020; Percentage of trains on time



Data source: WSDOT Rail, Freight and Ports Division.

Note: Data is for trains on Washington segments only. For 2015-2017, trains operating on the Vancouver, British Columbia to Seattle and Seattle to Portland, Oregon segments were considered on time if they arrived within 10 minutes of scheduled arrival, while trains operating on the Vancouver, British Columbia to Portland segment were considered on time if they arrived within 15 minutes of scheduled arrival. Beginning in 2018, all trains overseen by WSDOT are considered on time if they arrive within 10 minutes of scheduled arrival.

in 2020, which negatively impacted on-time performance. Although each minute of train delay is separated into one of 25 categories, 48% of all delay minutes were due to three causes:

- Slow speed restrictions due to track conditions including congestion, raised bridges and weather caused more than 19.6% (6,865 minutes) of delay;
- Freight train interference (see box at left) caused 17.1% (5,970 minutes) of delay; and
- Passenger train interference accounted for 11.1% (3,888 minutes) of the delay.

The on-time reliability goal of 88% is being tracked and enforced in

accordance with contracts that WSDOT negotiated with BNSF, Amtrak and Sound Transit. The agencies use a shared database system to report delays, assign responsibility, and indicate that corrective actions are required if the goal is not reached.

Because BNSF dispatchers in Fort Worth, Texas determine the movement of both freight and passenger trains along the Amtrak Cascades corridor, the company is tasked with minimizing delays due to train interference. In keeping with contractual commitments, WSDOT requires BNSF to submit corrective action plans for mitigating these and other delays that are under its purview.

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

81 WETLANDS PROTECTION ANNUAL REPORT

WSDOT adds 14.39 acres of wetland and stream mitigation sites in 2020

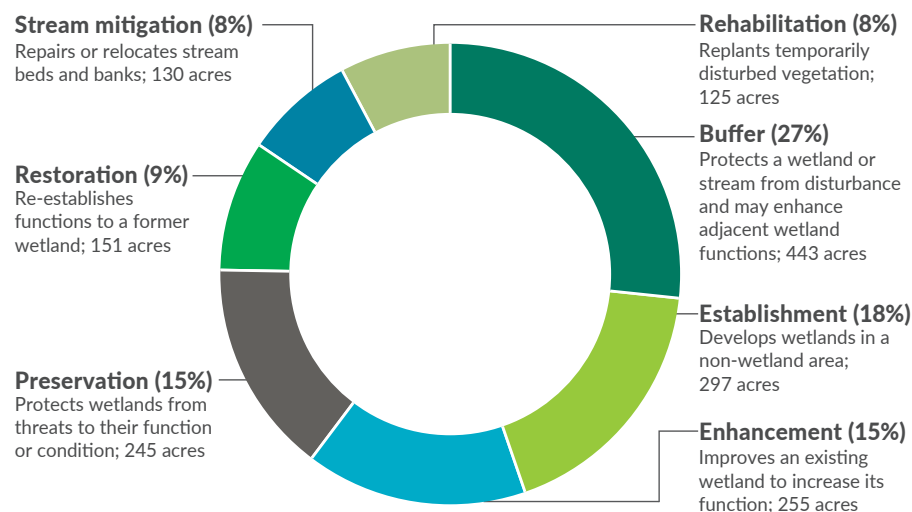
WSDOT began monitoring six new compensatory mitigation sites on 14.39 acres in 2020. Mitigation sites compensate for the effects of transportation projects and help offset climate change impacts. WSDOT is actively monitoring 112 sites (1,062 acres) until the sites meet initial permit requirements. The agency started to issue monitoring reports on compensation sites in 1988 and has since transferred 200 of the total 312 sites (584 of the total 1,646 acres) to long-term stewardship where WSDOT and partners—including local government agencies—will continue to monitor the sites after initial permit requirements are met.

WSDOT's statewide inventory of the total 312 mitigation sites includes:

- 78 compensation sites currently in the 10-year monitoring period;
- Five sites past the initial 10-year monitoring period that have not yet met all permit requirements;
- 23 sites being evaluated by the U.S. Army Corps of Engineers and Washington State Department of Ecology for completion of their permit requirements;
- Six compensatory mitigation banks; and
- 200 sites in long-term stewardship that have met their permit requirements.

WSDOT's mitigation site inventory reaches 1,646 acres in 2020

Total acreage (and percentage of total) of replacement wetlands and stream mitigation sites by type since 1988



Data source: WSDOT Environmental Services Office.

Notable results

- WSDOT began monitoring six new wetland and stream mitigation sites on 14.39 acres in 2020
- WSDOT completed monitoring work at seven mitigation sites on 10.11 acres that were at the end of their 10-year monitoring periods
- WSDOT's mitigation banks earned 0.55 credits and provided 3.98 credits to agency transportation projects in 2020

How mitigation banks work for WSDOT

Guidance from the Environmental Protection Agency and the U.S. Army Corps of Engineers' on compensatory mitigation for construction projects recommends [mitigation banking](#). Mitigation banking is like a "savings account" for WSDOT's future capital projects and mitigation needs. These banks create credits based on the number of acres and their value. These credits can be withdrawn from the account (or used) by projects as compensation for unavoidable wetland impacts within the bank's specified service area.

WSDOT actively monitors 112 mitigation sites in 2020

From 2001 through 2020, the number of WSDOT-monitored mitigation sites increased from 54 to 112 (107%) and total acreage increased from 213 to 1,062 (399%). These increases are primarily a result of construction projects funded by the 2003 Nickel and the 2005 Transportation Partnership Account revenue packages.

To ensure these sites meet permit requirements, WSDOT monitors hydrology, vegetation, and wildlife as they develop—typically for 10 years—before transferring them to agency partners for long-term stewardship.

WSDOT strives to meet completion requirements for mitigation sites

In 2020, WSDOT requested to close out 10 mitigation sites that were at the end of the monitoring period. Regulatory agencies determined that WSDOT completed monitoring work at seven mitigation sites (10.11 acres); these will be transferred to long-term monitoring with WSDOT's partners. The other three sites (5.40 acres) will require adaptive management and additional monitoring.

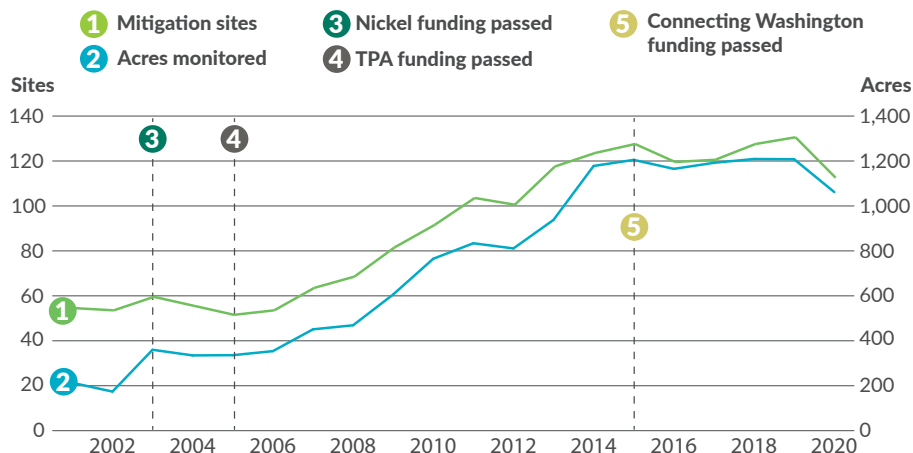
Mitigation options help WSDOT and the environment

WSDOT's six mitigation bank sites earned 0.55 credits and debited 3.98 credits to transportation projects in 2020.

Mitigation banks preserve, enhance, restore, or create wetlands to

WSDOT's monitored mitigation site acreage up 399% from 213 acres in 2001

2001 through 2020; Number of sites and acres monitored



Data source: WSDOT Environmental Services Office.

Notes: Of the 112 sites above, 78 were active mitigation sites, 23 sites had been submitted for closeout and were being evaluated, five were sites beyond the initial monitoring period and six were mitigation banks.

offset impacts on existing wetlands from future construction projects. WSDOT mitigation banks efficiently meet future project needs and maximize environmental benefits. They do this by restoring ecological functions—like creating amphibian habitat and providing storage areas for floodwater—prior to any damage that project activity would cause to those ecological functions. The agency's mitigation banks save time and money by consolidating work efforts and banking credits for future projects.

COVID-19 pandemic affects wetland monitoring

In spring 2020, WSDOT halted field work—including wetland monitoring—due to the spread of COVID-19. This shortened the window for collecting wetland data. WSDOT typically hires between 16-22 interns every summer to help biologists monitor vegetation in the wetland compensation sites, but was

not able to do so in the summer of 2020 due to the budget impacts of the COVID-19 pandemic. As a result, WSDOT biologists were unable to spend as much time at each site as they had in previous years.

Despite these obstacles, WSDOT found ways to comply with permit requirements. WSDOT and the regulatory agencies agreed on a plan to visit and report on each compensation site with reduced monitoring during the pandemic. WSDOT biologists prioritized the workload and relied more on technology. WSDOT's environmental drone program was able to safely continue conducting complementary monitoring for wetland compensation sites. Images collected using the drones were used in the monitoring reports to supplement reduced data.

Contributors include Tony Bush, Jennie Husby, Hui Dong and Dustin Motte

81

COMMERCIAL VEHICLE SERVICES
ANNUAL REPORT

Notable results

- WSDOT's CVISN program helped the trucking industry avoid 204,000 travel hours and \$24.7 million in operating costs in 2020
- Nearly 84% (144,256) of all permits for oversize and overweight loads were self-issued in 2020

WSDOT's weigh station screening system

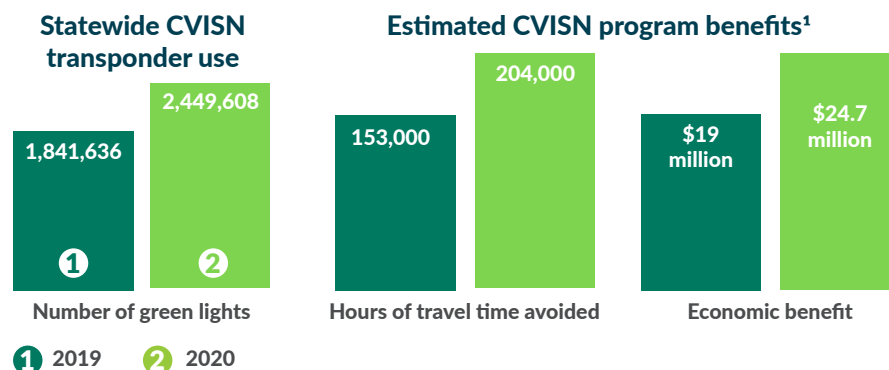
WSDOT's weigh station bypass program uses transponders (small electronic devices with a unique serial number that attach to the inside of a windshield) to identify and electronically screen commercial vehicles.

About half a mile before a weigh station with electronic screening capabilities, roadside equipment detects the transponder in a commercial vehicle as the vehicle drives over a weigh-in-motion scale. When a transponder is detected, electronic screening software looks up the vehicle it is assigned to and checks for violations. It can make sure the registration is current, validate the motor carrier information, and verify that the weight measured by the weigh-in-motion scale is legal—all as the vehicle drives down the highway. If the system finds no violations, the transponder will display a **green light** that signals to the driver that they can bypass the upcoming weigh station.

Weigh station bypasses provide approximately
\$24.7 million in economic benefit in 2020

Weigh station bypasses (also known as green lights; see box at left) created roughly \$24.7 million in economic benefits in 2020 by saving an estimated 204,000 hours of travel time and an estimated 1.3 million gallons of diesel fuel (see chart below). On average, each bypass saved freight carriers five minutes and \$10.08 in operating and fuel costs by allowing truck drivers to keep traveling at highway speeds instead of pulling off the highway to stop at weigh stations. The amount of diesel saved cut carbon dioxide emissions by approximately 30.2 million pounds in 2020.

WSDOT's Commercial Vehicle Information Systems and Networks program gave commercial trucks equipped with transponders the green light to bypass open weigh stations over 2.4 million times in 2020. This was about 33% more than the 1.8 million green lights given in 2019 (see chart below).



Data source: WSDOT Commercial Vehicle Services Office.

Notes: A truck's transponder is read each time it nears an open weigh station.

¹ WSDOT's CVISN program assumes five minutes and 0.55 gallons of fuel saved per bypass, based on a 2007 report. Based on these assumptions, each bypass provided an average economic benefit of \$10.36 in 2019 and \$10.08 in 2020.

WSDOT to replace aging self-serve permit system

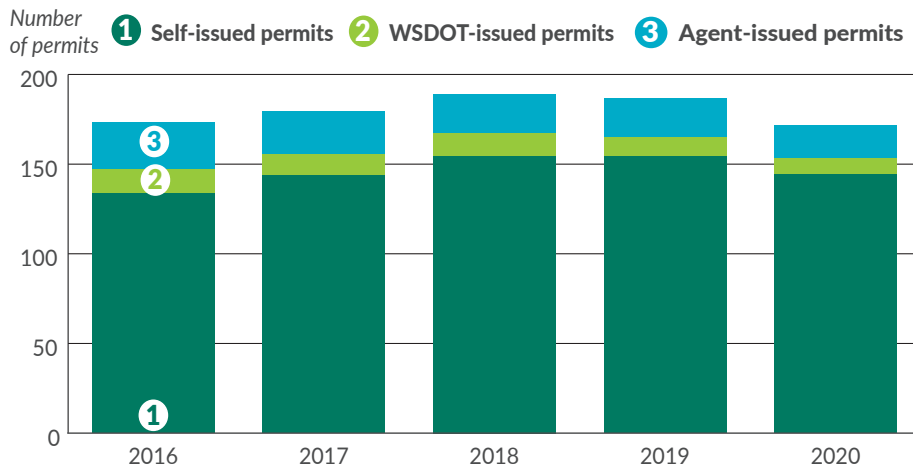
WSDOT is replacing its outdated self-service system for issuing oversize and overweight permits. In 2020, approximately 84% of permits were self-issued using a system designed in 1999 for highly-trained expert users (see chart on p. 23). The new system will use advances in technology to make obtaining self-issued permits easier while helping prevent errors.

WSDOT receives federal grant to help replace self-serve permit system

In 2020, WSDOT applied for and received a federal Innovative Technology Deployment grant to support the replacement of its current self-serve permit system. The Federal Motor Carrier Safety Administration grant provides \$2.2 million with a project end date of September 30, 2024. WSDOT estimates that an off-the-shelf product will cost between \$1.4 and \$3.2 million, with an additional annual maintenance cost between \$150,000 and \$250,000.

Nearly 84% of permits for oversize or overweight loads were self-issued in 2020

2016 to 2020; Number of permits for oversize and/or overweight loads issued by group in thousands



Data source: WSDOT Commercial Vehicle Services Office.

In September 2020, WSDOT began developing the Request for Proposals for the self-service permit system replacement project, which will outline the essential features of the new permit program. The RFP will require that the new system perform all the functions of the current system, and also include:

- Carrier validation
- Automated routing
- A connection to WSDOT's [Bridge Vertical Clearance Trip Planner](#)
- Restriction management

WSDOT plans to have the RFP out for bid by May 31, 2021 and a vendor selected by the end of summer 2021.

Most permits to transport oversize or overweight loads are self-issued

Financial security regulations that went into effect in 2015 prevent WSDOT staff from issuing most

permits to transport oversize and/or overweight loads via fax or email, leaving customers with three options for obtaining these types of permits:

- Apply in person at a WSDOT office,
- Pay a fee to a third-party agent, or
- Self-issue a permit online.

As a result of these regulations, WSDOT staff issued 5% (9,029) of oversize and/or overweight load permits in 2020, while 84% (144,256) were self-issued (see chart above). WSDOT issues the more complex permits and assists walk-in customers. The remaining permits are issued electronically without WSDOT staff assistance through a system that was not designed for public use, and which can result in user errors. The planned replacement self-service permit system will be designed for public use, and to prevent common errors.

Oversize and overweight load permits

In general, an oversize/overweight load permit is required for vehicles or loads over 14 feet in height, 8 feet 6 inches in width, or 40 feet in length (for a single unit). There are a number of exceptions, including some for log trucks. The maximum legal weight (including the load) depends on a vehicle's length and the number of axles it has. Detailed information on maximum legal dimensions is available on [WSDOT's Commercial Vehicle-Oversize and Overweight Permits page](#).

COVID-19 impacts total permits issued, cash and check sales

The total number of permits issued declined 10.5% from 2019 to 2020, likely as a consequence of the COVID-19 pandemic. Additionally, because of the pandemic, WSDOT offices selling special motor vehicle permits were required to close to walk-in customers beginning in March 2020. As a result, 2020 cash and check permit sales for permits issued by WSDOT offices declined 39% from \$615,000 in 2019 to \$373,000 in 2020.

Superload permits

Vehicle loads exceeding 125 feet long, 16 feet wide, 16 feet high or 200,000 pounds are considered superloads. Because of their size and the effects these loads can have on state highways and traffic, superloads require special permits, which must be obtained from WSDOT in advance of travel. Approving superload permits requires special analysis, and approved superload permits include specific travel conditions.

- **Regular** superload permits include single loads, such as an excavator or bulldozer.
- **Project** permits can include multiple larger loads, such as girders, or refinery or windmill components.

Superload permits see 48% increase in 2020

WSDOT issued 3,785 superload permits in 2020, a 48% increase from the 2,562 issued in 2019 (see table below). Superload applications decreased 6% from 1,370 in 2019 to 1,284 permits in 2020. From 2016 to 2020, superload permit applications increased by 6%, from 1,213 to 1,284, while superload permits issued increased 85%, from 2,036 to 3,785.

While project superloads (see box at left) continued to increase during the COVID-19 pandemic, regular superloads decreased. In 2020, WSDOT received 839 regular superload permit applications—down 13% from an average of 965 regular superload permit applications received annually during the four-year period prior to the pandemic (2016-2019).

WSDOT receives more applications for projects superload permits, fewer for regular superload permits in 2020 than before the COVID-19 pandemic
2016 to 2020; Number of superload applications by type; Superload permits issued

Applications	2016	2017	2018	2019	2020
Regular	870	981	918	1,090	839
Project ¹	343	205	206	280	445
Total	1,213	1,186	1,124	1,370	1,284
Permits	2,036	1,495	1,616	2,562	3,785

Data Source: WSDOT Commercial Vehicle Services Office.

Note: 1 Applications for project superload permits, such as an application to move multiple windmills to a windmill farm, may result in multiple permits being issued (one for each separate load).

WSDOT upgrades electronic screening technology at four weigh stations, adds three virtual weigh stations in 2020

WSDOT upgraded the electronic screening system software and hardware at four of its [11 existing weigh stations with electronic screening capabilities](#) in 2020, bringing the total number of weigh stations with upgraded software to nine (see table below). WSDOT's legacy weigh station software was developed by WSDOT staff in 1999. Following a successful test of new, vendor-supported software at the Everett weigh station in 2016, the agency began the process of upgrading all of its existing weigh stations. As of

WSDOT installs its first three Virtual Weigh-in-Motion sites in 2020

2016 to 2020; Number of weigh stations with electronic screening capabilities by type

Weigh station type	2016	2017	2018	2019	2020
Virtual Weigh-in-Motion site	0	0	0	0	3
Upgraded weigh station	1	1	3	5	9
Legacy weigh station	10	10	8	6	2
Total	11	11	11	11	14

Data Source: WSDOT Commercial Vehicle Services Office.

December 31, 2020, eight additional locations had been upgraded. WSDOT had completed upgrades at the remaining two locations as of May 31, 2021.

WSDOT also created its first three Virtual-Weigh-in-Motion sites in 2020 (see box at right). The new VWIM sites, which supplement WSDOT's existing weigh stations, are located on State Route 221 near Prosser, on SR 730 at Wallula Junction, and on SR 9 near Deming. As of March 2021, WSDOT was finalizing the design for a fourth VWIM site on US 2 near Gold Bar. This VWIM site will replace an existing westbound weigh station on US 2 in Sultan that does not have electronic screening capabilities. After this VWIM site is complete, WSDOT will have four VWIM sites and 11 upgraded weigh stations, for a total of 15 weigh stations with electronic screening capabilities.

New VWIM sites help WSP identify 45,000 commercial vehicle violations in 2020

In 2020, 30% (45,000) of the 150,000 commercial vehicles detected at WSDOT's three new VWIM sites were either overweight or operated by carriers that were out of service (not in compliance with Federal Motor Carrier Safety Administration regulations). The remaining 70% of detected commercial vehicles were traveling lawfully. Washington State Patrol troopers and other enforcement officers can view the data collected at VWIM sites in real time from their vehicles, allowing them to pull over vehicles for closer inspection if the screening system finds a violation.

As part of its ongoing collaboration with WSP, WSDOT placed its first VWIM sites on routes which were known to be commonly used by commercial vehicles attempting to avoid weigh stations.

WSDOT and WSP plan to expand VWIM program in future

WSDOT and WSP have installed two basic VWIMs (weigh-in-motion scales with cameras but no license plate detection capabilities)—one on SR 290 near Newman Lake and one on I-90 near Vantage. As funding becomes available, WSDOT will install additional equipment at both sites to give them the same capabilities as the three VWIM sites.

WSDOT to upgrade Plymouth weigh station beginning in 2022

As part of their ongoing collaboration, WSDOT and WSP identified the Plymouth Port of Entry, where Interstate 82 crosses the Columbia River, as a location where improvements are needed in order to more safely inspect and enforce commercial carrier operations. The agencies obtained dedicated funding to design and rebuild the Plymouth weigh station through the Commercial Vehicle Enforcement Systems Station Strategic Plan (see box at right). The rebuild will include a new operations building, approaches with scales on both sides of the building, an inspection building with two inspection pits, and an upgraded parking area for commercial vehicles. The project is scheduled to be advertised in October 2022 and tentatively expected to be operational in late 2023.

Contributors include Sonja Clark, Justin Heryford, Angela Ranger, Helen Goldstein and Manouchehr Goudarzi

Virtual Weigh-in-Motion

VWIM sites consist of sensors in the roadway, electronics, and detection equipment (cameras). They can be installed anywhere on a highway. Washington State Patrol troopers can view the data collected at VWIM sites in real time from their patrol vehicles.

WSDOT and WSP work together on commercial vehicle enforcement

WSDOT works with the Washington State Patrol to develop and maintain a commercial vehicle enforcement system that:

- Identifies high-risk commercial carriers,
- Protects basic highway infrastructure by screening for overweight commercial vehicles, and
- Maintains a system that allows safe and legal carriers the opportunity to bypass weigh stations after successfully completing an electronic screening (see p. 22).

The two agencies have also created a [Commercial Vehicle Enforcement Systems Strategic Plan](#) that presents Washington's approach to continuing effective and efficient commercial vehicle enforcement.

81 CAPITAL PROJECT DELIVERY PROGRAMS QUARTERLY UPDATES

No new Connecting Washington, Nickel or TPA projects complete in seventh quarter

WSDOT did not have any new Connecting Washington projects or contracts that became operationally complete during the seventh quarter (January through March) of the 2019-2021 biennium. 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 or Transportation Partnership Account projects during the quarter, it has completed a total of 383 of the original Nickel and TPA construction projects since July 2003—with 86% on time and 91% on budget. The cost at completion for the 383 Nickel and TPA construction projects (which are included in the original 421 Nickel and TPA projects) was approximately \$10.3 billion, 1.5% less than the baseline cost of \$10.5 billion. The agency currently has four Nickel and TPA projects underway (see [p. 29](#) for additional information).

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

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

Fuel tax funding from the 2005 TPA package has been lower than the original March 2005 projection. The original projection for the TPA account was \$4.9 billion over a 16-year period from 2005 through 2021. Current TPA projections through 2021 are estimated to be \$3.9 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 advertised 38 of 81 Pre-existing Funds projects during the seventh 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.

81

CURRENT LEGISLATIVE EVALUATION &
ACCOUNTABILITY PROGRAM QUARTERLY UPDATE

Combined Nickel & Transportation Partnership Account Status of projects to date; 2003 through March 31, 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 March 31, 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 (April 1, 2021 through September 30, 2021)	0	
Percent on target for advertisement on schedule or early	0%	
Budget status for the 2019-2021 biennium; Dollars in millions	WSDOT biennial budget	
Budget amount for 2019-2021 biennium	\$714.6	
Actual expenditures in 2019-2021 biennium to date	\$401.9	
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 December 31, 2020. **2** Non-construction projects include commitments for engineering and right of way work. **3** Projects that have been deferred indefinitely or deleted include projects that have no funding available, projects that have been halted by the Legislature and those for which other entities (e.g., cities and counties) are now serving as the lead agency. **4** The project total has been updated to show "unbundled" projects which may have been previously reported in programmatic construction groupings (such as Roadside Safety Improvements or Bridge Seismic Retrofit). See [Gray Notebook 38, p. 55](#) for more details.

81

ADVERTISEMENT RECORD
QUARTERLY UPDATE

Connecting Washington Account projects in construction ¹ Through March 31, 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	\$243.1
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	On schedule	Jun-2021	\$57.4
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	\$81.2
US 395/NSC Wellesley Ave. Improvements	On schedule	Oct-2022	\$36.7
US 395/NSC Spokane River to Columbia	On schedule	Oct-2022	\$50.0
US 395/NSC Spokane River to Columbia - Shared Use Path	On schedule	Jun-2022	\$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	May-2021	\$45.9
SR 107/Chehalis River Bridge (S. Montesano Bridge) Approach & Rail Repair (Grays Harbor)			
SR 107/Chehalis River Bridge - Structural Rehabilitation	Delayed	Jun-2021	\$21.8
I-90/Medical Lake & Geiger Interchanges (Spokane)			
I-90/Medical Lake I/C to Geiger Field I/C - Reconstruction	Delayed	May-2021	\$15.9
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/Barker to Harvard - Improve Interchanges & Local Roads (Spokane)			
I-90/Barker to Harvard - Westbound On-Ramp Improvement	On schedule	Jun-2021	\$2.1
I-90/Barker to Harvard - Add Lane Harvard Rd. Bridge	Delayed	Jun-2021	\$3.3
SR 305 Construction - Safety Mobility Improvements (Kitsap)			
SR 305/Johnson Rd. - Roundabout	On schedule	Sep-2021	\$5.9

Data source: WSDOT Capital Program Development and Management.

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

Connecting Washington Account projects in construction Through March 31, 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 March 31, 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	Jun-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 March 31, 2021.

1) Additional efforts associated with meeting COVID-19 health standards and changing safety standards on the I-405, Renton to Bellevue Corridor Widening and Express Toll Lane project resulted in a change order of \$1.625 million. **2)** COVID-19 safety changes as well changes to storefront closure requirements, nighttime demolition restrictions, lane and full closure modification, and stabilization and grading work on the SR 520, Montlake to Lake Washington Interchange and Bridge Replacement project resulted in a change order of \$16 million. **3)** Several items on the I-90/468th Avenue Southeast to West Summit Road Eastbound - Rehabilitation project, including an extended job site overhead and panel inefficiencies, resulted in a change order of \$661,000.

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>.

81 PRE-EXISTING FUNDS QUARTERLY UPDATE

WSDOT advertises 38 Pre-existing Funds projects in the seventh quarter of the biennium

WSDOT advertised 38 of 81 Pre-existing Funds projects in the seventh quarter of the 2019-2021 biennium (January through March 2021). Of the 38 total projects advertised, four were on time, 19 were emergent, and 15 were late. Of the remaining 43 projects originally scheduled to be advertised during the quarter, WSDOT advertised 12 in a previous quarter, delayed 15 within the biennium, deferred 13 out of the biennium, and deleted three.

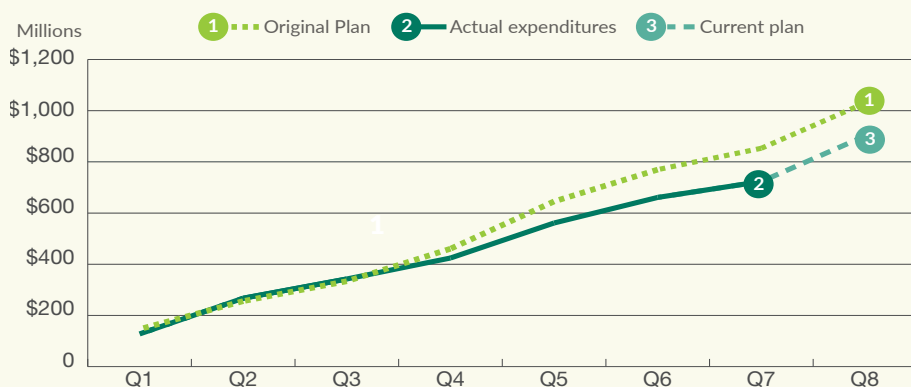
As of March 31, 2021, WSDOT's current cost to complete the 237 PEF projects advertised through the seventh quarter of the 2019-2021 biennium was about \$764.4 million, approximately \$105.2 million (16.0%) more than the original value of \$659.2 million (see chart at right).

Cash flows currently lower than original projections

WSDOT originally planned to have \$853.2 million in cumulative combined PEF improvement and preservation cash flows at the end of the seventh quarter of the 2019-2021 biennium, but had \$723.3 million, approximately \$129.9 million (15.2%) less. 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 March 31, 2021; Planned vs. actual expenditures and current plan; Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: Q7 refers to the seventh quarter (January through March 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); Seventh quarter (ending March 31, 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 seventh quarter	237 ¹	\$659.2	\$764.4

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 237 PEF projects during the 2019-2021 biennium

Advertisement status	Quarter ¹	Cumulative ²
Advanced ³	0	14
On time	4	108
Emergent ⁴	19	65
Late	15	50
Total projects advertised	38	237
Early ⁵	12	16
Delayed within the biennium	15	104
Deferred out of the biennium	13	27
Deleted	3	11

Data source: WSDOT Capital Program Development and Management.

Notes: 1 Quarter refers to January through March 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 38 Pre-existing Funds projects during the seventh quarter of the 2019-2021 biennium

January through March 2021

On time (4)	
I-5/Lake Samish Vicinity - Stormwater Retrofit	I-405/NE 132nd Street Bridges - Seismic Retrofit
I-90/Coal Mine Wall Vicinity to Soderman Creek Vicinity - Stormwater Retrofit	I-90/Liberty Park Place to Sprague Ave. - Paving
Emergent (19)	
Weigh Station Fiber Replacement Round 2	US 2/Pine Canyon - Emergency Slide Repair 2021
Cle Elum Weigh Station Changeable Message Sign Replacement	US 97/South of Pateros - Seal
SR 221/Vehicle Weigh In Motion Load Cell Replacement	Olympic Region Strategic Pavement Preservation 2019-2021 - Contracted
I-5/Smokey Point Northbound Safety Rest Area (SRA) - Rehabilitate Manhole - Northwest Region	SR 8/Eastbound Wildcat Creek Scour Emergency Repair
SR 504/Forest Learning Center SRA - Fire System Seismic Bracing - Southwest Region	US 101/Milepost 231.2 Emergency Slide Repair
Northwest Region Hot Mix Asphalt Crack Seal and Pavement Repair	SR 104/Hood Canal Bridge - Centerlock Rehabilitation
I-5/Federal Way to Bellingham - Selected Portland Cement Concrete Panel Replacement	SR 109/West of Hoquiam Emergency Repair
SR 202/Snoqualmie Falls Park to Boalch Ave. NW Vicinity - Bridge Rehab	US 101/0.8 Miles North of Astoria-Megler Bridge - Emergency Culvert Replacement
I-405/NE 132nd Street Bridges - Seismic Retrofit (Toll)	US 12/Dodd Rd. Vicinity to Wallula Vicinity - Paving
SR 546/Kamm Ditch - Fish Passage	
Late (15)	
SR 26/Hatton Coulee SRA - Water Line Replacement - Eastern Region	US 97/South of Tonasket - Paving
Northwest Regionwide - Camera Replacement	US 97A/S of Entiat - Site 3- Rock Slope Scaling
SR 9/Unnamed Tributary to Pilchuck Creek - Fish Passage	US 101/Hoquiam River-Riverside Bridge - Bridge Painting
SR 18/Weyerhaeuser Way Vicinity to SR 164 Vicinity - Barrier Replacement	SR 109/Grass Creek Bridge to Conner Creek Bridge - Chip Seal
SR 20/Fish Creek & Lorenzan Creek - Fish Passage	SR 161/SR 7 to North of Trek Drive E - Chip Seal
SR 202/Snoqualmie Falls Park to Boalch Ave. NW Vicinity - Paving	SR 501/I-5 to W 26th Ave. Ext Vicinity Including Couplet - Americans with Disabilities Act compliance (ADA)
SR 202/SE Snoqualmie Pkwy. to Meadowbrook Way SE - ADA Compliance	I-90/Cle Elum Vicinity Westbound - Weigh Station Preservation
SR 538/Logan Creek - Fish Passage	SR 504/2.1 Miles East of SR 505 - Emergency Rockfall
US 2 Et Al North Central Region Strategic Pavement Preservation 2021	
Early (12)	
I-5/Southbound Stillaguamish River Bridge - Painting	US 12/Messner Rd. Vicinity to Tucannon River - Chip Seal
SR 20/Bonaparte Creek - Drainage Improvement	SR 22/US 97 to SR 223 - Chip Seal
19-21 Olympic Regionwide Basic Safety - Guardrail	US 97/McDonald Rd. and Becker Rd. - Intersection Improvements
SR 167/SR 410 to SR 18 - Congestion Management	SR 223/Indian Church Road Vicinity to I-82 - Chip Seal
SR 103/US 101 to Stackpole Rd. with Exceptions - Chip Seal	SR 26/Laurel Rd. to Washtucna - Chip Seal
US 12/Lewiston Rd. to Coppei Creek - Chip Seal	SR 274/SR 27 to Idaho State Line - Chip Seal

Data source: WSDOT Capital Program Development and Management.

WSDOT advertises 38 Pre-existing Funds projects during the seventh quarter of the 2019-2021 biennium

January through March 2021

Delayed (15)	
SR 9 & SR 92/Lake Stevens Vicinity - Rumble Strip Installation	SR 14/0.7 Miles West of Chamberlain Lake Rest Area- Slope Stabilization
I-90/Lacey V Murrow Bridge - Anchor Cable Replacement	SR 14/0.6 Miles West of Chamberlin Lake Rest Area - Slope Stabilization
I-90/Homer M Hadley Bridge - Anchor Cable Replacement	SR 14/0.2 Miles West of Chamberlin Lake Rest Area - Slope Stabilization
SR 513/Montlake Bridge - Grid Deck Replacement	US 97/Centerville Rd. Vicinity to Scale House Rd. Vicinity - Chip Seal
SR 513/Montlake Bridge - Expansion Joint Repair	SR 507/I-5 to Skookumchuck River Bridge Including Couplet - ADA Upgrades
SR 4/Skamokawa Vicinity to 0.3 Miles West of SR 432 - Chip Seal	SR 508/1 Mile West of Onalaska - Slope Stabilization
I-5/Southbound East Fork Lewis River to North Fork Lewis River - Concrete Pavement Rehabilitation	I-90/Mullan Rd. Crossing - Bridge Deck Repair
SR 14/Wood Creek to Alderdale Rd. Vicinity - Chip Seal	
Deferred (13)	
SR 104/Lyon Creek - Fish Passage	I-5/E Fork Lewis River Bridge Northbound - Replace Bridge
SR 167/Northbound 15th St. SW Off-Ramp - ADA Compliance	SR 103/US 101 to Stackpole Rd. - ADA Upgrades
I-405/SR 522 to SR 527 - Widening & Express Toll Lane	SR 411/Cowlitz River Bridge - Replace Bridge Deck
SR 509/Miller Creek - Fish Passage	SR 503 Spur/Tributary to Dog Creek - Replace Culvert
I-5/S 56th St. Interchange - ADA Compliance	SR 507/Skookumchuck River to Thurston County Line - ADA Upgrades
SR 16/Gig Harbor Weigh Station - Weigh Station Improvement	SR 507/Skookumchuck River to Thurston County Line - Chip Seal
SR 302/Purdy Bridge - Bridge Rehabilitation	
Deleted (3)	
I-90/Lacey V Murrow Bridge - Anchor Cable Replacement	SR 167/SR 410 to SR 18 - Safety
SR 167/Northbound Pierce County Line to 15th St. SW - Paving	

Data source: WSDOT Capital Program Development and Management.

81

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 state, 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 82			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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