

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 83 ■ September 2021

SHOWING THEIR AGE

WSDOT BATTLES FATHER TIME AND MOTHER NATURE TO KEEP BRIDGES SAFE AND FUNCTIONAL

Targeting zero

WSDOT aims to reduce
fatal and serious injuries
crashes on roadways

Water works

WSDOT protects water
quality on its projects
throughout Washington

Building progress

WSDOT works to improve
the condition of its capital
facilities statewide

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The Gray Notebook team

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

Note: 1 Due to the pandemic's effects on statewide restrictions and travel, the GNB is using updated data that does not align with the quarter ending September 2021.
 On the cover: The southbound Stillaguamish River Bridge on Interstate 5 in Snohomish County before WSDOT addressed its steel painting needs. See the finished project image on p. 21.

PERFORMANCE HIGHLIGHTS for the quarter ending September 30, 2021

179 BRIDGES



owned by WSDOT were in POOR condition as of June

56 PERCENT increase in **traffic fatalities** in March 2021 compared to March 2020

\$23.9 MILLION in economic benefit provided by WSDOT's **Incident Response** teams clearing 11,906 incidents during the quarter

5 additional **Connecting Washington** projects and contracts completed by WSDOT during the first quarter of the 2021-2023 biennium

51 PERCENT decrease in **Amtrak Cascades ridership** from September 2019 due to response to the COVID-19 pandemic

44 PERCENT of **WSDOT's primary buildings** were in poor condition as of September 2021

72 stormwater **treatment facilities** were constructed by WSDOT in fiscal year 2021

38 PERCENT increase in **WSF ridership** during the first quarter of fiscal year 2022 compared to the corresponding quarter in FY2021

28 of 45 **Pre-existing Funds** projects were advertised during the first quarter of the 2021-2023 biennium

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COVID-19 EFFECTS ON STATE TRANSPORTATION AND WSDOT

Washington travel trends up slightly as state continues to deal with COVID-19 cases

Statewide travel continues to trend up slightly or hold steady as Washington continues to rebound from COVID-19 challenges that have resulted in increased emphasis on vaccination. This emphasis included mandatory vaccinations for state employees as well as a continued mask directive from the Department of Health.

Most travel modes increase statewide since August 2021

Percentages from select dates in 2020 as well as August 2, 2021 and November 1, 2021 compared to 2019 data; Safety fatality rate per 100 million vehicle miles traveled

Transportation mode	Lowest percentage (date) ¹ 2020	Monday, Aug. 2, 2021 ²	Monday, Nov. 1, 2021 ²
Highway travel	-63% (3/29)	-5%	-6%
Tolling	-80% (3/28)	-25%	-22%
WSF ridership	-87% (3/29)	-26%	-37%
Amtrak Cascades ridership	-98% (4/19)	-55%	-51%
Freight			
Snohomish	-78% ³ (4/12)	-25%	-19%
King	-88% ³ (4/5)	-20%	-14%
Pierce	-89% ³ (4/5)	-9%	-7%
Thurston	-44% (4/12)	0%	7%
Lewis	-65% (4/4)	2%	4%
Clark	-71% ³ (4/4)	-9%	-6%
Benton	-57% (4/5)	-9%	-9%
Franklin	-62% (4/12)	-4%	-15%
Active Transportation			
Pedestrians	-58% (3/13)	-34%	-2%
Bicyclists	-60% (3/14)	-28%	-21%
Safety & Air travel			
	2020 lowest rate or percentage	2021 latest data ⁴	
Highway crashes ⁵	0.7 ³ (March)	1.1 (July)	0.9 (Oct)
Aviation			
Domestic passengers	-93.1% (April)	-15.9% (June)	-12.5% (July)
International passengers	-97.8% (April)	-76.2% (June)	-71.0% (July)

Data source: WSDOT Transportation Safety & Systems Analysis.

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

Notable results

- Washington State Ferries ridership was 37% below its pre-pandemic levels as of November 1, 2021, a decrease of 11 percentage points from August 2, 2021
- Amtrak Cascades ridership was up to 51% below pre-pandemic levels on November 1, 2021, a four percentage point increase from August 2, 2021
- As of October 19, 2021 WSDOT estimates that 400 employees left state service as a result of the statewide COVID-19 vaccination mandate for government employees

Travel in Washington increasing across all modes

As of November 1, 2021, highway travel was 6% below pre-pandemic levels for the corresponding day in 2019, but showed a one percentage point increase from August 2, 2021 (refer to the chart on the previous page).

Washington State Ferries ridership was down 37% from the corresponding date in 2019 on November 1, 2021, marking a nine percentage point decrease from August 2, 2021. Crewing level issues at WSF caused much of this drop. For more information, refer to the quarterly performance article on p. 30.

Amtrak Cascades ridership was 51% below 2019 levels on November 1, 2021, an increase of four percentage points from August 2, 2021. Even with gradual increases, Amtrak Cascades continues to be the state-supported transportation mode hardest hit by the pandemic.

Active transportation modes for November 1, 2021 increased from August 1, 2021 but still had lower results compared to early November 2019 levels. Pedestrian travel was down 2% and bicycle counts were 21% below 2019 levels, but these modes showed respective 32 and seven percentage point increases over those recorded for August 2, 2021.

Domestic and international air travel both continue to increase slowly, but are still below 2019 pre-pandemic levels. In July 2021 (the most recent month for which data is available),

domestic air travel at SeaTac airport was 3.4 percentage points higher than in June 2021, and international air travel was up 5.2 percentage points over the same period. Despite these changes, domestic air travel was 12.5% lower in July 2021 than in July 2019, and international air travel was 71.0% lower for the same period.

WSDOT continues to put health and safety first

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

While WSDOT estimated that 400 employees left state service due to the mandate, the agency approved hundreds of exemptions and accommodations to allow others to continue working for the state. In total, there were 88 medical exemptions and 572 religious exemptions sought. Of these, WSDOT approved:

- 457 religious exemptions, and
- 85 medical exemptions

In addition, where applicable, WSDOT approved reasonable accommodations for employees that allowed them to continue state service, including:

- 48 medical accommodations, and
- 52 religious accommodations

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.

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

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

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STATEWIDE TRANSPORTATION POLICY GOALS DASHBOARD

Statewide policy goal/ WSDOT performance measure	Previous period	Current period	Goal	Goal met	Five-year trend (unless noted)	Desired trend
Safety						
Rate of traffic fatalities per 100 million vehicle miles traveled statewide ¹ (Annual measure: calendar years 2019 & 2020)	0.86	1.04	<1.00	—		↓
Rate of recordable incidents for every 100 full-time WSDOT workers (Annual measure: calendar years 2019 & 2020)	4.7	4.4	<5.0	✓		↓
Preservation						
Percentage of state highway pavement in fair or better condition by vehicle miles traveled (Annual measure: calendar years 2018 & 2019)	91.4%	92.9%	≥ 90%	✓		↑
Percentage of state bridges in fair or better condition by bridge deck area (Annual measure: fiscal years 2020 & 2021)	93.8%	93.2%	≥ 90%	✓		↑
Mobility² (congestion relief)						
Highways: Vehicle Miles Traveled (VMT) on state highways (Annual measure: calendar years 2019 & 2020)	35.4 billion	30.0 billion	*	N/A		Not applicable
Highways: Average incident clearance times for all Incident Response program responses (Calendar quarterly measure: Q3 2020 & Q3 2021)	14.6 minutes	16.0 minutes	*	N/A		↓
Ferries: Percentage of trips departing on time ³ (Fiscal quarterly measure: year to year Q1 FY2020 & Q1 FY2021)	80.3%	81.9%	≥ 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 2020 & 2021)	106	72	*	N/A		Not applicable
Cumulative number of WSDOT fish passage improvement projects constructed (Annual measure: calendar years 2019 & 2020)	352	365	*	N/A		↑
Stewardship						
Cumulative number of Nickel and TPA projects completed ⁵ and percentage on time ⁶ (Biennial quarterly measure: Q8 2019-2021 & Q1 2021-2023, trendline for percentage on time)	383/ 86%	383/ 86%	≥ 90% on time	—	(Five-quarter trend) 	↑
Cumulative number of Nickel and TPA projects completed ⁵ and percentage on budget ⁶ (Biennial quarterly measure: Q8 2019-2021 & Q1 2021-2023, trendline for percentage on budget)	383/ 91%	383/ 91%	> 90% on budget	✓	(Five-quarter trend) 	↑
Variance of total project costs ⁵ compared to budget expectations ⁶ (Biennial quarterly measure: Q8 2019-2021 & Q1 2021-2023)	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 (refer to [p. 7](#)). **2** Mobility does not yet include goals for people walking/biking for transportation. **3** Washington State Ferries' on-time departures include any trip recorded by automated tracking as leaving the terminal within 10 minutes of scheduled time. **4** Amtrak Cascades' on-time performance includes any trip arriving within 10 or 15 minutes, depending on the route, of scheduled arrival time. **5** Construction projects only. **6** Projects are on time if they are completed within the quarter planned in the last approved schedule, and on budget if costs are within 5% of the budget set in the last approved state transportation budget.

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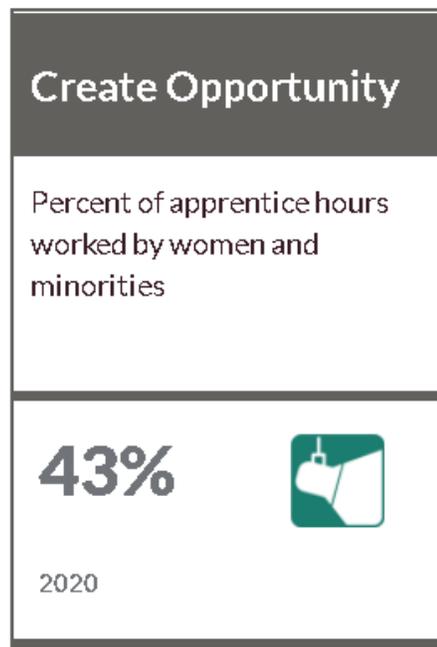
WSDOT'S STRATEGIC PLAN

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.

WSDOT engages a diverse range of its 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 from the entire multimodal transportation system. WSDOT's focus on Workforce Development ensures the agency attracts and retains a quality workforce to meet its legislative, regulatory, service and public expectations.

The agency's [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.

Through the Create Opportunity strategy, WSDOT is striving to create a diverse workforce both inside the agency and with the organizations it does business with. In support of this, WSDOT aims to increase the number of minority and women apprentices in the highway construction trades. In 2020, 43% of apprenticeship hours in the state's highway construction trades were worked by minorities and women, up from 41% in 2017.



WSDOT creates career opportunities in the highway construction industry for under-represented individuals by ensuring its apprentices are representative of the communities in which projects occur. [WSDOT's Apprenticeship Program](#) partners with the agency's [Pre-Apprenticeship Support Services Program](#) to provide grants to non-profits and pre-apprenticeship educational organizations to ensure adequate representation of minorities, women or other socially and economically disadvantaged individuals in our highway construction workforce.

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

83 TRANSPORTATION PERFORMANCE MANAGEMENT

WSDOT reports its federally-mandated 2022 TPM highway safety baselines, targets

WSDOT reported its Transportation Performance Management (formerly MAP-21) highway safety baselines and targets for 2022 to the Federal Highway Administration on August 31, 2021.

FHWA previously determined WSDOT did not make significant progress toward achieving its 2020 targets for highway safety (also referred to as PM1). Washington and other states that did not make significant progress on PM1 are required to develop Highway Safety Implementation Plans and obligate federal HSIP funds based on the previous year's allocations. WSDOT outlines how it will address these efforts in the updated HSIP.

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

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 must show significant progress toward meeting PM2 and PM3 targets.

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

TPM safety reporting on annual cycle

Targets for the highway safety rules (included in PM1) are on an annual reporting cycle, which differs from the two-year and four-year reporting cycles for PM2 and PM3.

MAP-21 performance measures by program area		2016-2020 baseline	2022 target ¹	Penalty ²
Highway Safety (PM1)	23 CFR Part 490 ID No. 2125-AF49			
Number of traffic fatalities on all public roads ³		≤ 546.6	≤ 437.3	Yes
Rate of traffic fatalities per 100 million vehicle miles traveled (VMT) on all public roads ³		≤ 0.913	≤ 0.730	Yes
Number of serious traffic injuries on all public roads ³		≤ 2,273.8	≤ 1,819.0	Yes
Rate of serious traffic injuries per 100 million VMT on all public roads ³		≤ 3.802	≤ 3.042	Yes
Number of non-motorist traffic fatalities plus serious injuries		≤ 581.8	≤ 464.6	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 2022 were submitted on August 31, 2021, using the five-year rolling average of 2016-2020 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 (refer to table below). These penalties require

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

TPM folios helping stakeholders

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

MAP-21 performance measures by program area	Current data/ 2-year actuals	2-year target ^{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)	32.8%	30%	30%	No
Percent of NHS bridges classified in poor condition (weighted by deck area)	7.0%	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.

83 HIGHWAY SAFETY ANNUAL REPORT

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

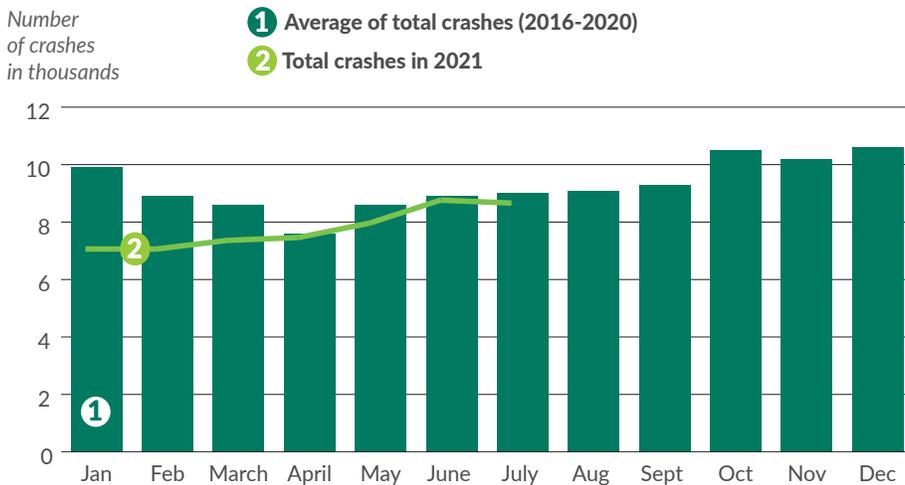
The impact of the COVID-19 pandemic on transportation in Washington state has been significant. On March 24, 2020, Gov. Jay Inslee enacted the "Stay Home, Stay Healthy" order and had immediate effects on traffic volumes and patterns. Additionally, the contagious nature of COVID-19 has led to physical distancing, which affected travel modes with large numbers of users in confined spaces, such as buses, light rail, trains, and ferries.

By the end of April 2020, highway traffic volumes on public roadways declined to 60% of the volume measured during the same time frame in 2019. By May 2020, traffic volumes began to rebound from previous lows. Average traffic volumes from January to July 2021 were 5% lower than the same pre-pandemic period in 2019. However, the amount of total vehicle miles traveled was down 12% from 60.9 billion in 2016 to 53.5 billion in 2020.

Lower highway vehicle traffic volumes generally result in fewer total crashes as there is less congestion. In 2021, monthly crashes decreased from 29% in January to 4% in July compared to the 2016-2020 average as volumes dropped (refer to graph below).

While there were fewer vehicles were on the road and there was a decline in the number of total crashes in 2021, the percentages of fatal and serious injury crashes increased compared to the same months in 2016-2020 (refer to the graph on p. 11).

Total crashes on Washington public roadways from January through July 2021 lower than 2016-2020 average



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

Notes: Due to data processing times, the most recent available full month of crash data is July 2021.

Notable results

- In 2021, the total crashes on Washington public roadways dropped from 29% in January to 4% in July compared to the average of the corresponding months from 2016-2020
- Traffic fatality crashes on Washington public roadways increased 56% in March 2021 compared to March 2020
- Annual traffic fatality crashes on Washington public roads increased 3.5% from 538 in 2019 to 557 in 2020
- Annual serious injuries crashes on Washington public roadways increased 8.2% from 2,255 in 2019 to 2,439 in 2020

WSDOT tracks COVID-19 travel effects online

WSDOT tracks the effects of COVID-19 on multimodal transportation system performance through an [interactive online dashboard](#). The dashboard is updated each weekday and provides in-depth travel trends as well as pre-pandemic comparisons.

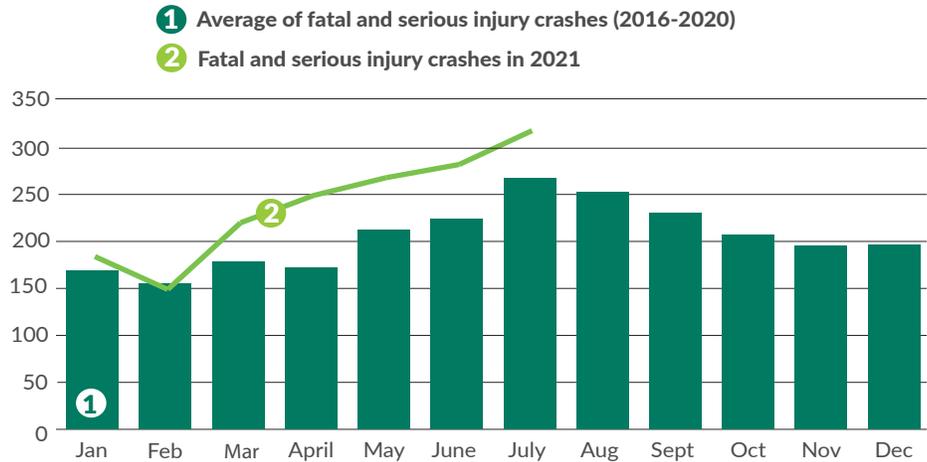
Fatal and serious injury crashes see monthly increases in 2021

After declining in the early months of 2020, fatal and serious injury crashes increased in Washington state. While the number of these types of crashes declined 3% in February 2021, they increased by 28% from March-July in 2021 on average over the same months for 2016-2020. Fatalities peaked in July 2021 when there were 320 fatal and serious injury crashes (refer to graph at right).

Alcohol sales and highway speeds are on the rise

Alcohol sales remain high in 2021 as a review of the taxable liters sold in Washington indicates an average 25% increase in sales in fiscal year 2021 compared to the FY2019, raising the probability of driving under the influence crashes. National reviews have indicated that driving under the influence is also a likely contributing factor in the higher number of crashes some states are experiencing during the COVID-19 pandemic.

Fatal and serious injury crashes on Washington state public roadways from January through July 2021 higher than 2016-2020 average



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

Notes: Due to data processing times, the most recent available full month of crash data is July 2021. Gov. Jay Inslee declared a State of Emergency due to the COVID-19 pandemic on February 29, 2020.

Increased speeds are part of a national phenomenon during the pandemic and extreme speeding in urban areas is also being reported.

As of July 31, 2021, motorists' speeds in several western Washington counties showed an average increase of 10% over those driven for the same days in 2019.

For King, Pierce and Snohomish counties between March and July daily speeds averaged 12% higher compared to pre-pandemic levels. For more information on highway speeds, visit [WSDOT's interactive online multimodal transportation dashboard](#).

Fatalities and serious injuries increase in 2021

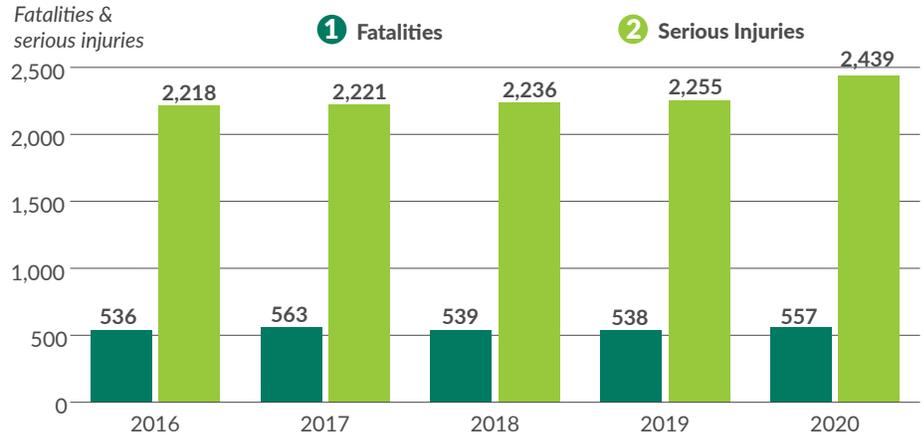
There were 557 traffic fatalities on all public roads in 2020, a 3.5% increase compared to the 538 in 2019. At the same time serious traffic injuries still continue an upward trend, showing a 10% increase from 2016 to 2020 and an 8% increase from 2019 in 2020 (refer to graph at above right).

Injury rates on the rise while VMT drops in 2021

The rate of traffic fatalities has increased 18% from 0.881 to 1.04 from 2016-2020 and the serious injury rate increased 25% during the same period from 3.645 to 4.558 per billion vehicle miles traveled (refer to graph at below right).

With a 14% decline in vehicle miles traveled from 2019 to 2020, these increases suggest that throughout the pandemic, driving patterns and behaviors changed significantly, and that more drivers engaged in risky behavior, including speeding, failing to wear seat belts, and driving under the influence of drugs or alcohol.

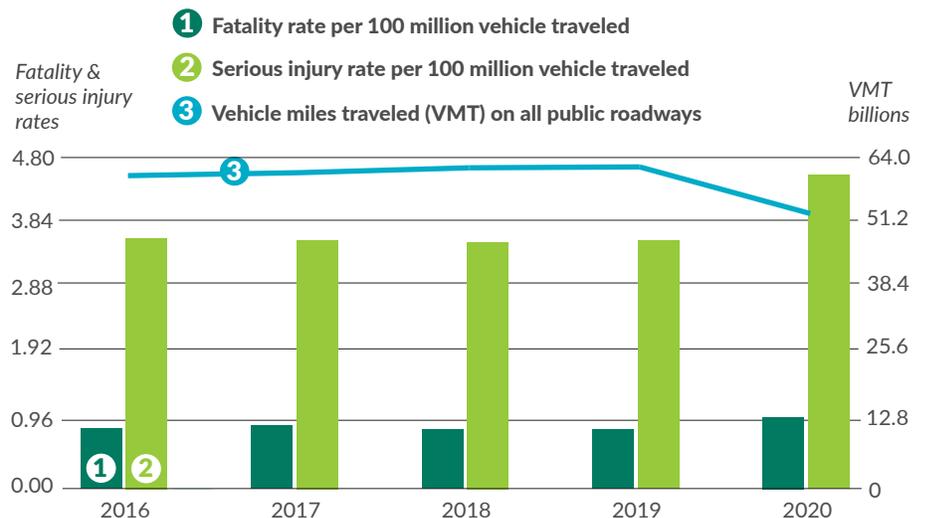
Fatalities and serious injuries on Washington public roadways increase from 2019 to 2020



Data source: WSDOT Transportation Data, GIS and Modeling Office; the Coded Fatal Crash System (CFC), Washington Traffic Safety Commission.

Note: Both fatality and serious injury numbers are updated as new information becomes available and, as a result, may not match numbers from previous Gray Notebooks.

Fatality and serious injury rates on Washington public roadways show increase as vehicle miles traveled decrease from 2019 to 2020



Data sources: WSDOT Transportation Data, GIS and Modeling Office; the Coded Fatal Crash System (CFC), Washington Traffic Safety Commission.

Notes: Both fatality and serious injury numbers are updated as new information becomes available and, as a result, may not match numbers from previous Gray Notebooks. Statewide traffic fatalities and serious injuries on public roadways are per 100 million vehicle miles traveled (VMT); Statewide VMT on public roadways is in billions of miles.

Active transportation fatal and serious injury crashes increase in 2021

On average, the number of crashes involving active transportation users decreased by 25% in 2021 compared with the same period of 2016-2020. However, the number that were fatal and serious injury crashes increased an average of 9%, with the highest increases of 16% and 11% coming in February and April over the the same months in 2016-2020, (refer to graph below).

Active transportation usage continues to be on the rise

Since the COVID-19 pandemic started, more Washingtonians have chosen to bicycle and walk, which added to the number of road users

Active Transportation Plan Part 2 looks to the future

Walking and biking are essential parts of an integrated sustainable, multimodal transportation system. But with 22% of all traffic fatalities involving people walking and biking in 2020, WSDOT's Active Transportation Plans (parts 1 and 2) are looking to make the system safer for all travelers.

More than 9,400 traffic crashes involved people walking and biking on the Washington state route system from 2018 through 2020.

The [draft of the Washington State Active Transportation Plan](#) includes a systematic analysis of the level of traffic stress on roads (closely linked to historical crash contributing factors). It ranks traffic stress based on existing facility and road characteristics, posted speed, and vehicle volumes. The result of the analysis was the creation of a data layer that provides information about location gaps on the state system, as well as places where infrastructure and traffic control treatments that serve active transportation users are needed.

who are more susceptible to injuries on many road systems. On average, the number of bicyclists counted from January through July 2021,

increased 13% over pre-pandemic levels and the number of counted pedestrians was up 11% for the same period.

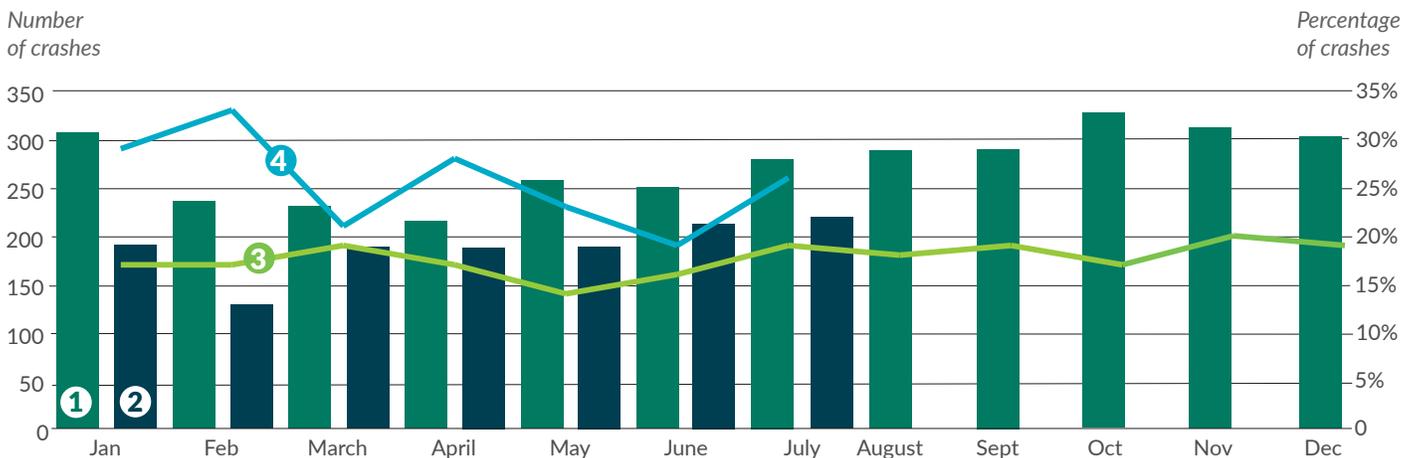
Total crashes involving active transportation users declines during the pandemic, but higher percentage result in fatal or serious injury crashes compared to 2016-2020 average

1 Average crashes involving active transportation users (2016-2020)

3 Average percentage of crashes involving active transportation users that resulted in fatal and serious injuries (2016-2020)

2 Crashes involving active transportation users in 2021

4 Percentage of crashes involving active transportation users that resulted in fatal and serious injuries in 2021



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

Notes: Due to data processing times, the most recent available full month of crash data is July 2021.

Aiming for zero fatalities and serious injuries in Washington

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

WSDOT uses Target Zero as a basis for its work on roadway infrastructure changes in an ongoing effort to prevent fatal and serious injury crashes and reduce the severity of crashes. To that end, WSDOT focuses on the planning,

design, operation, and maintenance of roadway infrastructure along with the deployment of high-performing countermeasures known to reduce fatal and serious crashes. WSDOT also uses Target Zero to help identify investment strategies for the agency's safety program and to measure progress toward its safety performance goals.

Target Zero uses its priorities to identify emphasis areas related to fatal and serious injuries (refer to table below). Each emphasis area encompasses broad categories of crash types and provides the basis for developing WSDOT's work that is focused on specific crash types and contributing factors. The expectation is that investments will likely reduce fatal and serious injury crash severity for individual or groups of crash types.

WSDOT sets safety goals based on Target Zero

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

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

Lane departures involved in most fatalities and serious injuries

Target Zero emphasis areas	Annual 2015-2019 Average	2019	2020
Lane departure	1,067.75	1,095	1,223
Run of the Road	780.5	806	915
Opposite Direction	287.25	289	308
Intersection related	886.75	873	920
Active Transportation User (Non-Motorist)	579.75	577	510
Pedestrian	449	465	403
Bicyclist	130.75	112	107
Motor Vehicle Driver Age 16 to 25 Involved	898	833	925
Heavy Vehicle Involved	205.5	211	190
Motorcycle	469.5	504	503
Motor Vehicle Driver 70 Plus Involved	274.5	350	329

Data source: WSDOT Transportation Data, GIS and Modeling Office; the Coded Fatal Crash System (CFC), Washington Traffic Safety Commission.

Within the Strategic Highway Safety Plan emphasis areas, WSDOT's primary focus is on those the agency can directly affect by implementing crash countermeasures related to crash type such as crashes involving lane departures, crashes that are intersection-related, and crashes related to road user groups such as young drivers, older drivers, pedestrian and bicyclists, heavy trucks, and motorcyclists.

Lane departure crashes, also known as "roadway departure crashes," are one of the leading crash types identified in the SHSP. In 2020, there were 238 lane departure fatalities and 985 lane departure serious injuries compared to 270 and 825 in 2019, respectively. While lane departure fatalities decreased, the total number of lane departure fatalities and serious injuries increased by 11.6% from 2019 to 2020.

WSDOT uses widespread, lower-cost strategies aimed at reducing the incidence of high severity lane departure crashes, including using enhanced warning signs, centerline, and shoulder rumble strips that alert drivers when their vehicles are leaving the lane, and high-friction surface treatments; and reducing the severity of these crashes using traffic barriers.

Intersection-related crashes are crashes that occur at/or are related to intersections and ramps. There were 132 intersection-related fatalities and 788 intersection-related serious injuries in 2020 compared to 114 and 759 respectively in 2019. The total number of fatalities and serious injuries increased by 5.3% from 2019 to 2020.

Pedestrians are vulnerable road users often referred to as active transportation users who walk, run or may use a mobility assistive device. In 2020, there were 97 pedestrian related fatalities and 306 serious injuries compared to 107 and 358 respectively in 2019, a 13% decrease in total fatalities and serious injuries from 2019 to 2020.

To reduce the potential for crashes between drivers and active transportation users, state safety partners are designing roads with reduced speeds, working to reduce distances at road crossings, increasing visibility, separating infrastructure (e.g. bike lanes), completing transportation network connections, and reducing the risks of impaired-involved crashes.

WSDOT recognizes that continuing improvements to performance-based decision-making, data collection, and analysis are essential in any efforts to effectively reduce fatalities and serious injuries on Washington roads.

Contributors: Mike Bernard, John Milton, Ida van Schalkwyk, Elena Brunstein and Joe Irwin

Data sources:

Fatality data in this article are from Washington Traffic Safety Commission - Coded Fatal Crash System (CFC); Serious Injury data are from WSDOT Transportation Data and GIS Office.

Fatal and Serious Injuries crash numbers are from WSDOT Crash Data Mart as of July 2021. Annual numbers represent the yearend data used for federal reporting. Data are updated as new information is available and, as a result, may not match numbers from previous GNBs.

83 BRIDGES ANNUAL REPORT

WSDOT bridge conditions worsen in 2021

The number of bridges and the amount of square feet on WSDOT-owned bridges in poor condition increased from 164 bridges (3.5 million square feet) in June 2020 to 179 (3.8 million square feet) in June 2021. While some inventory was removed from the poor condition category due to repair, rehabilitation or replacement, the percentage of WSDOT-owned bridges in poor condition increased from 6.2% in June 2020 to 6.7% in June 2021. Much of this increase was due to having two I-90 bridges that cross the Mercer Slough in King County transition from fair to poor condition.

As of June 2021, 93.2% of WSDOT-owned bridges by deck area were in fair or better structural condition, declining from June 2020 when 93.8% of bridges by deck area were in fair or better condition (refer to table below). Despite the drop, the agency met its annual goal of having at least 90% of its bridges by deck area in fair or better condition.

WSDOT meets performance goal with 93.2% of bridges in fair or better condition as of June 2021; number of bridges in poor condition increases

June 2017 through June 2021; Condition categories; Deck area in millions of square feet; Percent of bridges by deck area; Number of bridges

Structural condition rating	June 2017	June 2018	June 2019	June 2020	June 2021	
Good	Bridge deck area	20.3	20.9	21.3	21.2	20.8
	Percent of deck area	37.3%	38.4%	37.1%	37.5%	37.0%
	Number of bridges	1,699	1,701	1,729	1,726	1,725
Fair	Bridge deck area	29.7	29.4	32.0	31.8	31.5
	Percent of deck area	54.5%	54.1%	55.7%	56.3%	56.2%
	Number of bridges	1,450	1,456	1,457	1,452	1,461
Fair or better¹	Bridge deck area ²	49.9	50.3	53.3	53.0	52.3
	Percent of deck area ²	91.8%	92.5%	92.9%	93.8%	93.2%
	Number of bridges	3,149	3,157	3,168	3,178	3,186
Poor	Bridge deck area	4.5	4.1	4.1	3.5	3.8
	Percent of deck area	8.2%	7.5%	7.1%	6.2%	6.7%
	Number of bridges	163	165	158	164	179
Total	Bridge deck area	54.4	54.4	57.4	56.5	56.1
	Number of bridges	3,312	3,332	3,326	3,336	3,365

Data source: WSDOT Bridge and Structures Office.

Notes: The above data shows WSDOT-owned bridges, culverts, and ferry terminals longer than 20 feet that carry vehicular traffic. All numbers shown in the table above are based on the "out-to-out" calculation method (which includes curbs and rails on the bridge) instead of the bridge width from curb to curb. **1** WSDOT's goal is to have at least 90% of its bridges by deck area in fair or better condition. **2** Numbers and percentages have been rounded up and may not add exactly as a result.

Notable results

- The percentage of deck area on WSDOT-owned bridges in poor condition increased to 6.7% in June 2021 from 6.2% in June 2020
- WSDOT owned 302 bridges 80 years old or older as of June 2021, an increase of 10 bridges (3.4%) from 292 in June 2020
- There were 131 WSDOT-owned bridges that were load posted or load restricted in June 2021, up from 130 in June 2020

Bridge Condition Ratings

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

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

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

National Highway System

The National Highway System is a network of strategic highways in the United States that includes both state and local highways as well as roads serving major airports, ports, rail and/or truck terminals, and other facilities. Washington's NHS network includes 2,578 bridges with 51.8 million square feet of deck area.

West Seattle Bridge affects statewide NHS condition percentages

The West Seattle High Rise bridge is an approximately 1,300-foot-long bridge that connects south Seattle to West Seattle. The NHS structure includes 142,040 square feet of deck area, increasing the amount in poor condition for local agencies. In 2013, transverse cracking was found on the outside face of the center span girder soffit during a routine inspection.

From 2013 to 2019, the cracks were closely monitored and were progressing into other areas of the girder. In early 2020, an inspection revealed further accelerated cracking prompting closure of the bridge on March 23, 2020. Stabilization measures were completed and monitoring of the structure continues. As of November 2021, the bridge was on schedule for a full repair with its reopening planned for mid-2022.

WSDOT bridges on National Highway System in poor condition experience increase since June 2020

Approximately 3.3 million square feet (6.8%) of WSDOT's total 47.7 million square feet of bridge deck area on the National Highway System was on structures in poor condition as of June 2021 (refer to box at top left). This was an increase from June 2020, when 3.1 million square feet (6.4%) of WSDOT-owned bridge deck area on the NHS was in poor condition.

The two bridges on Interstate 90 in King County dropping from fair to poor condition between July 2020 and June 2021 were major factors in this change.

Amount of square feet in poor condition on National Highway System bridges increases statewide but remains below 10% in 2021

In June 2021, there were 127 bridges with 3.6 million square feet of deck area in poor condition on the National Highway System (refer to table below) in all of Washington state.

The 3.6 million square feet in poor condition—which includes 356,405 square feet on 16 structures owned by local agencies like cities and counties—made up approximately 7.0% of the total 51.8 million square feet of deck area on the NHS in Washington. It also was an increase from June 2020, when 6.6% of bridge deck area on the NHS in Washington was in poor condition.

While moving in the wrong direction, this total meets the performance target for the federal Transportation Performance Management Act, which mandates that total bridge deck area in poor condition on the NHS not exceed 10%. Per the statewide [Transportation Asset Management Plan](#), WSDOT expects the state to meet this target through 2022, but fall short of it by 2028.

By deck area, 6.8% of WSDOT-owned bridges on the National Highway System are in poor condition

As of June 2021; Percent of bridge deck area on bridges in good, fair or poor condition; Deck area in square feet

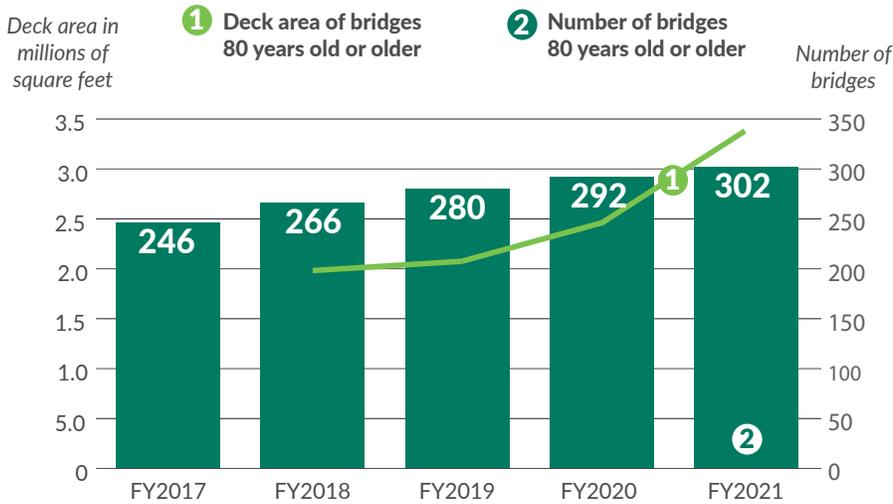
	Deck area in millions ¹	Number of bridges
WSDOT-owned	47.7	2,361
Amount poor (%)	3.3 (6.8%)	111
Locally owned²	4.1	217
Amount poor (%)	356,405 ³ (8.2%)	16
Total	51.8	2,578
Total poor (%)	3.6 (7.0%)	127

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

Notes: **1** Due to rounding, some totals are not computable based on the numbers in the table. **2** Bridges owned by counties and cities. **3** Actual deck area.

WSDOT has 302 bridges 80 years old or older, continuing upward trend as amount of deck area surges to 3.4 million square feet as of June 2021

June 2017 through June 2021; Deck area in millions of square feet; Number of bridges



Data source: WSDOT Bridge and Structures Office.

Notes: Deck area of bridges 80 years old or older was not calculated prior to FY2018. Starting in FY2021, data includes border bridges not counted in previous GNBs.

WSDOT-owned bridge deck area that is 80 years old or older increases 36% between June 2020 to June 2021

As of June 2021, 302 of WSDOT's 3,365 bridges were 80 years old or older. These older bridges comprised approximately 3.4 million square feet of deck area, marking an increase of 36% over the 2.5 million square feet of deck area reported in June 2020 (refer to graph above). This large upswing was due to the addition of the I-90 Lacey V. Murrow bridge, which added 500,000 square feet of deck area (refer to box at right) as well as the Hood River Bridge and Columbia River Bridge which added 246,000 square feet of deck area. The latter two are border bridges and were not included in previous Gray Notebooks.

Bridges 80 years old or older made up 6.0% of the total 56.1 million square feet of deck area on WSDOT-owned bridge as of June 2021.

Between June 2020 and June 2021, the number of WSDOT-owned bridges 80 years old or older increased by 10 bridges (3.4%). Over the five-year period June 2017 through June 2021, the number of WSDOT-owned bridges 80 years old or older increased by 22.8%, going from 246 bridges in June 2017 to 302 bridges in June 2021.

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

WSDOT adds Lacey V. Murrow bridge to tally of bridges 80 years or older

For the year ending June 2021, WSDOT is adding the Interstate 90 Lacey V. Murrow bridge to its counts of bridges that are 80 years old or older. Much of the bridges (there are two included in the structure, but they are counted as a single bridge) were replaced in early 1990s—including all of the floating pontoons—but some of the original 1940 structure was retained (primarily approach structures on the west and east ends of the bridge). Because the entire structure was not replaced, the year built remains 1940, but (due to the replacement work) was not counted in the last Gray Notebook. This 81-year-old bridge and its approaches account for more than 500,000 square feet of deck area added to the 80 years old or older category.

WSDOT reports bridge conditions by deck area

Reporting bridge conditions by deck area provides a clearer picture of WSDOT's bridge network than reporting numbers of bridges alone. For example, as of June 2021, 179 (5.3%) of WSDOT's 3,365 bridges were in poor condition.

However, these 179 bridges had 3.8 million square feet of deck area—6.7% of the 56.1 million square feet of deck area on WSDOT-owned bridges (refer to chart on p. 15). Reporting bridge conditions by deck area allows WSDOT to provide a more accurate picture of how many of its bridge assets are in poor condition. This reporting method also aligns with federal reporting requirements (refer to p. 8).

WSDOT needs to replace 18 bridges, rehabilitate 22 bridges

As of June 2021, there were 18 WSDOT-owned bridges with 174,589 square feet of deck area in need of replacement (refer to chart below). This represents a 67.1% increase in deck area from the 104,464 square feet reported for June 2020, when there were 12 bridges in need of replacement.

WSDOT owned 22 bridges (with 716,752 square feet of deck area) that were in need of structural rehabilitation as of June 2021. This represents a 32.6% increase in deck area from the 540,608 square feet reported in June 2020, when 18 WSDOT-owned bridges were in need of rehabilitation.

WSDOT had three active contracts underway to replace or rehabilitate bridges as of June 2021, including rehabilitation work on the US 197 Columbia River - Dalles Bridge—which spans 3,345 feet between Oregon and Washington and has 102,700 square feet of deck area. The Dalles is one of 11 border bridges for which WSDOT shares responsibility with Oregon or Idaho.

As of June 2021, WSDOT projections indicate there were 79 bridges (with 616,181 square feet of deck area) that will need to be replaced or rehabilitated over the next 10 years. While this is two fewer bridges than the projected 81 that needed replacement or rehabilitation as of June 2020, the amount of deck area increased 51.9% over the past year from 405,578 square feet.

The longer these bridges are left in need of rehabilitation or replacement, the more likely it is that they will need to be load restricted, load posted, or closed.

WSDOT expects an additional 79 bridges to need replacement or structural rehabilitation within the next 10 years

As of June 2021 compared to June 2020; Deck area in square feet

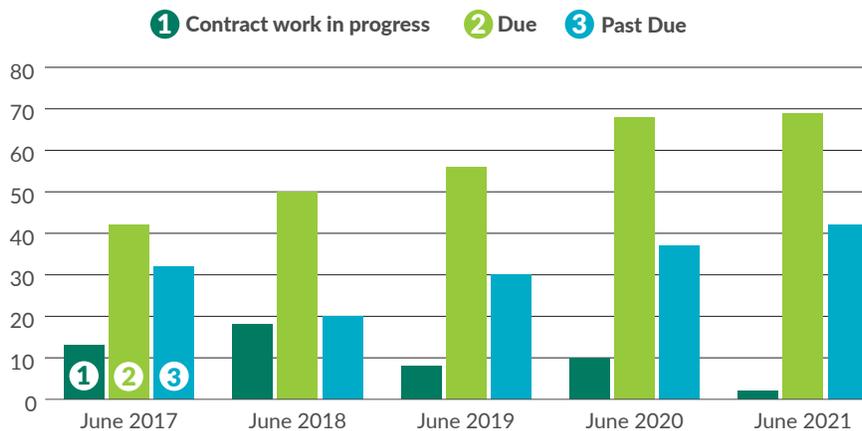
Bridge status	Number of bridges		Deck area	
	2020	2021	2020	2021
Contract work - Active	6	3	63,838	127,058
Replacement currently needed	12	18	104,464	174,589
Rehabilitation currently needed	18	22	540,608	716,752
Border Bridges ¹	1	0	102,700	0
Rehabilitation or replacement to be needed within 10 years	81	79	405,578	616,181
Total 10-year needs	117²	122	1.1 million	1.6 million

Data source: WSDOT Bridge and Structures Office.

¹ WSDOT funds 50% of preservation for 11 border bridges that cross state lines. ² Does not include border bridge listed above.

WSDOT has 111 concrete bridge decks either due or past due for rehabilitation as of June 2021, an increase of 50% from 74 in June 2017

2017 through 2021; Number of bridges by status of rehabilitation need



Data source: WSDOT Bridge and Structures Office.

WSDOT has 111 concrete bridge decks due or past due for rehabilitation

As of June 2021, 69 of WSDOT's bridges (with 2.1 million square feet of deck area) were due for concrete bridge deck rehabilitation. This is a 1.4% increase from 68 bridges (with 2.5 million square feet) due for rehabilitation in June 2020, and a 64.3% increase from the 42 concrete bridge decks that were due for rehabilitation in June 2017. The I-90 Lacey V. Murrow Bridge (refer to p. 17) is counted as one structure but includes two wide, long bridges—2,800 feet long and 65 feet wide, and 2,700 feet long and 74 feet wide—which dramatically affected the total square footage in poor condition.

In addition, 42 bridges (with 415,099 square feet of deck area) were past due for concrete bridge deck rehabilitation—a 13.5% increase from 37 bridges (with 325,060 square feet of deck area) in June 2020 and a 31.3% increase from 32 bridges in June 2017. These increases are largely attributable to the aging of WSDOT's bridges combined with the comparatively small numbers of concrete bridge decks WSDOT has had the funding to rehabilitate over the last five years (refer to chart above).

Rehabilitating due and past due concrete bridge decks requires an ever-increasing percentage of WSDOT bridge crew resources, and comes at the expense of structural repairs. As of June 2021, two WSDOT-owned bridges (with 331,311 square feet of deck area) were under contract to have their bridge decks rehabilitated.

Due vs. past due for bridge deck rehabilitation

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

Prioritizing bridge work

WSDOT uses the following criteria to prioritize its rehabilitation and replacement work.

- Border bridge (crosses a state line)
- Movable bridge
- Bridge located on a strategic freight route
- Bridge type
- Bridge condition
- Daily truck traffic on bridge

Number of WSDOT-owned load restricted and load posted bridges increases

As of June 2021, a total of 131 WSDOT-owned bridges longer than 20 feet were load restricted or load posted, a slight increase from 130 in June 2020 and a 10% increase from 119 in June 2017 (refer to chart at right).

Of the 131 load posted and load restricted bridges as of June 2021, 101 were on the National Highway System. Of these, 69 were load restricted, two were load posted for legal loads and 30 were load posted for emergency vehicles. Posting bridges for emergency vehicles follows requirements to perform emergency vehicle load ratings on all bridges on or within one mile of interstate roadways.

As part of the bridge inspection program, WSDOT performs load rating evaluations to verify whether bridges can safely carry the weight of traffic. If a load rating evaluation result shows a structure cannot safely carry certain loads because of bridge deterioration, damage or because a bridge was designed and built when standard truck weights were

WSDOT has 131 load restricted or load posted bridges

June 2017 through June 2021; Number of bridges with weight restrictions



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

Notes: Structures posted for emergency vehicles are not included in these numbers. **1** "Load restricted" bridges cannot be legally used by overloaded trucks. **2** "Load posted" bridge limits the allowable weight of trucks to below typical legal weights.

lower than they are now, WSDOT implements weight restrictions to reduce the risk of further damage and to ensure bridges are safe for the traveling public.

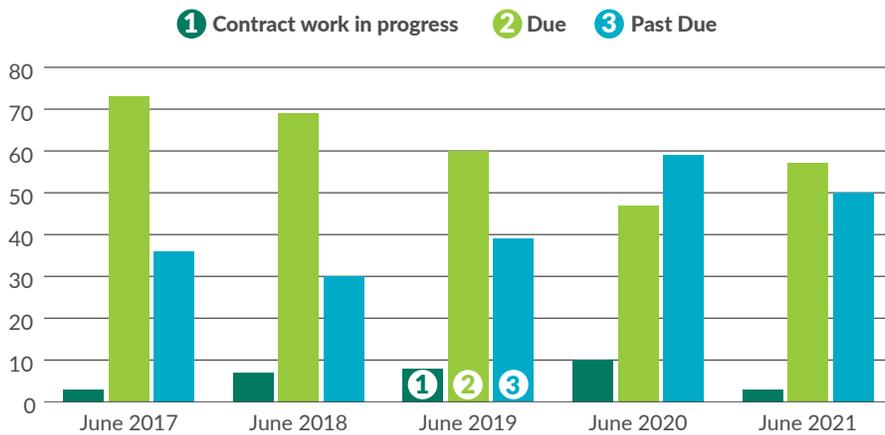
When the load carrying capacity of a bridge is low, WSDOT first looks at placing load restrictions on the bridge, which limits or prohibits overload vehicles (also known as permit vehicles) from using the bridge. If a load restriction is not sufficient to protect the bridge, WSDOT will then place a load posting on the bridge. This limits

the allowable weight of trucks to below typical legal weights and requires any trucks over the posted weight limit to take an alternate route. Structural improvements are required to correct load restricted or posted bridges.

WSDOT closes bridges that are beyond the thresholds of being load posted or load restricted. Closed bridges may be reopened after sufficient repairs and strengthening have been completed. Closed bridges are reported as being in poor condition (refer to p. 15).

The number of WSDOT-owned steel bridges past due for painting sees 39% increase from 36 in June 2017 to 50 in June 2021

2017 through 2021; Number of bridges by status of repair need



Data source: WSDOT Bridge and Structures Office.

Square footage of steel surface on bridges due or past due for painting increases 14.7% from June 2020 to June 2021

As of June 2021, WSDOT had 50 steel bridges (with more than 5.4 million square feet of steel surface area) past due for painting, and 57 (with more than 3.5 million square feet of steel surface area) were due for painting.

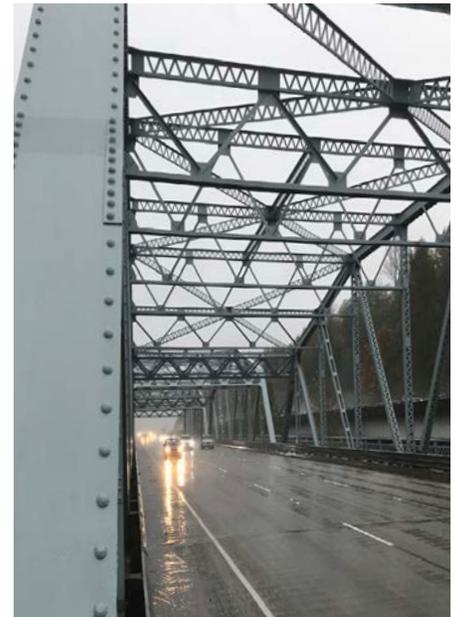
The June 2021 total of approximately 9.0 million square feet of steel either due or past due for painting the 107 bridges is a 14.7% increase from June 2020, when 7.8 million square feet of steel surface area on 106 bridges was either due or past due for painting.

WSDOT classifies steel bridges as due for painting when between 2% and 5% of their steel surface area is exposed; when more than 5% of a bridge's steel surface area is exposed, it is classified as past due for painting.

The total number of steel bridges either due for painting, past due for painting or under contract to be painted was similar in June 2017 (109) and June 2021 (107). However, there were 38.9% more bridges past due for painting in June 2021 (50 bridges) than in June 2017 (36 bridges; refer to chart above).

WSDOT also had three steel bridges (with 127,250 square feet of steel surface area) under contract to be painted as of June 2021. The new paint is expected to protect the steel for another 25 years.

Contributors include George Comstock, Mark Gaines, Sonia Lowry, Tim Rydholm, DeWayne Wilson and Joe Irwin



The southbound Stillaguamish River Bridge on Interstate 5 in Snohomish County after WSDOT completed repainting it.

Notable results

- As of September 2021, 44% of WSDOT-owned primary buildings were in poor condition, a 10 percentage point improvement from 54% of buildings in poor condition in 2019
- WSDOT had 73% of its Safety Rest Area bathrooms in fair or better condition as of September 2021

Condition guide

- **Good condition:** system components are in good condition, with some elements showing signs of deterioration that require attention, but are typically safe and reliable with minimal capacity issues and low risk of failure.
- **Fair condition:** the facility shows signs of deterioration and requires attention, some elements exhibit significant deficiencies in condition and functionality, and there is an increased risk of failure with some components approaching the end of their service life.
- **Poor condition:** a large portion of systems exhibit significant deterioration, and condition and capacity are of serious concern. There is a strong risk of component/system failure. These multiple major deficiencies will lead to unexpected repairs and unplanned costs.

WSDOT has 44% of its primary buildings in poor condition

As of September 2021, 126 (44%) of WSDOT's primary buildings were in poor condition, an improvement from 153 (54%) in 2019 and a slight improvement compared to 126 (45%) in 2017—when WSDOT owned three fewer primary buildings. Capital facilities' 2021 condition assessments showed that 132 (46%) primary buildings were in fair condition, an improvement from 110 (39%) in 2019, and 28 (10%) primary buildings were in good condition, an improvement over 21 (7%) in 2019 and 22 (8%) in 2017.

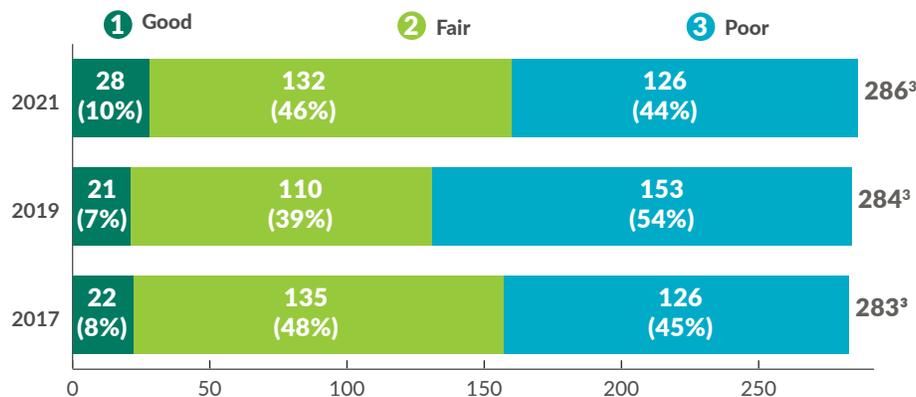
These improvements from 2019 reflect two key facts:

- The agency has spent over \$100 million to replace/renovate a couple of aging buildings with new buildings as the needs of staff and the public have changed.
- WSDOT refined its condition assessment process during the 2019-2021 biennium and used a new IT application to support the process. This resulted in a more detailed picture of asset conditions.

WSDOT owns over 1,000 buildings that support staff—along with equipment and supplies—to maintain agency operations. Of those buildings, 286 are primary buildings (over 2,000 square feet). WSDOT focuses on these buildings for reporting because they represent the largest capital investment by the agency in its buildings, and are the key infrastructure that supports staff and operations.

Majority of WSDOT's primary buildings in fair condition

Number and percentage¹ of WSDOT primary² buildings by condition; September 2021 compared to two previous biennia.



Data source: WSDOT Capital Facilities Office.

Notes: 1 Percentages may not add to 100 due to rounding. 2 Primary buildings are agency-owned buildings 2,000 square feet or larger. 3 WSDOT added one new primary building to its inventory between 2017 and 2019, and two between 2019 and 2021.

WSDOT's primary buildings average 47 years old

The average age of WSDOT's primary buildings is 47 years old. Of the 286 primary buildings, 70 (24%) are 25 years old or newer, while 97 (34%) are between 26 and 50 years old, and 119 (42%) primary buildings are more than 50 years old, with 11% (32) of these built in the 1930s.

By 2031, 95% of WSDOT's current primary buildings will be more than 25 years old, and 62% percent will be more than 50 years old—the age that the Washington State Office of Financial Management considers them to be at end of their useful service life. Without major renovations, buildings this old do not have the design or infrastructure to meet a modern workforce's needs and may result in more difficult investment decisions. Renovations alone will not solve the problems at many of WSDOT's maintenance facility buildings and sites.

The Spokane Street Section Maintenance Facility in WSDOT's Northwest Region supports approximately 30 staff performing 24-hour operations, including drain cleaning, roadway sweeping, tunnel washing, guardrail repair, road surface repairs, and right of way cleanup operations. The facility includes four primary buildings—with 19,000 total square feet—that are more than 90 years old. The vehicle storage bays are too small to store modern trucks, and the aging administration building doesn't function well for staff. Site utilities are in poor condition, primarily because the site was built on fill with a high water table that negatively impacts water and wastewater utility connections.

Deficiencies identified in the condition assessment at the Spokane Street maintenance facility include boiler issues, poor insulation, minimal site lighting, and asbestos concerns.

The backlog of the four primary buildings (all in poor condition) is estimated at \$3 million, but that investment would not change the underlying problems at the site.

Nearly half of Safety Rest Area restroom buildings will be 50 or older by 2031

The average age of WSDOT Safety Rest Area restroom buildings is 30 years. As of September 2021, 20 restroom buildings (32%) were less than 26 years old, while 27 (43%) were between 26 and 50 years old. The remaining 16 (25%) buildings were over 50 years old. In 10 years, 48% of restroom buildings will be more than 50 years old. Aging buildings produce additional maintenance needs which can result in increased closures to address repairs.

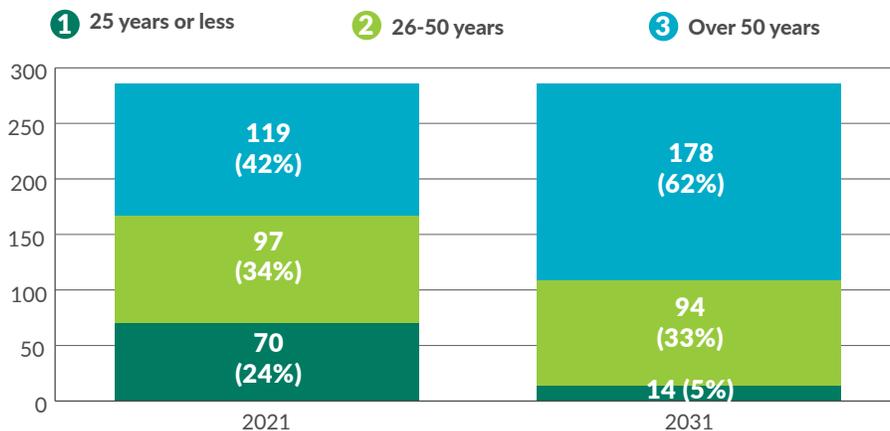
Most Safety Rest Area restroom buildings are in fair condition

As of September 2021, 10 (16%) of WSDOT Safety Rest Area restroom buildings were in good condition, and 36 (57%) were in fair condition. However, 17 (27%) were in poor condition—meaning they have major deficiencies that will likely impact services. The overall condition of Safety Rest Area bathroom buildings has remained steady since the last biennium, but misuse of some facilities has led to temporary closures at some sites during the 2020-2021 winter season.

While the majority of bathroom buildings were in fair condition, the sites they are located on have continued to deteriorate at a quicker pace. Sixty-four percent of Safety Rest Area sites improvements were in poor condition, and zero were

Approximately 62% of WSDOT's buildings will be over 50 years old by 2031

Number of WSDOT primary buildings by age; September 2021; Projected for September 2031¹



Data source: WSDOT Capital Facilities Office.

Notes: Percentages may not add to 100 due to rounding. 1 Projections based on current inventory.

considered good condition. Site infrastructure like pavement, fresh water service, and wastewater systems are expensive to maintain critical to keeping the Safety Rest Areas open the public. As this infrastructure continues to age and deteriorate, it forces more frequent and unexpected closures of the buildings and services at Safety Rest Areas.

Safety Rest Area usage decreases by 20.1% in 2020

In 2020, the COVID-19 pandemic kept most drivers close to home, but Safety Rest Areas were still a critical need for many travelers, including truck drivers. WSDOT Safety Rest Areas served 18.6 million travelers in 2020, a 20.1% decrease from 23.5 million in 2019. Safety Rest Areas are critical infrastructure to support the trucking industry. Seventy percent of America's freight is moved by truck, and the country's 3.5 million truck drivers were essential workers helping to keep shelves stocked with medical supplies and groceries during the pandemic.

The federal government suspended enforcement of rules that set the maximum hours that truck drivers can work without a break, but drivers faced challenges in finding places to stop with businesses closed.

WSDOT's Safety Rest Areas remained open throughout Gov. Jay Inslee's stay-at-home orders and provided places to stop and rest. WSDOT Safety Rest Area staff worked diligently to follow Centers for Disease Control guidelines and provided additional cleaning sessions to reduce the spread of the virus.

WSDOT's preventive maintenance completion rates decrease

During the 2019-2021 biennium, WSDOT completed 76% of its Facilities Preventive Maintenance Plan tasks, down seven percentage points from 83% in the 2017-2019 biennium. As facilities continue to age, costs for emergency repairs have increased, which decreased funding available for preventive work. In addition, the COVID-19 pandemic affected WSDOT's ability to deploy and hire staff, as well as use vendors to fill in labor gaps. These staffing issues significantly impacted the agency's ability to complete preventive maintenance tasks.

Staffing will continue to be a challenge in the near future as WSDOT works to keep its facilities operational. In WSDOT's Northwest Region, the Everett Headquarters Supervisor/Crew building has had a broken rooftop heater for two years. In a stopgap effort in 2019, a wall heater was installed that borrowed the circuit wiring from the rooftop unit. In spring 2020, the wiring was switched back to the rooftop unit for ventilation. The wiring has once again been switched back for this winter to run the wall heater.

Temporary fixes like this are prevalent throughout the state and require time and efforts from maintenance staff that would otherwise be used on preventive maintenance.

Maintenance backlog for primary buildings decreases

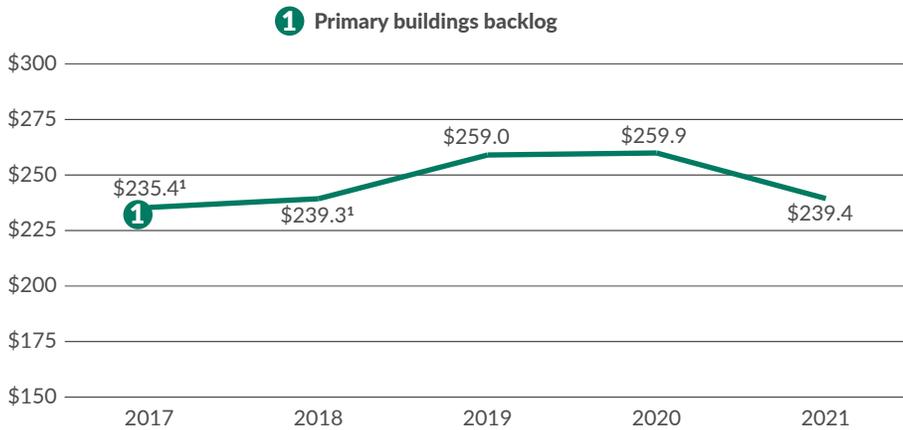
As of September 2021, the total preservation backlog for WSDOT primary buildings was estimated at \$239.4 million, a decrease of \$20.5 million from \$259.9 million in 2019. This decrease was primarily due to the improvements of the Northwest Region Dayton Avenue building project, but it was not enough to offset the resulting \$4.0 million increase in backlog since 2017 (refer to graph on p. 25).

WSDOT nearing completion of Dayton Avenue building remodel, reduces backlog

WSDOT's Dayton Avenue Regional Headquarters Building Renovation project is mostly complete and has removed \$19.9 million from the maintenance backlog. The renovation revamped the six-story office structure on Dayton Avenue in Seattle, totaling 161,882 square feet of interior building space. The office space serves as WSDOT's Northwest Regional headquarters housing approximately 420 WSDOT staff, and 200 Washington Department of Ecology employees. In addition to the primary building renovation, a new 7,000 square foot storage building has been added to the site. Electric vehicle charging stations were also added, as well as substantial utility and frontage improvements. The renovated Dayton Avenue Regional Headquarters Building will achieve [LEED Silver certification](#) as a result of this refurbishment.

WSDOT primary buildings backlog decreases in 2021, up in five-year trend

Total backlog of primary buildings (over 2,000 square feet); 2017 through 2021; Dollars in millions



Data source: Washington State Department of Transportation Capital Facilities Office.

Note: 1 Adjusted to 2015 dollars to align with previous reports.

WSDOT aims to further reduce backlog by selling surplus inventory

Another approach to decreasing backlog is by reducing building inventory. WSDOT recently sold a site in Wenatchee that contained two buildings built in the 1930s, which were replaced by new buildings at the North Central Region headquarters complex (also in Wenatchee). With the two older buildings off the books, the maintenance backlog decreased by \$11.6 million.

WSDOT is nearing completion of the new Olympic Region headquarters in Lacey. When complete, the facility will replace the headquarters location in Tumwater and remove \$25.8 million of maintenance backlog as aging buildings are replaced with new ones.

WSDOT continues to focus on staff and public safety

As a result of funding challenges and safety concerns, WSDOT has made some difficult decisions such as suspending the use of buildings to protect staff. WSDOT ceased full-time use of the 1st Avenue modular crew building in Seattle, moving many crew functions to another site. In addition to the building's condition, other significant reasons for the departure included safety concerns due to property damage, vandalism, and theft.

Safety Rest Areas on I-5 north of Seattle (including Silver Lake, Smokey Point, and Custer SRAs in both directions) are closed for winter 2021 primarily due to staff and budget challenges combined with unsafe environments created by improper use of these public facilities.

Facilities staff are making workplaces safer for WSDOT employees whenever possible. Arc flashes at electrical panels pose a threat to the health and safety of maintenance staff, but determining the true potential for an arc flash is an expensive process that requires individual analysis at each facility. Until that analysis can be completed, electrical panels that pose an arc flash threat are being labeled to remind staff to use appropriate personal protective equipment and safety protocols when applicable. WSDOT's Southwest Region, headquartered in Vancouver, labeled panels that could pose a threat.

In the face of the COVID-19 pandemic, WSDOT made improvements to increase the safety of its facilities and reduce virus transmission wherever feasible, including heating, ventilation and air conditioning adjustments, filter replacements, physical barriers, and increased cleaning. For example, WSDOT's Southwest Region replaced all faucets and flushers in their Safety Rest Areas with touchless versions for roughly \$50,000. This reduced the maintenance backlog and increased the safety of the facilities for the traveling public. These same replacements will also occur in all of the buildings in WSDOT's Southwest Region in the next few years.

WSDOT modern workplace—responding to changing times

WSDOT has been proactive to changing workplace needs, consolidating space and redeveloping various sites in the 2019-2021 biennium to help provide employees flexibility and choice regarding where and how they want to work and support the evolving work patterns of the agency's workforce. Changes in the Seattle area include:

- 23,000 square feet of administrative space was vacated in the Goldsmith Building, saving WSDOT \$745,000 in annual lease cost. Dislocated programs moved to the WSF headquarters building.
- WSF headquarters reduced its leased footprint by 12,000 square feet (13%) to accommodate area needed for intra- and inter-agency co-location.
- Redeveloped WSF headquarters space aligns with a changing business model focused on virtual capability.
- Previously assigned offices throughout WSF Headquarters were transitioned to flexible meeting spaces.
- Previously assigned workstations transitioned to a shared-use approach in nearly all instances. The majority of workstations will be used by as many as three employees.

Construction substantially complete on new Olympic Region headquarters

Construction of the new 26-acre Olympic Region headquarters facility is substantially complete and includes:

- 35,000 square foot administration building,
- 65,000 square foot building housing shops, vehicle maintenance and materials testing, and
- 11,000 square foot storage building.

Staff relocated to the new facility in June 2021 and were working from the site minimally under the appropriate COVID-19 restrictions. The addition of a large solar system that would provide approximately two-thirds of necessary power to the site is being negotiated. Construction is anticipated to be complete by March 2022. Additional funding for the fueling facility was received

and design is currently under way. Construction of the fueling facility is scheduled to start in the Spring 2022 and be completed by July 2022.

Funding for the radio tower construction was received and the construction was anticipated to start in October 2021, but the sub-contractor declined to meet the state's COVID-19 vaccination requirements. The prime contractor is seeking replacement sub-contractors.

WSDOT freezes minor projects for 2021-2023, delivers 2019-2021 projects

WSDOT has frozen all minor projects for the 2021-2023 biennium, shifting those funds to ensure the full completion of the Dayton Avenue and Olympic Region headquarters projects. WSDOT delivered the following capital facilities projects during the 2019-2021 biennium:

- Tumwater Materials Lab Bldg. — Roof Replacement, \$1,553,700

- White Pass Domestic Waterline Replacement, \$633,400
- Spokane Street Section Maintenance Facility Bldg. 1 — Roof Replacement, \$601,100
- Lakeview Area Maintenance Facility Bldg. 1 — Lift Rehabilitation, \$38,600
- Spokane Street Section Maintenance Facility Bldg. 1— Window Security, \$35,300
- Lakeview Area Maintenance Facility — Security Upgrades, \$20,500
- Oakesdale Section Maintenance Facility Bldg. 1 — Asbestos Floor Replacement, \$7,700
- Spokane Street Section Maintenance Facility Bldg. 1 — Roof Safety Improvements, \$7,200
- Kent Area Maintenance Facility Bldg. 1 — HVAC Inspection, \$2,800

Contributors include Brian Brannies, Steve Holloway, Angela Vigil, Zak Swannack, Hui Dong, Joe Irwin and Dustin Motte

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INCIDENT RESPONSE QUARTERLY UPDATE

WSDOT Incident Response teams help improve driver safety at 11,906 incidents

WSDOT’s Incident Response teams assisted at 11,906 incidents during the third quarter (July through September) of 2021. This averages to IR teams responding to an incident scene every 11 minutes and eight seconds during the quarter. Statewide travel has continued to increase since the initial decrease related to the first several months of the COVID-19 pandemic. As a result, there were 652 (5.8%) more incidents during the third quarter of 2021 compared to the same quarter in 2020 (11,254).

On average, IR teams cleared each of the 11,906 incidents in 16 minutes. This is one minute and 24 seconds (9.6%) slower than the average incident clearance time for the same quarter in 2020.

Of the 11,906 total incidents, 8,364 (70.3%) lasted less than 15 minutes, 3,319 (27.9%) lasted 15-90 minutes and 223 (1.9%) incidents lasted more than 90 minutes (refer to chart at right). Compared to the third quarter in 2020, there was an 8.8% increase in incidents lasting more than 90 minutes, while there were 21.6% more incidents lasting 15-90 minutes and 0.5% more incidents lasting less than 15 minutes.

Average clearance times increase slightly over past five years

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



Data source: Washington Incident Tracking System.

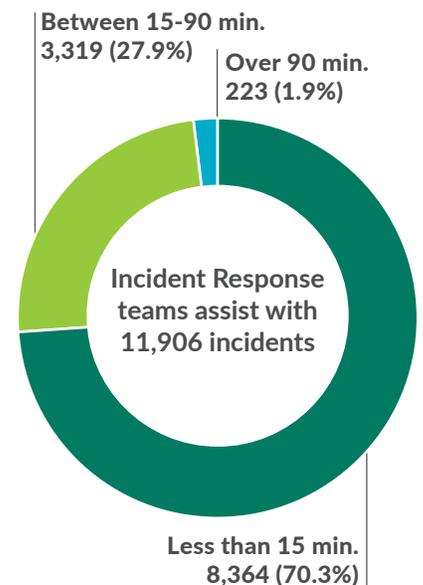
Notes: The data above only accounts for incidents to which an IR unit responded. IR data reported for the current quarter (Q3 2021) is considered preliminary. In the previous quarter (Q2 2021), WSDOT responded to 11,959 incidents, clearing them in an average of 13.4 minutes. These numbers have been confirmed and are now finalized.

Notable results

- WSDOT responded to 11,906 incidents during the third quarter of 2021, this was 652 (5.8%) more than during the same quarter in 2020
- In the third quarter of 2021, IR teams provided an estimated \$23.9 million in economic benefit by reducing the effects of incidents on drivers
- Based on WSDOT’s budget for IR, every \$1 spent on the program provided drivers \$15.94 in economic benefit this quarter

WSDOT clears majority of traffic incidents in 15 minutes or less

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



Data source: Washington Incident Tracking System.

Teams respond to 223 over-90-minute incidents

IR teams provided assistance at the scene of 223 incidents that lasted more than 90 minutes during the third quarter of 2021. This was 18 more incidents—an 8.8% increase—than the same quarter in 2020. While these over-90-minute incidents accounted for 1.9% of all incidents, they resulted in 24.5% of all incident-related delay costs (refer to chart at below).

Twelve of the 223 over-90-minute incidents took six hours or more to clear (referred to as extraordinary incidents). This was eight more extraordinary incidents than the same quarter in 2020. The 12 extraordinary incidents took an average of 11 hours and 13 minutes to clear, accounting for 5.0% of all incident-induced delay costs for the quarter.

The average incident clearance time for all over-90-minute incidents was

two hours and 59 minutes. This was 13 minutes and 13 seconds slower than the same quarter in 2020. Excluding the 12 extraordinary incidents, WSDOT's average clearance time for over-90-minute incidents was two hours and 31 minutes.

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

Incident Response provides economic benefit to travelers

The IR teams help alert drivers about incidents and clear roadways to reduce the likelihood of new incidents. WSDOT's assistance at incident scenes provided an estimated \$23.9 million in economic benefit during the third 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 \$13.6 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 \$10.3 million of IR's economic benefit for the quarter resulted from preventing an estimated 2,240 secondary incidents and resulting delay. This figure is based on Federal Highway Administration data that indicates 20% of all incidents are secondary incidents.

Based on WSDOT's budget for IR, every \$1 spent on the program during the third quarter of 2021 provided drivers \$15.94 in economic benefit.

WSDOT's Incident Response teams provide an estimated \$23.9 million in economic benefit

Third quarter 2021; Incidents by duration in minutes; Time in minutes; Costs and benefits in millions of dollars

Incident duration	Number of incidents ¹	Percent blocking ²	Average incident clearance time ³ (all incidents)	Cost of incident-induced delay	Economic benefits from IR program ⁴
Less than 15 min.	8,364	18.0%	4.9	\$10.3	\$4.8
Between 15 and 90 min.	3,319	57.1%	32.4	\$30.9	\$13.5
Over 90 min.	223	87.0%	179.4	\$13.4	\$5.6
Total	11,906	30.3%	16.0	\$54.6	\$23.9
Percent change from the third quarter of 2020	↑5.8%	↑1.6%	↑9.6%	↑17.1%	↑16.5%

Data source: Washington Incident Tracking System.

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

¹ Teams were unable to locate 704 of the 11,906 incidents. Because an IR team attempted to respond, these incidents are included in the total incident count. Other performance measures do not include the incidents that, IR teams were unable to locate.

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

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

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

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

The 11,906 incidents during the quarter had a total incident-induced delay cost of \$54.6 million. The majority of these incidents were less than 15 minutes. The cost of these 8,364 incidents, which comprised 70.3% of all incidents, was \$10.3 million (18.9% of the total cost). There were 3,319 incidents lasting 15-90 minutes, which accounted for 27.9% to the total amount, and cost \$30.9 million (56.6% of the total cost). Incidents lasting more than 90 minutes made up 223 (1.9%) of all incidents for the quarter and cost \$13.4 million (24.5% of the total cost during the quarter).

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

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

Governor recognizes Crash Responder Safety Week

The Crash Responder Safety Week initiative, recognizing all traffic incident management response communities, took place from November 8-14. This week provided an opportunity to make a difference individually and jointly for roadway safety during traffic incidents by teaching each other and the motoring public about responders' common goal and responsibility for safe, quick clearance.

Gov. Jay Inslee signed the proclamation for Crash Responder Safety Week on October 18, 2021, to increase the safety awareness of all of Washington state crash responders on the roadways.

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



Customer feedback:

- "The service was prompt, well executed, COVID-safe, friendly. Alvin helped me greatly to stay composed. I wish people drove more prudently and fixed things in their cars!"
- "Mark absolutely went above and beyond to help us get our 5 years old daughter to the cardiologist in Seattle. Our tire blew out at Exit 199. He called the proper people and got us back on the road safely. He was so kind that my wife was crying."
- "Knight in shining armor! Frank was Galavant, respectful, professional and kind!"

Incident Response helps reduce congestion

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

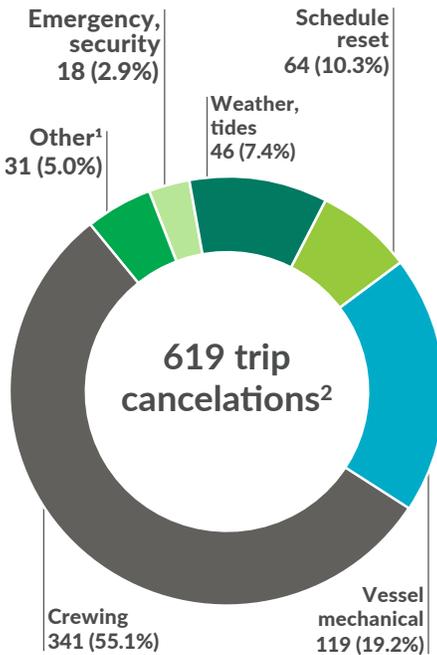
83 WASHINGTON STATE FERRIES QUARTERLY UPDATE

Cancelations increase and service changes

The cancelations that WSF faced in September increased into the first half of October. Those challenges and subsequent service changes—including reducing service by one vessel on multiple routes—will be detailed in the second quarter Gray Notebook report.

Crewing issues cause most cancelations for the quarter

First quarter (July-September) FY2022



Data source: Washington State Ferries.

Notes: Fiscal years run from July 1 through June 30. As a result, July through September 2021 represents the first quarter of FY2022. ¹ The category for “Other” includes events like disabled vehicles, environmental reasons and non-vessel related incidents that can impact operations. ² WSF replaced 45 of the 619 canceled trips for a total of 574 net missed trips.

WSF service reliability increases to 98.5%

There were 39,467 ferry trips scheduled during the first quarter of fiscal year 2022 (July through September 2021). Washington State Ferries completed 98.5% (38,893) of these trips. This missed the annual service reliability goal of 99%, but was an increase of 1.3 percentage points compared to the same quarter in FY2021.

WSF trip reliability improves, slightly misses goal in first quarter FY2022

LO

First quarters; Fiscal years 2018 through 2022; Percent of scheduled ferry trips completed



Data source: Washington State Ferries.

Notes: Fiscal year = July 1 through June 30. As a result, July through September 2021 represents the first quarter of FY2022. ¹ During Q1 FY2021, WSF operated on a modified winter schedule with 34,792 trips scheduled. ² During Q1 FY 2022, WSF operated on a modified summer service schedule with 39,467 trips scheduled.

In the first quarter of FY2022, WSF operated on a modified summer service schedule with 39,467 trips scheduled. In the same quarter of FY2021, WSF operated on a modified (reduced) winter schedule due to the pandemic, and there were 34,792 trips scheduled.

In the first quarter of FY2022, WSF canceled 619 trips and replaced 45 of them, resulting in 574 trips net missed trips. This was 395 fewer net missed trips compared to the same quarter in FY2021.

Of the 619 canceled trips, 341 were due to lack of available crew—from the lack of credentialed mariners globally, numerous retirements, and loss of crew from impending vaccine mandate for state workers. Over half of the crewing cancelations occurred in September, and crewing shortages affected every route.

There were 119 cancelations due to vessel mechanical issues during the quarter. A new propulsion clutch was installed on the M/V *Cathlamet* at the beginning of July which failed later that month and caused 23 missed trips. Also in July, the M/V *Walla Walla* experienced a generator failure that accounted for 14 canceled trips. In August, 20 trips were canceled when an

emergency generator malfunctioned on the M/V *Chetzemoka*. In September, the relief valve on the M/V *Tillikum's* whistle air tank failed, causing 14 missed trips, and the M/V *Walla Walla* experienced a drive motor problem leading to 17 canceled trips. The remaining cancelations due to mechanical issues occurred across multiple vessels with no more than six cancelations on any one vessel.

There were 64 cancelations for schedule resets, which occur when vessels become so delayed that a trip is canceled to reestablish a workable schedule. Tides caused 24 cancelations on the Port Townsend/ Coupeville route and there were 22 cancelations for weather-related events. Medical emergencies led to 18 cancelations, and 10 trips were canceled when vessels were redeployed to other routes and were not able to provide service during the move. The remaining cancelations were scattered among a variety of causes with no more than six cancelations occurring under a single circumstance.

WSF continues to address the extended effects of the pandemic and challenges in recruiting and training enough new crew members for vessels. With the high volume of cancelations in the quarter and loss of crew from a vaccine mandate for state workers, WSF developed an alternate service schedule that reduces service by one vessel on multiple routes. The alternate schedule was not in place during the first quarter of FY2022, but will be in place during the second quarter of FY2022.

Ridership increases during the first quarter of FY2022

Ridership fluctuated with the rise and fall of COVID-19 impacts throughout FY2021 and into FY2022. WSF ridership was approximately 5.7 million in the first quarter of FY2022, 38.3% higher than the same quarter in FY2021 (4.1 million) which was a near-historic low. In the first quarter of FY2022, ridership increased on every WSF route. The Seattle/Bremerton and Seattle/Bainbridge Island routes experienced more than twice the ridership in the first quarter of FY2022 than in the same quarter in FY2021. Ridership in FY2022 was 3.7% (219,289) lower than projected.

On-time performance improves during the quarter

On-time performance was 81.9% in the first quarter of FY2022,

1.6 percentage points higher than the same quarter in FY2021. The quarterly rate was below WSF's annual on-time performance goal of 95%.

On-time performance increased on two of the eight active routes compared to the first quarter of FY2021 (see chart on p.32). The San Juan Domestic route had the largest increase (24.1%) compared to the same quarter in FY2021. This was primarily due to operating on a modified service schedule in FY2022 with additional terminal dwell time for loading and unloading, as compared to the modified winter schedule this route was operating under in FY2021.

During the first quarters of the last five fiscal years, WSF has missed the annual goal of 95% of all trips completed on-time. On-time performance during the first

On-time performance for WSF improves in first quarter of fiscal year 2022

First quarters; Fiscal years 2018 through 2022; Percent of ferry trips reported as on-time¹



Data source: Washington State Ferries.

Notes: Fiscal year = July 1 through June 30. As a result, July through September 2021 represents the first quarter of FY2022. **1** A trip is considered delayed when a vessel leaves the terminal more than 10 minutes after the scheduled departure time. **2** During Q1 FY2021, WSF operated on a modified winter schedule with 34,792 trips scheduled. **3** During Q1 FY2022, WSF operated on an alternate service schedule with 39,792 trips scheduled.

WSF on-time performance and reliability up in the first quarter of fiscal year 2022

July through September FY2021 and FY2022; Annual on-time goal = 95%; Annual service reliability goal = 99%

Route	On-time performance (first quarter)				Trip reliability (first quarter)			
	FY2021	FY2022	+/-	Trend	FY2021	FY2022	+/-	Trend
San Juan Domestic	37.2%	61.3%	24.1%	↑	99.3%	97.6%	-1.7%	↓
Anacortes/Friday Harbor – Sidney, B.C. ¹	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Edmonds – Kingston	94.9%	93.5%	-1.4%	↓	92.7%	98.8%	6.1%	↑
Fauntleroy – Vashon – Southworth	87.2%	89.8%	2.7%	↑	99.3%	98.9%	-0.3%	↓
Port Townsend – Coupeville	91.9%	74.2%	-17.8%	↓	96.2%	97.3%	1.1%	↑
Mukilteo – Clinton	89.7%	86.3%	-3.4%	↓	92.9%	99.2%	6.3%	↑
Point Defiance – Tahlequah	95.6%	88.4%	-7.2%	↓	99.7%	99.3%	-0.4%	↓
Seattle – Bainbridge Island	79.5%	73.7%	-5.7%	↓	99.8%	98.2%	-1.7%	↓
Seattle – Bremerton	94.9%	85.9%	-9.0%	↓	100%	97.9%	-2.1%	↓
Total system	80.3%	81.9%	1.6%	↑	97.2%	98.5%	1.3%	↑

Data source: Washington State Ferries.

Notes: FY = fiscal year (July 1 through June 30). As a result, July through September 2021 represents the first quarter of FY2022. A trip is considered delayed when a vessel leaves the terminal more than 10 minutes after the scheduled departure time. WSF operates 10 routes but combines the Anacortes – Friday Harbor route with the San Juan Interisland route as the San Juan Domestic for on-time performance and service reliability. Due to unique fare collection methods in the San Juan Islands, and similar origin and destination legs on both routes, some statistics cannot be separated between the two routes. Numbers shown in the table have been rounded to the tenth and may not add to 100%. ¹ The International route was closed during the quarter due to COVID-19 impacts.

quarters has steadily decreased for four of the last five years, with the only increase occurring in FY2022.

Passenger injuries decrease, employee injuries increase

The rate of passenger injuries per million riders decreased from 0.97 in the first quarter of FY2021 to 0.70 in the corresponding quarter of FY2022. The number of injuries in each fiscal year was four, but with an increase in ridership, the rate per million riders decreased. The passenger injury rate during the quarter achieved WSF's annual goal of 1.0 injury or less per million riders.

The rate of Occupational Safety and Health Administration recordable crew injuries per 10,000 revenue

service hours decreased from 7.8 in the first quarter of FY2021 to 7.7 in the same quarter of FY2022. This represents an increase in the number of injuries from 20 in the first quarter of FY2021 to 23 in the same quarter of FY2022, but due to the increase in revenue service hours in FY2022 the rate decreased.

Revenue up this quarter, but lower than projections

While revenue in the first quarter of FY2022 (\$57 million) was approximately \$12.4 million higher than the same quarter in FY2021 (\$44.6 million), it was 4.4% lower than the projection of \$59.7 million for the quarter. This was related to lower ridership than projected for the first quarter of FY2022 as noted above.

Rate of passenger complaints decreases

There were 541 complaints in the first quarter of FY2022, a decrease from 763 during the same quarter in FY2021. The ratio of complaints per 100,000 riders was 9.46 in FY2022 compared to 18.46 in the first quarter of FY2021. The largest number of complaints was employee behavior with 149 (27.5%) which represents 2.6 complaints per 100,000. There were 14 compliments in this first quarter of FY2022, down from 18 in the same quarter of FY2021.

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

83 WATER QUALITY ANNUAL REPORT

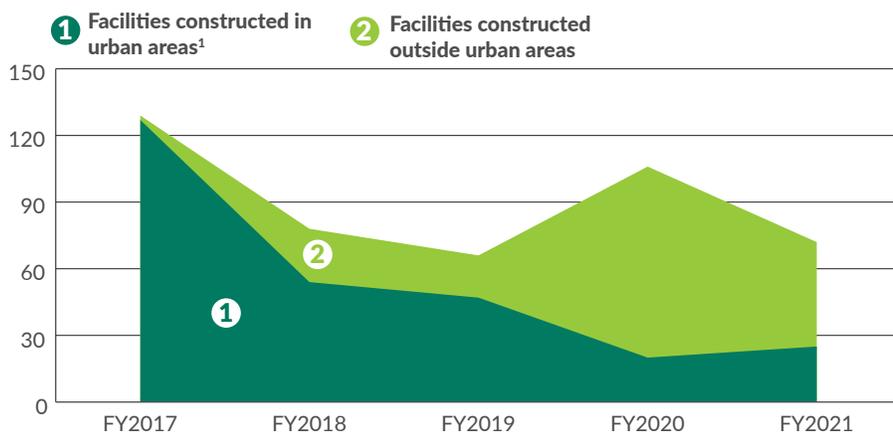
WSDOT builds 72 new stormwater facilities during fiscal year 2021

WSDOT built 72 stormwater treatment and flow control facilities during fiscal year 2021 (July 2020 through June 2021) to help prevent adverse effects to rivers, lakes and other water bodies (refer to graph below). Of the 72 facilities, 25 were constructed in urban areas of the state and were covered by the agency's municipal stormwater permit (refer to box at right).

All 72 stormwater facilities were components of larger WSDOT transportation projects. The number of new stormwater facilities WSDOT builds each year depends on how many transportation projects are under construction. For example, when WSDOT adds new lanes to a highway, the agency is required to add a stormwater facility such as a biofiltration swale (a vegetated ditch that helps remove pollutants from stormwater before it flows into a river, lake or groundwater).

Most stormwater management facilities constructed outside urban areas in FY2021

Fiscal years 2017-2021; number of facilities constructed



Data source: WSDOT Environmental Services Office.

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

WSDOT prevents sediment from reaching water bodies

During FY2021, WSDOT collected 3,951 cubic yards of sediment (refer to box at right). Of this sediment, 3,883 cubic yards came from catch basins and stormwater facilities, while 68 cubic yards came from ferry terminals. This was 1,008 cubic yards (34.25%) more than the 2,943 cubic yards removed in FY2020. Many variables affect the amount of sediment removed each year, such as the weather and the amount of sand used to provide traction on icy roads, the number of stormwater facilities in need of maintenance, and available funding. Once removed, sediment is considered a solid waste and WSDOT disposes of it accordingly.

Contributors include Sheena Pietzold, Garrett Starks, Takahide Aso and Dustin Motte

Notable results

- WSDOT built 72 stormwater treatment and flow control facilities in FY2021
- WSDOT prevented 3,951 cubic yards of sediment from reaching water bodies in FY2021

What the municipal stormwater permit does

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

Sediment

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

83 CAPITAL PROJECT DELIVERY PROGRAMS QUARTERLY UPDATES

One Connecting Washington project and four contracts complete during quarter

One Connecting Washington project and four Connecting Washington contracts were operationally complete by WSDOT during the first quarter of the 2021-2023 biennium (July through September 2021). Operationally complete contracts and projects are functionally finished (for example, an overpass that has opened but still has some outstanding work items like landscaping, etc.).

Projects and contracts that were operationally complete during the quarter include:

- I-90/Barker to Harvard - Westbound On-Ramp Improvement (Spokane County)
- I-90/Barker to Harvard - Add Lane Harvard Road Bridge (Spokane County)
- SR 167/I-5 to SR 509 - Stage 1A (Pierce County)
- I-5/Steilacoom-DuPont Road to Thorne Lane - Corridor Improvements (Pierce County)
- I-5/SR 510 Interchange - Reconstruct Interchange (Thurston County)

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

Fuel tax collections show 2003 and 2005 revenue forecasts, which were used to determine project lists, did not anticipate the economic recession in projecting future growth in fuel tax revenues. The 2003 Nickel and 2005 TPA gas taxes that fund projects are based on a fixed tax rate per gallon and do not change with the price of fuel. As such, reduced gasoline and diesel consumption and sales lead to reduced tax revenue.

Fuel tax funding from the 2005 TPA package has been lower than the original March 2005 projection. The original projection for the TPA account was \$4.9 billion over a 16-year period from 2005 through 2021. Current TPA projections through 2021 are estimated to be \$4.0 billion, approximately \$990 million (20.0%) 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

- *One Connecting Washington project and four Connecting Washington contracts were operationally complete during the first quarter of the 2021-2023 biennium*
- *WSDOT advertised 28 of 45 Pre-existing Funds projects during the first quarter of the 2021-2023 biennium*

GNB no longer tracking Current LEAP data

As progress on the vast majority of Nickel/Transportation Partnership Account projects winds down, the Gray Notebook will no longer tracking their Current Legislative Evaluation and Accountability Program details. The GNB will also be phasing out reporting on these fuel taxes (which conclude at the end of 2021). The few remaining Nickel/TPA projects will continue to be tracked in the Completed Projects and Contracts (pp. 35-37) and Ad Record (pp. 38-39) sections.

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COMPLETED PROJECTS
& CONTRACTS

Notable results

- *One Connecting Washington project and four Connecting Washington contracts were operationally complete during the first quarter of the 2021-2023 biennium*

GNB reporting on
projects and contracts

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

One Connecting Washington project and four contracts operationally complete

One Connecting Washington project and four Connecting Washington contracts were operationally complete by WSDOT during the first quarter of the 2021-2023 biennium (July through September 2021). Operationally complete contracts and projects are functionally finished (for example, an overpass that has opened but still has some outstanding work items like landscaping, etc.).

I-90/Barker to Harvard - Westbound On-Ramp Improvement (Spokane County)

Operationally complete:
September 22, 2021

The previous configuration of the Harvard Rd. interchange delivered westbound traffic onto I-90 with two separate ramps that merged onto I-90 separately, which created travel conflict and congestion. This Connecting Washington contract improved the ramp to provide a better level of service and merge opportunities.

This contract—part of the larger I-90/Barker to Harvard project—was done concurrently with the I-90/Barker to Harvard - Add Lane Harvard Road Bridge contract on the next page. While there were separate budgets for each contract, the schedules were the same and have been combined as a result.

Budget: This contract was completed for approximately \$1.4 million, on target with the last approved budget.

- Practical design work determined that reconstructing the ramps to improve their geometry and lengthen the acceleration distances provided a better level of service and merge opportunities to I-90 rather than reconfiguring how the ramps connect to I-90. This change decreased the contract cost by approximately \$820,000 from \$3.9 to \$3.1 million.
- The contract cost then decreased \$1 million from \$3.1 to \$2.1 million due to a favorable bid—resulting from lower costs for mobilization, crushed surfacing, hot mix asphalt, illumination, contractor surveying, and traffic control—that was 37% lower than the engineer's estimate.
- The contract cost decreased an additional \$700,000—from \$2.1 to \$1.4 million—after determining the on-ramp could be built entirely within existing WSDOT right of way.

I-90/Barker to Harvard - Add Lane Harvard Road Bridge (Spokane County)

Operationally complete:
September 22, 2021

Northbound traffic volumes on the two-lane Harvard Rd. bridge created congestion at the Harvard Rd./Appleway Blvd. intersection immediately south of I-90. This Connecting Washington contract added a northbound lane from the intersection north across the bridge to the westbound on ramp, adding capacity and reducing congestion at the intersection.

Budget: This contract was completed for \$3.4 million, on target with the last approved budget.

The contract cost decreased by \$1.2 million from \$4.5 to \$3.3 million due to a favorable bid that was approximately 36% lower than the engineer's estimate. This decrease was the result of lower bids for items ranging from mobilization and prestressed girders to hot mix asphalt and traffic control.

Schedule: The two contracts were operationally complete in September 2021, 11 months late.

- The contracts' operationally complete date were initially delayed by nine months (from October 2020 to July 2021) to align with funding constraints approved by the 2019 Legislature.
- Then the contracts' advertisement date were delayed by six months from April to October 2020 and the operationally complete date was delayed from July 2021 to

January 2022 in response to the passage of Initiative 976 and the governor's direction that WSDOT postpone projects not yet underway.

- When the 2020 Legislative Budget passed, the governor directed WSDOT to resume paused projects and contracts, which advanced these contracts' advertisement by four months from October 2020 to June 2020 and set the operationally complete date for September 2021.

SR 167/I-5 to SR 509 - Stage 1A (Pierce County)

Operationally complete:
August 12, 2021

This Connecting Washington contract constructed a new alignment of 70th Avenue over I-5 between 20th Street E. and SR 99 near Fife. This work is part of the larger Puget Sound Gateway Program for SR 167 and SR 509.

Budget: This contract was completed for \$49.8 million approximately \$7.5 million less than the last approved budget of \$57.3 million. The largest budget decrease occurred due to an updated estimate that occurred between the 2019 Cost Estimate Validation Process and contract award. In addition, some local trail and bridge work was removed from this contract, which will be delivered through another contract within the overall Legislative project.

Schedule: The contract was operationally complete in August 2021, four months after the last approved schedule. Right of way certification delayed work by nine months.

I-5/Steilacoom-DuPont Road to Thorne Lane - Corridor Improvements (Pierce County)

Operationally complete:
August 1, 2021

This Connecting Washington contract completes the second of four parts of the larger I-5/Joint Base Lewis-McChord Corridor Improvements project.

This segment of I-5 experiences congestion and mobility problems due to high traffic volumes. The larger JBLM project constructed an additional lane on I-5 between the DuPont-Steilacoom Road and Thorne Lane interchanges. The interchanges at Thorne Lane and Berkeley Street were also reconstructed as part of this project. This corridor is expected to benefit from reduced congestion, enhanced freight mobility, improved safety and support economic growth.

Budget: The contract was completed for \$242.9 million, which was on track with the last approved budget.

The initial budget increased by \$18.3 million to align with a policy for estimating project budget and uncertainty. WSDOT used the Cost Estimate Validation Process to determine the amount of this increase.

The contract also had a \$4.4 million increase to cover consultant agreements, additional drilling needs and unexpected labor costs.

Schedule: The contract was completed in August 2021, which was on track with the last approved schedule.

The operationally complete date was delayed by four months from April to August 2021 due to COVID-19 issues which affected the construction delivery schedule.

I-5/SR 510 Interchange - Reconstruct Interchange (Thurston County)

Operationally complete:
July 17, 2021

This Connecting Washington project rebuilt the I-5/SR 510 (Marvin Road) interchange into a diverging diamond roadway to help ease congestion and reduce the potential for crashes. The diverging diamond interchange improves traffic flow by allowing

drivers to make a free-left turn onto the highway without stopping at a traffic signal. Pedestrians use a network of crosswalks and a barrier separated walkway to cross the overpass while bicyclists can also use the pedestrian path to cross the overpass or use dedicated bike lanes.

Budget: The project was completed for \$46.5 million, which was on track with the last approved budget.

The initial project total cost decreased \$24.0 million from \$72.0 million to approximately \$48.0 million due to a design change solution and a favorable bid on major work item that included erosion control, road side planting, grading, signage, illumination and temporary traffic control, which

was 20.4% lower than the engineer's estimate.

Schedule: The project was completed in July 2021, one month later than the last approved schedule.

The project's operationally complete date was delayed in response to the Governor's COVID-19 stay at home order, and WSDOT was directed to temporarily suspend construction on most projects throughout the state. The new Marvin interchange opened to traffic in August 2020, however, due to unfavorable weather the final striping work was not completed. This delayed the operationally complete until July 2021. On this project, WSDOT used final striping and not the roadway opening to determine the operationally complete date.



The diverging diamond at SR 510 and Interstate 5 in Lacey is the first of its kind in Washington state. And not only improves traffic flow across the busy intersection but reduces the potential for crashes.

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ADVERTISEMENT RECORD QUARTERLY UPDATE

Connecting Washington Account projects in construction ¹ Through September 30, 2021; (County); Dollars in millions	Schedule status	Completion date	Total project cost
SR 167/SR 509 Puget Sound Gateway (multiple counties)			
SR 509/SeaTac Stage 1 Elements (WSDOT Contribution)	Advanced	Nov-2022	\$48.8
SR 509/King County Trail (WSDOT Contribution)	Delayed	Mar-2023	\$10.0
SR 509/I-5 & SR 516 I/C ² to 28th/24th Ave. South - SR 509 Completion Stage 1	Delayed	Jun-2025	\$488.5
I-405/Renton to Bellevue - Corridor Widening (King)			
I-405/Renton to Bellevue - Corridor Widening & ETL ³ (Stage 2)	Delayed	Dec-2024	\$790.0
I-405/Toll Vendor for Renton to Bellevue - Toll System	On schedule	Sep-2024	\$44.5
Land Mobile Radio Upgrade (multiple counties)			
Wireless Communication	Delayed	Nov-2021	\$37.0
SR 520 Seattle Corridor Improvements - West End (King)			
SR 520/Montlake to Lake Washington - I/C and Bridge Replacement	Delayed	Apr-2023	\$628.1
SR 520/I-5 to Lake Washington - Bridge Replacement - Mitigation	On schedule	Jun-2024	\$26.3
SR 520/I-5 Interchange - Improvement	Delayed	Aug-2023	\$ 112.6
US 395 North Spokane Corridor (Spokane)			
US 395/North Spokane Corridor BNSF - Second Railroad Alignment	Delayed	Oct-2021	\$79.5
US 395/NSC Wellesley Ave. Improvements	On schedule	Oct-2022	\$36.7
US 395/NSC Spokane River to Columbia	On schedule	Oct-2022	\$50.0
US 395/NSC Spokane River to Columbia - Shared Use Path	On schedule	Jun-2022	\$13.3
US 395/NSC Sprague Ave. to Spokane River	Delayed	Sep-2026	\$334.2
I-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	Oct-2021	\$14.5
I-90/Cabin Creek I/C Eastbound - Replace Concrete Panels	Delayed	Oct-2021	\$536,010 ⁴
I-90/Barker to Harvard - Improve Interchanges & Local Roads (Spokane)			
I-90/Barker to Harvard Phase 2 - Improve Interchanges and Local Roads	On schedule	Jul-2022	\$12.6
SR 305 Construction - Safety Mobility Improvements (Kitsap)			
SR 305/Johnson Rd. - Roundabout	Delayed	Feb-2022	\$5.9
I-405/NE 132nd Interchange - Totem Lake (King)			
I-405/NE 132nd Street Interchange Improvements	On schedule	Dec-2023	\$83.0

Data source: WSDOT Capital Program Development and Management.

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

Connecting Washington Account projects in construction Through September 30, 2021; (County); Dollars in millions (continued)	Schedule status	Completion date	Total project cost
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 September 30, 2021; (County); Dollars in millions	Fund type	Advertised on time	Ad date	Operationally complete date	Award amount
SR 99 Alaskan Way Viaduct Replacement (King)					
SR 99/South King Street Vicinity to Roy Street - Viaduct Replacement	Nickel/TPA	√	May-2010	Oct-2022	\$1,089.7
The SR 99 Tunnel opened to traffic in February 2019. The award amount is for the SR 99 Tunnel contract. The Viaduct Demolition, Battery Street Tunnel Decommissioning and Surface Street Improvements are in process.					
SR 99/Alaskan Way and Elliot Ave Surface Street Restoration	Nickel/TPA	√	Nov-2018	Jan-2023	\$153.0
The City of Seattle is the lead on this project.					
I-5/Tacoma HOV Improvements (Pierce)					
I-5/Portland Ave to Port of Tacoma Rd. - Northbound/Southbound HOV	Nickel/TPA	Late	Jan-2018	Oct-2023	\$152.6
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 September 30, 2021.

1) Work associated with the fire suppression systems on the SR 520 Montlake to Lake Washington Interchange and Bridge Replacement Project resulted in a \$3.5 million change order while alterations to the lighting systems plan resulted in a \$500,000 savings. 2) Alignment changes on a noise wall on the I-405. Renton to Bellevue Widening and Express Toll Lanes Project resulted in a change order savings of \$500,000. 3) Practical Design efforts on the I-405, SR 509, I-5 to 24th Ave S. - New Expressway Project revised the configuration of the collector-distributor roads and removed a planned overpass, resulting in a change order of \$1.39 million.

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

83 PRE-EXISTING FUNDS QUARTERLY UPDATE

WSDOT advertises 28 Pre-existing Funds projects in the first quarter of the biennium

WSDOT advertised 28 of 45 Pre-existing Funds projects in the first quarter of the 2021-2023 biennium (July through September 2021). Of the 28 total projects advertised, four were advanced, 17 were on time, three were emergent, and three were emergency projects. Of the remaining 17 projects originally scheduled to be advertised during the quarter, WSDOT completed one in an earlier biennium and delayed 16 within the 2021-2023 biennium.

As of September 30, 2021, WSDOT's current cost to complete the 28 PEF projects advertised through the first quarter of the 2021-2023 biennium was about \$86.7 million, approximately \$400,000 (0.5%) more than the original value of \$86.3 million (refer to chart at right).

Cash flows currently lower than original projections

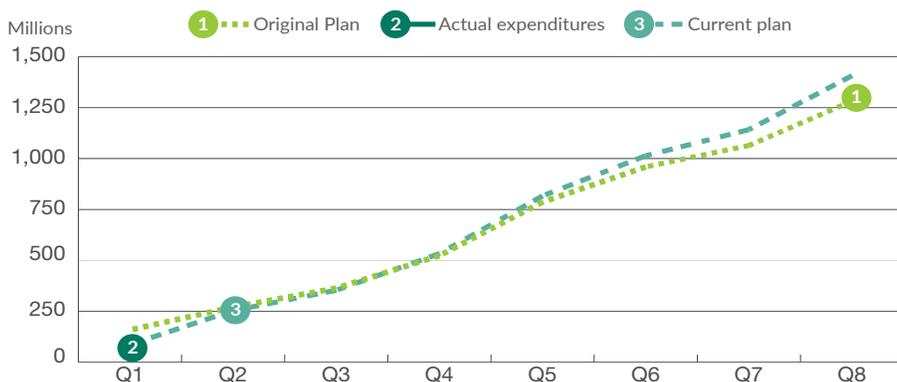
WSDOT originally planned to have approximated \$158.4 million in cumulative combined PEF improvement and preservation cash flows at the end of the first quarter of the 2021-2023 biennium, but had \$86.4 million, approximately \$72.0 million (54.4%) less in actual expenditures due to adjustments in the delivery plan.

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.

As the biennium continues, the agency uses the original plan as a goal 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, emergency, delayed, deferred, advanced or deleted.

Cumulative Pre-existing Funds improvement and preservation combined cash flows during the 2021-2023 biennium lower than planned

2021-2023 biennium; Quarter ending September 30, 2021; Planned vs. actual expenditures and current plan; Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: Q1 refers to the first quarter (July through September 2021) of the 2021-2023 biennium, which runs from July 2021 through June 2023.

Current cost to complete PEF advertisements \$400,000 more than original value

2021-2023 biennium (July 2021 through June 2023); First quarter (ending September 30, 2021); Dollars in millions

	Number of projects	Original value	Current cost to complete
Planned PEF advertisements for the 2019-2021 biennium	426	\$2,896.2	\$3,063.0
Actual PEF advertisements through the first quarter	28	\$86.3	\$86.7

Data source: WSDOT Capital Program Development and Management.

WSDOT advertises 28 PEF projects during the 2021-2023 biennium

Advertisement status	Quarter ¹	Cumulative ²
Advanced ³	4	4
On time	17	17
Emergent ⁴	3	3
Emergency	4	4
Late	0	0
Total projects advertised	28	28
Early ⁵	1	1
Delayed within the biennium	16	16
Deferred out of the biennium	0	0
Deleted	0	0

Data source: WSDOT Capital Program Development and Management.

Notes: **1** Quarter refers to July through September 2021. **2** Cumulative refers to July 2021 through June 2023. **3** Advanced projects were moved up from future quarters. **4** Emergent projects include unanticipated projects. **5** Early projects are planned for the quarter but advertised in a previous quarter.

WSDOT advertises 28 Pre-existing Funds projects during the first quarter of the 2021-2023 biennium

July through September 2021

Advanced (4)

Strategic Pavement Preservation 2021-2023 - State Forces	US 101/Hoodsport Vicinity Slide - Debris Fence Repair
NCR Strategic Pavement Preservation 2021-2023	SR 108/US 101/Mason and Thurston Co Fish Barriers - Remove Fish Barriers

On time (17)

I-5/Bow Hill Northbound SRA - Decommission Well - NWR	US 101/Astoria-Megler Bridge - Paint Deck Trusses
I-5/Maytown/Scatter Creek SRA - Security Camera Installation - OR	SR 105/Embankment Erosion Repair
I-90/Schrag Westbound SRA - RV Dump Station Rehabilitation	SR 503/Marble Creek - Culvert Rehabilitation
Northwest Region Preservation Signing 2021-2023	SCR 2021-2023 Region Wide - Strategic Pavement Preservation
OR Strategic Bridge Preservation 2021-2023	US 12/West of White Pass - Repair Cable Net Post
OR Strategic Pavement Preservation 2021-2023	US 395/Pasco - Flamingo Mobile Home Park Noise Walls
SWR Strategic Bridge Preservation 2021-2023	ER Strategic Pavement Preservation 2021-2023
SWR - Strategic Pavement Preservation 2021-2023	SR 21/2.5 Mile N. Wilbur Culvert Crossing - Rehab and Repair
I-5/SR 506 to Toledo Vader Rd. Vicinity Northbound - Paving	

Emergent (3)

I-90/Lids and Tunnels at Mt. Baker Ridge and Mercer Island - Supervisory Control and Data Acquisition Fixes	SCR 2021-2023 Strategic Bridge Preservation Eastern Washington
SR 520/Albert D. Rosellini Bridge - Weather Station Replacement	

Emergency (4)

I-90/Homer Hadley Bridge - Emergency Electrical Repair	US 97/North Blewett Pass - Emergency Pavement Repair
US 2/South of Orondo - Emergency Pavement Repair	SR 410/Chinook Pass to Morse Creek Vicinity - Emergency Repairs

Early (1)

US 101/Jefferson/Clallam County Fish Barriers - Remove Fish Barriers

Delayed (16)

SR 96/North Creek - Fish Passage	SR 302/Purdy Bridge - Bridge Rehabilitation
I-405/SR 527 to I-5 Express Toll Lanes - Paving	SR 302 (Spur)/Purdy Creek - Remove Fish Barrier
I-405/SR 520 Ramps and SR 527 to I-5 - Paving	SR 14/0.7 Miles West of Chamberlain Lake Rest Area- Slope Stabilization
I-405/Burlington Northern Railroad Bridge to Pedestrian Trail Bridge - Seismic Retrofit	SR 14/0.6 Miles West of Chamberlain Lake Rest Area-Slope Stabilization
I-405/SR 520 Vicinity to Pedestrian Trail Bridge - Seismic Retrofit	SR 14/0.2 Miles West of Chamberlain Lake Rest Area-Slope Stabilization
SR 16/Purdy Creek - Remove Fish Barrier	SR 14/1 Mile West of Salmon Falls Rd. - Repair Debris Fence
US 101/May Creek in Vicinity of Dowans Creek Rd. - Remove Fish Barrier	SR 401/2.3 Miles South of Bean Creek Bridge - Slope Stabilization
SR 302(SPUR)/SR 302 to North of 154th St. Northwest - Paving	SCR 2021-2023 Region Wide - Replace Signal Controllers

Data source: WSDOT Capital Program Development and Management.

Notes: SRA = Safety Rest Area. WSDOT Regions: ER = Eastern Region, NCR = North Central Region, NWR = Northwest Region, OR = Olympic Region, SCR = South Central Region and SWR = Southwest Region.

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STATEWIDE TRANSPORTATION POLICY GOALS & GRAY NOTEBOOK INFORMATION GUIDE

Statewide transportation policy goals

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

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

Past Gray Notebook editions are available

Readers can use the GNB archives to access the last five years of editions. Earlier editions are available by contacting the WSDOT Performance Management Office team.

GNB reporting periods

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

GNB credits

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

Calendar, state fiscal and federal fiscal quarters

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

2019-2021 biennial quarters (used by Legislature)

Period	Quarter	Period	Quarter
Jul – Sep 2020	Q1	Jul – Sep 2021	Q5
Oct – Dec 2020	Q2	Oct – Dec 2021	Q6
Jan – Mar 2021	Q3	Jan – Mar 2022	Q7
Apr – Jun 2021	Q4	Apr – Jun 2022	Q8

The Gray Notebook is prepared by:
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Washington State Department of
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