

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 86 ■ June 2022



MAKING AQUATIC INROADS

WSDOT WORKS TO REMOVE BARRIERS TO SUPPORT MIGRATORY FISH PASSAGE

Heavy loads

Freight transportation starts the long road to post-pandemic recovery

Going mobile

WSDOT continues to make huge strides in social media communications

Stepping up

WSDOT in motion to help make active transportation safer in Washington

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The Gray Notebook team

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

On the cover: WSDOT worked with the City of Bellingham to complete a project that restored vital fish passage connections on Padden Creek under State Route 11.

PERFORMANCE HIGHLIGHTS reported for the quarter ending June 30, 2022

THE NUMBER OF PEOPLE FOLLOWING @WSDOT VIA TWITTER INCREASED



155 people

who died in traffic crashes in 2021 were **pedestrians** and **bicyclists**, a 26% increase from 2020

11,108 INCIDENTS responded to by WSDOT **Incident Response** Teams during the second quarter of 2022, 851 (7.1%) more than the same quarter in 2021

28.1%

increase in total Washington **imports** and **exports** from \$90.2 billion in 2019 to \$115.5 billion in 2020

WSDOT COMPLETED 15 FISH PASSAGE PROJECTS

IN 2021, IMPROVING ACCESS TO 98.2 MILES OF UPSTREAM HABITAT



33,328

trips completed by WSF in the fourth quarter of FY2022. This comprised 98.2% of the 33,925 regularly scheduled trips

74

Pre-existing Funds projects advertised during the fourth quarter of the 2021-2023 biennium

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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	—		↓
Total pedestrian and bicyclist fatalities (Annual measure: calendar years 2020 & 2021) ¹	123	155	0	—		↓
Rate of recordable incidents for every 100 full-time WSDOT workers (Annual measure: calendar years 2020 & 2021)	4.4	5.7	<5.0	—		↓
Preservation						
State highway pavement in fair or better condition by lane miles (minus chip seal) ² (Annual measure: calendar years 2019 & 2020)	92.9%	93.0%	≥ 90%	✓		↑
WSDOT-owned bridges in fair or better condition by bridge deck area (Annual measure: fiscal years 2020 & 2021)	93.8%	93.2%	≥ 90%	✓		↑
Mobility²						
Average clearance times for Incident Response (Calendar quarterly measure: Q2 2021 & Q2 2022)	15.1 minutes	15.1 minutes	*	N/A		↓
Highway Maintenance Accountability Process funded Level of Service targets made (Annual measure: calendar years 2020 & 2021)	68%	56%	*	N/A		↑
Washington State Ferry trips departing on time ³ (Fiscal quarterly measure: Q4 FY2021 & Q4 FY2022)	85.2%	81.8%	≥ 95%	—		↑
Amtrak Cascades on-time performance ⁴ (Annual measure: calendar years 2020 & 2021)	62%	51%	≥ 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 2020 & 2021)	365	379	*	N/A		↑
Cumulative number of Zero Emission Vehicles registered in Washington (Annual measure: calendar years 2020 & 2021)	63,259	87,685	*	N/A		↑
Stewardship						
Number of Connecting Washington projects and contracts completed (on time/on budget) ⁵ (Biennial quarterly measure: Q3 2021-2023 & Q4 2021-2023)	0	2 0/2	*	N/A	 (Five-quarter trend)	Not applicable
Pre-existing Funds projects advertised (Biennial quarterly measure: Q3 2021-2023 & Q4 2021-2023)	58	74	*	N/A	 (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 goal for this performance measure differs from the federal Transportation Performance Management goal for the same measure. **2** Excludes chip seal pavement. **3** Washington State Ferries' on-time departures include any trip recorded by automated tracking as leaving the terminal within 10 minutes of scheduled time. **4** Amtrak Cascades' on-time performance includes any trip arriving within 10 or 15 minutes, depending on the route, of scheduled arrival time. **5** Projects and contracts 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.

86 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). States that did not make significant progress on PM1 must develop a strategic Highway Safety Implementation Plan and obligate federal HSIP funds based on the previous year's allocations. WSDOT outlines how it will address these efforts in its 2021 HSIP.

Washington's Strategic Highway Safety Plan (Target Zero) aims to achieve the goal of zero fatalities and serious injuries by 2030. This differs from the federal TPM targets listed below, which are based on a five-year average.

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

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

TPM safety reporting on annual cycle

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

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

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: The PM1 targets for 2021 were submitted on August 31, 2020, using the five-year rolling average of 2015-2019 for current baseline data. The term "target" is required for federal reporting of the five-year rolling average; the figure does not represent the state's goal. **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. Yes/No does not mean a penalty has been assessed but rather whether a penalty is associated with the measure. **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.

TPM performance measures by program area	Current data/ 2-year actuals	2-year target ^{1,2}	4-year target ^{1,2}	Penalty ³
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% ⁴	N/A	30%	No
Percent of Interstate pavement on the NHS in poor condition	1.7% ⁴	N/A	4% ⁵	Yes
Percent of non-Interstate pavement on the NHS in good condition	45.2% ⁴	45%	18%	No
Percent of non-Interstate pavement on the NHS in poor condition	17.4% ⁴	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% ⁵	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** Yes/No does not mean a penalty has been assessed but rather whether a penalty is associated with the measure. **4** Current data refers to 2019. **5** 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%.

86 ACTIVE TRANSPORTATION: ANNUAL SAFETY REPORT

Pedestrian and bicyclist traffic fatalities in Washington state up 26% in 2021

In 2021, WSDOT established active transportation performance metrics for safety as part of the [Washington State Active Transportation Plan](#) (refer to chart below). Improvements are needed in all performance metrics as the WSDOT metrics follow the Washington State Strategic Highway Safety Plan, Target Zero, which aims to achieve the goal of zero traffic deaths and serious injuries by 2030.

Bicyclists and pedestrians are over-represented in all fatal and serious injury traffic crashes in Washington. Even though only 2.5% of all traffic crashes in 2021 involved people who walk or bike, they represented approximately 26.2% (155) of all fatal traffic crashes (592) for the year.

Fatalities for pedestrians and bicyclists surged 26.0%, from 123 deaths in 2020 to 155 deaths in 2021. The 155 deaths represent a 154.1% increase in pedestrian and bicyclist fatal crashes compared to the 10-year low of 61 pedestrian and bicyclist fatal crashes that occurred in 2013 (refer to chart on p. 8). Serious injuries to people walking and bicycling increased 28.2% from 397 in 2020 to 509 in 2021.

Notable results

- Combined pedestrian and bicyclist traffic fatalities increased by 26.0% from 123 deaths in 2020 to 155 deaths in 2021
- Serious injuries to people walking and bicycling increased 28.2% from 397 in 2020 to 509 in 2021
- From 2012 to 2021, 87% of pedestrian and bicyclist fatal crashes occurred on roads with posted speed limits above 25 mph

Active Transportation safety performance metrics note crash increases from 2019 to 2021

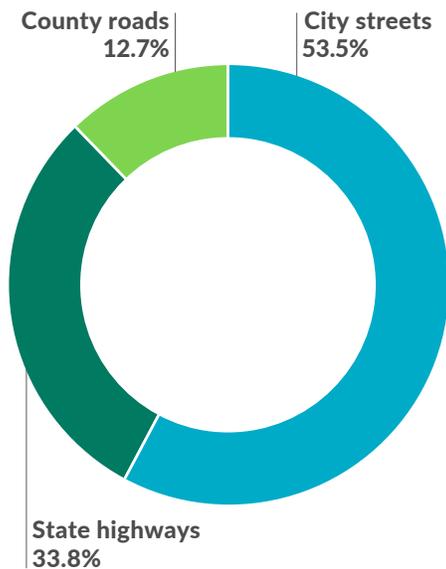
Performance metrics	Measures	2019 Baseline	2021	Goal by 2030	Desired trend
Eliminate active transportation fatalities from traffic crashes	Number of active transportation users killed in traffic crashes	107 pedestrians 9 bicyclists	141 pedestrians 14 bicyclists	0	↓
Eliminate active transportation serious injuries from traffic crashes	Number of active transportation users seriously injured in traffic crashes	358 pedestrians 103 bicyclists	410 pedestrians 99 bicyclists	0	↓
Eliminate active transportation fatal and serious injuries from traffic crashes for 65 years or older population	Number of fatal and serious injuries in active transportation users 65 years or older in traffic crashes	28 fatalities 54 serious injuries	33 fatalities 58 serious injuries	0	↓
Reduce speed limits in population centers to 25 mph or less	Miles of state highway (that are not full limited access) in population centers with posted speeds of 25 mph or less ¹	94 miles ² posted speed of 25 mph or less	94 miles posted speed of 25 mph or less	1,930 miles	↑

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

Note: **1** Limited access include roads like interstates and freeways, which are built to allow traffic to move freely. **2** Baseline mileage is adjusted to reflect updates to WSDOT speed limit data for centerline miles.

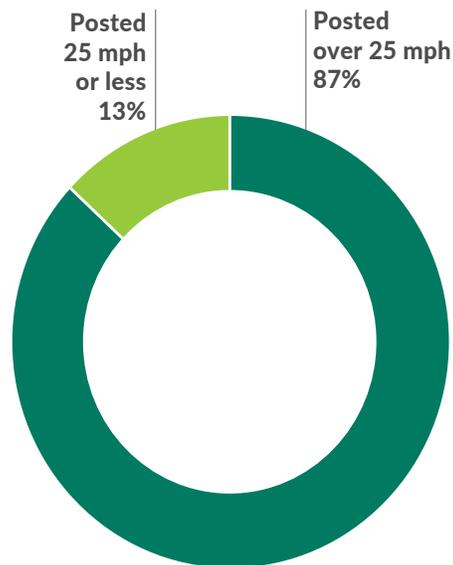
Majority of bicyclist and pedestrian fatal and serious injury crashes occur on city streets

Bicyclist and pedestrian fatal and serious injury crashes; 2021



Most bicyclist and pedestrian fatal and serious injury crashes occur on roads with posted speeds of over 25 mph

Bicyclist and pedestrian fatal and serious injury crashes in Washington; 2021



Data: WSDOT Active Transportation Division.

Most fatal and serious injury crashes occur in population centers

In 2021, 53.5% of fatal and serious injury crashes involving people walking and bicycling occurred on city streets. Additionally, 33.8% occurred on state highways and 12.7% on county roads.

Regardless of road type, 87.9% of pedestrian and bicyclist fatal and serious injury crashes were in population centers (cities, towns and census-designated places, refer to box at right).

The higher number of bicyclist and pedestrian fatal and serious injuries in population centers is due to the shorter distances between destinations in populated areas—which encourage active transportation trips—and larger concentrations of pedestrians, bicyclists and motorists.

Of the 664 active transportation crashes involving a fatality or serious injury that occurred on state highways in 2021, 435 (65.5%) occurred on state highways within population centers.

Crashes more likely for pedestrians crossings the street and for bicyclists at intersections

People crossing the street made up 51.1% of fatal and serious injury crashes involving pedestrians in 2021. In the same year, 54.5% of fatal and serious injury crashes involving bicyclists were intersection-related.

Dedicated places for walking or bicycling are not available on every roadway where people need to walk or bicycle along or across the road.

WSDOT does not have a complete inventory of available walking and bicycling infrastructure and what traffic control devices are available on Washington roadways. Current data collection does not always inform WSDOT whether or not walking and bicycling infrastructure was available at crash locations or the types of infrastructure or crossing controls that were present.

Higher speed limits correlate with fatal crashes

From 2012 to 2021, 87% of pedestrian and bicyclist fatal crashes in Washington state occurred on roads with posted speed limits above 25 mph. This distribution is part of a long-standing pattern.

Over the last 10 years, posted speeds were more closely correlated with vulnerable road user fatal and serious injuries than any other crash-related contributing circumstance or factor (such as crashes related to intersections or crossing the street).

Population centers

Population centers include all city/town or census designated places in Washington. Identification of population centers help prioritize active transportation improvements. These areas are a priority because they serve the broadest range of users and potential users including the very young, very old, and people with disabilities.

Rates of pedestrian, bicyclist traffic crashes vary by demographic

Even though people who are American Indian/Alaska Native, and Black make up only 5.0% of the state's population, they were involved in 10.9% of pedestrian and bicyclist fatalities from 2012-2021.

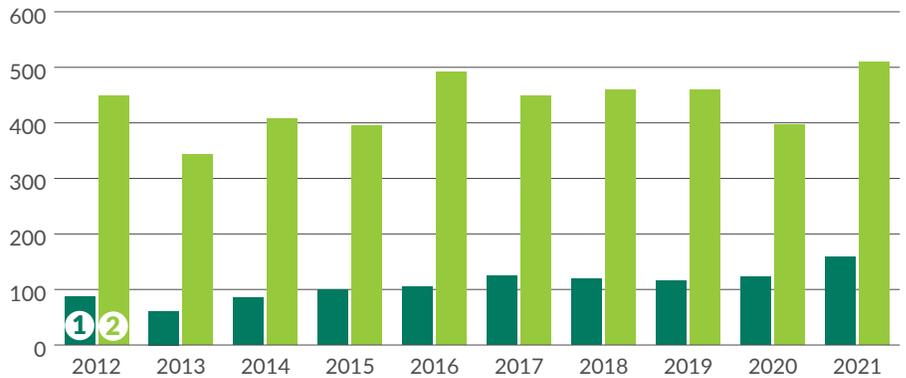
American Indian/Alaska Native Washingtonians made up 5.9% of the state's pedestrian and bicyclist fatalities from 2012-2021, but 1.3% of the population. Similarly, 5.0% of pedestrian and bicyclist fatalities in Washington during this period involved Black people, who made up 3.7% of the state's population (refer to chart below).

The over-representation of these groups indicates a need for a commitment to equity for historically transportation-disadvantaged populations.

Combined pedestrian and bicyclist fatalities in Washington increased from 2020 to 2021, serious injuries substantially increased

Combined pedestrian¹ and bicyclist fatalities in Washington state; Combined pedestrian and bicyclist serious injuries in Washington state; 2012 through 2021

- 1 Combined pedestrian and bicyclist fatalities
- 2 Combined pedestrian and bicyclist serious injuries



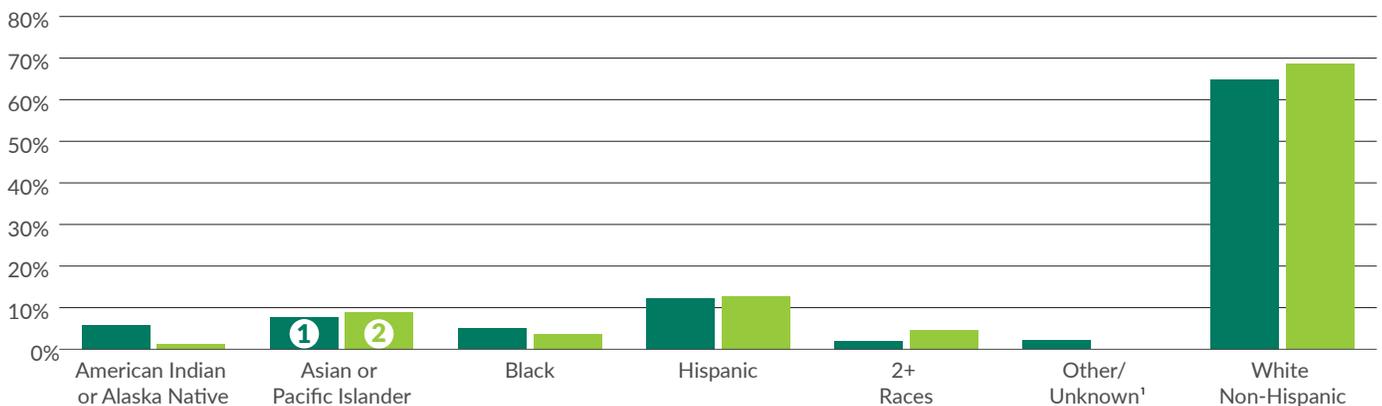
Data source: WSDOT Transportation Data, GIS and Modeling Office.

Notes: Some numbers have changed since previous editions of the Gray Notebook due to updates within the Coded Fatality Files and WSDOT Engineering Crash Datamart. 1 Pedestrians include people in wheelchairs and those using small rideable devices such as skateboards and scooters, in addition to those walking. 2 Data for 2021 is preliminary.

American Indians/Alaska Natives and Black people over-represented in Washington pedestrian and bicyclist fatalities

Pedestrian and bicyclists fatalities in Washington state by race/ethnicity; Population of Washington state by race/ethnicity; 2012-2021

- 1 Percentage of pedestrian and bicyclist fatalities and serious injuries
- 2 Percentage of Washington state population



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

Notes: 1 Population data does not include the category other/unknown.

Legislature takes action to improve active transportation safety

In 2022, the Washington State Legislature made several changes to state law related to safety and mobility for people walking and bicycling. These changes incorporated recommendations from the Cooper Jones Active Transportation Safety Council, WSDOT and the Washington Traffic Safety Commission.

Changes made by the legislature included:

- Expanding the Neighborhood Safe Streets Law to empower WSDOT and local authorities to lower speed limits to 20 mph on non-arterial streets without conducting an engineering and traffic study,
- Extending the "due care" standard to pedestrians to match the existing requirement for drivers to exercise due care to avoid crashes, and
- Authorizing the use of traffic control devices to prioritize pedestrian and bicyclist use and limit vehicular traffic to local access.

The Move Ahead Washington transportation revenue and investment package dedicates 24% of the annual carbon emissions reduction revenue to a new climate active transportation account which is used for projects that benefit vulnerable populations in overburdened communities. These included:

- Increasing funding for WSDOT's Safe Routes to School and Pedestrian/Bicyclist programs. This supports projects to help improve safety across the state, with funding going out to communities starting in July 2023.
- Creating the Connecting Communities pilot program, a five-year, \$50 million program that will restore networks and connections (such as trails, bike lanes, and places to cross) where state transportation facilities had severed them.
- Directing WSDOT to apply Complete Streets principles on projects of \$500,000 or more entering design after July 1, 2022.

- Funding several community pedestrian/bicyclist projects and directing WSDOT to prioritize them based on benefits for overburdened communities.
- Establishing a statewide school-based bicycle safety education program.

The legislature also expanded the use of automated traffic safety cameras for enforcement and dedicated the fines collected to active transportation safety:

- To include automatic detection of speed violations in school walk areas, public park zones and hospital speed zones; and
- To allow cities to add additional cameras based on population in locations that meet specific safety criteria (including the completion of an equity analysis).

Contributors include Mike Bernard, Barb Chamberlain, Charlotte Claybrooke, Ida van Schalkwyk, Brian Wood, Joe Irwin and Michele Villnave

86 TRAVEL INFORMATION ANNUAL REPORT

WSDOT's social media following increases

WSDOT's social media following continued its upward trend during fiscal year 2022 (July 1, 2021 through June 30, 2022). WSDOT Facebook page followers increased 14.7% from 144,294 in FY2021 to 165,564 in FY2022.

WSDOT has 13 Twitter accounts; the two most popular are @wsdot and @wsdot_traffic. During FY2022, @wsdot's following increased by 10% from 304,369 in FY2021 to 334,309 while the @wsdot_traffic account saw a 4.9% increase in following from 475,180 in FY2021 to 498,496 in FY2022. As more users turn to social media for travel information between FY2021 and FY2022, WSDOT Twitter accounts experienced a:

- 45.2% increase—from 19,909 to 28,906—in those following the @wsdot_east account, which informs travelers of conditions east of the Cascades, and a
- 57.8% increase—from 51,173 to 80,751—in people following the @SnoqualmiePass account for updates on that heavily used mountain pass.

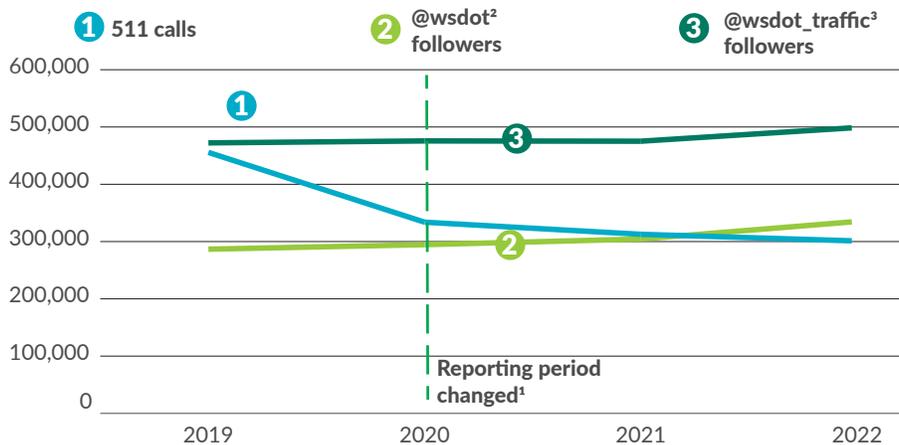
WSDOT's approach to social media is recognized as one of the most innovative among government agencies in the nation. WSDOT's Social Media Manager is frequently asked to explain the agency's social media strategy to government and non-government agencies wanting to improve their online presence.

WSDOT's Instagram continues to see steady growth with an increase of 42.9% from 30,700 followers in FY2021 to 43,878 followers in FY2022. The "reach" of WSDOT's Instagram—or the number of users who were shown content by the WSDOT account—increased by 63.6% from approximately 343,000 in FY2021 to 585,000 in FY2022.

As social media use continued to increase, calls to WSDOT's 511 travel information phone system continued to drop and decreased 3.6% to 301,269 in FY2022 from 312,668 in FY2021.

WSDOT's Twitter followers increase and 511 calls decrease

2019 through 2022¹



Data source: WSDOT Communications Office

Notes: **1** The reporting period for 2020, 2021, 2022 is July 1 through June 30. The reporting period for 2019 is April 1 through March 31. **2** WSDOT's Twitter account. **3** WSDOT's Northwest Region traffic information Twitter account.

Notable results

- The number of WSDOT's Facebook page followers increased 14.7% from 144,294 in FY2021 to 165,564 in FY2022
- Twitter account @wsdot followers increased 10% from 304,369 in FY2021 to 334,309 in FY2022

WSDOT mobile app downloads increase 45%

Between the app downloads generated by the release of a popular new phone and consistent growth in active users, WSDOT mobile app downloads increased 45% from 156,861 in FY2021 to 227,628 in FY2022. The mobile app also continues to improve as relevant advances from the main website are incorporated into the app.

WSDOT using TikTok

Due to the success of the other WSDOT social media platforms, the agency started a TikTok account in early June FY2021. Utilizing TikTok has allowed the agency to reach a younger demographic that was not previously receiving WSDOT information and content.

New WSDOT website garners national awards

The new site has already won three awards for design and is in the running for four more.

Current awards include:

Anthem Awards – Bronze Winner for Responsible Technology Service

Communicator Awards – Award of Excellence in Website Redesign

Vega Awards – Arcturus Award in Government Websites

WSDOT generates over \$155,000 in website ad revenue in FY2022

Starting in 2016, the legislature required the WSDOT website to explore opportunities for revenue generation on the site.

In FY2022, ads on the website generated \$155,272.91 in revenue. Since the beginning of the program, ads have generated nearly \$1 million (currently \$970,000) which supports the agency's General Transportation Fund.

WSDOT websites roll out award-winning new designs

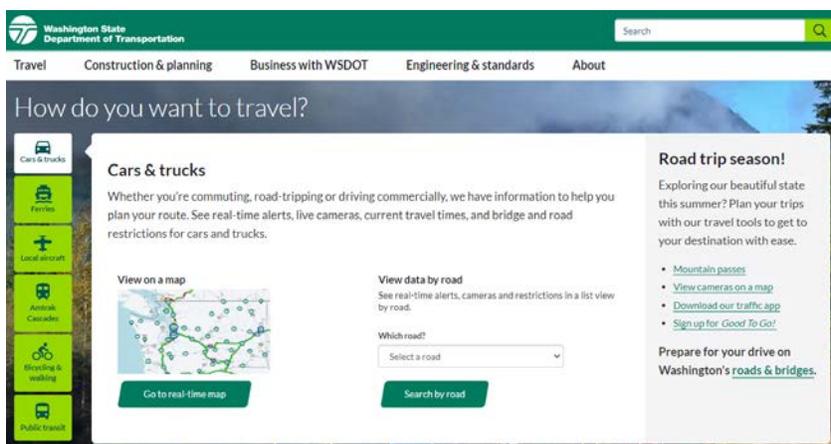
Both the external WSDOT website and the internal insideDOT website were fully redesigned using a mobile-first, user-centered design process. The new site designs went live in November 2021, and represent the first major overhaul of the external website in 15 years.

The old external site had 14,000 pages compared to the new site, which has fewer than 2,000 pages. Site users can now visit fewer pages to find the information they need to plan their travels, conduct business and learn more about WSDOT projects and programs.

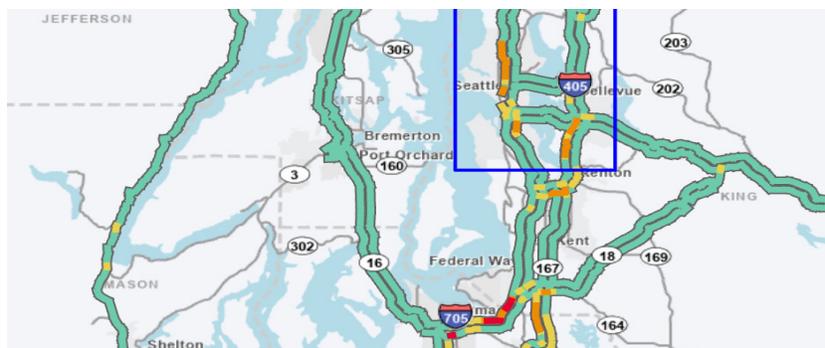
"Digital tools are more important than ever, and people have expectations for being able to find the information they need to complete a task quickly and easily," said Secretary of Transportation Roger Millar. "We have worked hard to ensure our website meets those expectations and we're excited to share this new cleaner, less cluttered and easier to use tool."

The interactive travel map is also the first of its kind from an agency of this scale, offering information that is usable for site visitors who are colorblind.

Contributors include Justin Belk, Jeremy Bertrand, Brooke Carlson, Takahide Aso, Joe Irwin and Michele Villnave



Above: The new, user-first, mobile-friendly WSDOT website. Below: The enhanced color palette on the new website provides increased accessibility on its traffic flow map.



86 INCIDENT RESPONSE QUARTERLY UPDATE

Notable results

- WSDOT responded to 11,108 incidents during the second quarter of 2022, 851 (7.1%) fewer than during the same quarter in 2021
- WSDOT cleared incident scenes in an average of 15 minutes and 6 seconds during the second quarter of 2022, same as in the second quarter of 2021
- In the second quarter of 2022, IR teams provided an estimated \$21.0 million in economic benefit by reducing the effects of incidents on drivers
- For every \$1 spent on WSDOT's IR program, the traveling public received \$14.02 in economic benefit

WSDOT Incident Response teams help improve driver safety at 11,108 incidents

WSDOT's Incident Response teams assisted at 11,108 incidents during the second quarter (April through June) of 2022. On average, the IR teams responded to an incident scene every 11 minutes and 48 seconds during the quarter. There were 851 (7.1%) fewer incidents during the second quarter of 2022 than in the same quarter of 2021 (11,959).

Number of incident responses down 7.1% during the second quarter of 2022, average clearance time same compared to a year ago

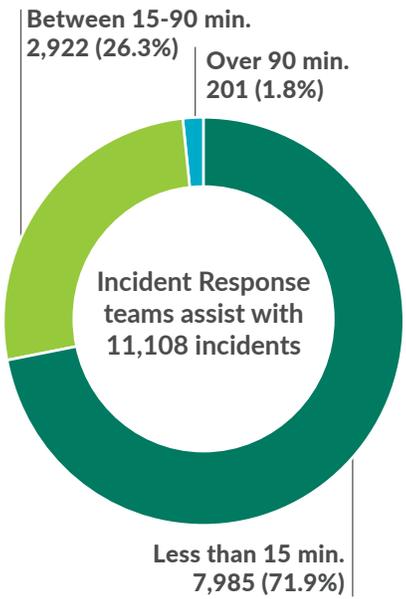
Second quarters 2018 through 2022; Number of incidents responded to in thousands; Clearance times in minutes



Data sources: Washington Incident Tracking System.
Notes: The data above only accounts for incidents to which an IR unit responded. IR data reported for the current quarter (Q2 2022) is considered preliminary. In the previous quarter (Q1 2022), WSDOT responded to 10,286 incidents, clearing them in an average of 16.3 minutes. These numbers have been confirmed and are now finalized.

WSDOT clears majority of traffic incidents in 15 minutes or less

Second quarter 2022; Times to clear incidents; Number and percentage of incidents



Data source: Washington Incident Tracking System.

On average, IR teams cleared each of the 11,108 incidents in 15 minutes and 6 seconds. This is the same average clearance time as the second quarter of 2021.

Of the 11,108 total incidents, 7,985 (71.9%) lasted less than 15 minutes, 2,922 (26.3%) lasted 15-90 minutes and 201 (1.8%) lasted more than 90 minutes. There were 7.2% fewer incidents lasting less than 15 minutes, 7.6% fewer incidents lasting 15-90 minutes and 4.1% more incidents lasting more than 90 minutes in the second quarter of 2022 than in during the same quarter in 2021.

IR program provides \$21.0 million in economic benefit during the quarter

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

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

WSDOT’s assistance at incident scenes provided an estimated \$21.0 million in economic benefit during the second quarter of 2022 by reducing the impacts of incidents on drivers. This benefit is provided in two ways:

- WSDOT reduces the time and fuel motorists waste in incident-induced traffic delay by clearing incidents quickly. About \$12.0 million of IR’s economic benefit for the quarter resulted from reduced traffic delay.
- WSDOT helps prevent secondary incidents by proactively managing traffic at incident scenes. About \$9.1 million of IR’s economic benefit resulted from preventing an estimated 2,100 secondary incidents and resulting delay. This figure is based on Federal Highway Administration data, which estimates that 20% of all incidents are secondary incidents.

Every dollar WSDOT spent on the IR program during the second quarter of 2022 provided drivers \$14.02 in economic benefit.

Incident Response helps reduce congestion

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

WSDOT’s Incident Response teams provide an estimated \$21.0 million in economic benefit

Second quarter 2022; Incidents by duration in minutes; Time in minutes; Costs and benefits in millions of dollars

Incident duration	Number of incidents ¹	Percent blocking ²	Average incident clearance time ³ (all incidents)	Cost of incident-induced delay	Economic benefits from IR program ⁴
Less than 15 min.	7,985	17.6%	4.9	\$9.9	\$4.6
Between 15 and 90 min.	2,922	54.3%	32.3	\$27.0	\$11.8
Over 90 min.	201	84.0%	163.4	\$10.9	\$4.6
Total	11,108	28.5%	15.1	\$47.9	\$21.0
Percent change from the second quarter of 2021	↓7.1%	↓4.0%	0.0%	↓7.5%	↓7.2%

Data source: Washington Incident Tracking System.

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

1 Teams were unable to locate 708 of the 11,108 incidents. Because an IR team attempted to respond, these incidents are included in the total incident count. Other performance measures do not include incidents that were not located.

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

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

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

WSDOT teams respond to 201 over-90-minute incidents

IR teams assisted at the scene of 201 incidents that lasted more than 90 minutes during the second quarter of 2022. This was eight more incidents—a 4.1% increase—compared to the same quarter in 2021. While these over-90-minute incidents accounted for 1.8% of all incidents, they resulted in 22.8% of all incident-related delay costs.

Eight of the 201 over-90-minute incidents took six hours or more to clear—and are referred to as extraordinary incidents. This was one more extraordinary incident than in the same quarter in 2021. The eight extraordinary incidents in the second quarter of 2022 took an average of 11 hours and 33 minutes to clear, accounting for 4.0% of all incident-induced delay costs.

The average incident clearance time for all over-90-minute incidents was two hours and 43 minutes. This is about six minutes 52 seconds faster than in the same quarter in 2021. Excluding the eight extraordinary incidents, WSDOT's average clearance time for over-90-minute incidents was two hours and 47 minutes.

Performance data reported in this article is from WSDOT's Washington Incident Tracking System, which tracks incidents to which a WSDOT IR team responded. For more information on how WSDOT calculates these figures and all IR performance metrics, see [WSDOT's Handbook for Corridor Capacity Evaluation, 2nd edition, pp. 45-47.](#)

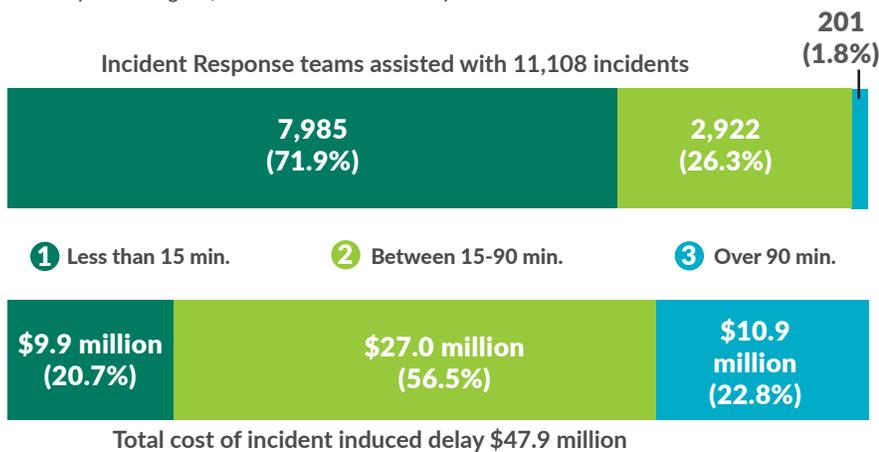
Contributors include Vince Fairhurst, Tony Leingang, Michele Villnave, Takahide Aso and Hui Dong

Customer feedback:

- "I was stranded with a totaled car on the I-90 bridge from Kirkland over Lake Washington. I was terrified and John calmed me, helped keep me safe and directed traffic perfectly. He is a total lifesaver."
- "Matt was incredibly helpful to us in a very stressful situation. Thank you!!"
- "Terry was very helpful and timely. Saved us hours of waiting on I-5 for basic tire service."

Cost of incident-induced delay not proportional to response numbers

Second quarter 2022; Number and percentage of incidents; Time to clear incidents; Cost and percentage of incident-induced delay



Data source: Washington Incident Tracking System.

86

WASHINGTON STATE FERRIES QUARTERLY UPDATE

WSF service reliability decreases slightly in the fourth quarter of fiscal year 2022

Washington State Ferries scheduled 33,925 ferry trips during the fourth quarter of FY2022 (April through June 2022) and completed 33,328 (98.2%). This missed the annual service reliability performance goal of 99% and was 0.7 percentage points lower than the same quarter in FY2021. The total trips scheduled for the fourth quarter of FY2022 were 3,390 (9.1%) less than the 37,315 scheduled during the same quarter in FY2021 because WSF continued to operate on a reduced service plan.

WSF typically has 19 vessels in service during the fourth quarter; however, due to the plan no more than 15 vessels operated. WSF continues to review service needs, workforce (crew) capacity, vessel availability, and service levels for opportunities to restore additional service.

During the quarter, 644 trips were canceled with 47 replaced for a total of 597 net missed trips. This was 183 more net missed trips than the same quarter of FY2021. Of the 644 canceled trips for the quarter, 272 (42.2%) were due to lack of available crew. WSF has faced significant crewing issues since the pandemic began; they were the primary reason for the reduced level of service during the quarter.

Vessel mechanical breakdowns led to 191 trips canceled during the quarter. An anchor malfunction on the M/V *Yakima* caused 55 cancellations. The M/V *Kaleetan* had a hard landing at a terminal leading to 16 cancellations. A drive motor problem on the M/V *Wenatchee* resulted in 11 cancellations. The public address system was out of order on the M/V *Kitsap*, leading to 28 canceled trips. The M/V *Issaquah* had an issue with the steering system causing 24 cancellations. Twelve trips were missed due to a problem with the propulsion system on the M/V *Salish*; a generator malfunction on the

WSF service reliability worsens, narrowly misses annual goal

Fourth quarters; Fiscal years 2018 through 2022; Percentage of scheduled ferry trips completed



Data source: Washington State Ferries.

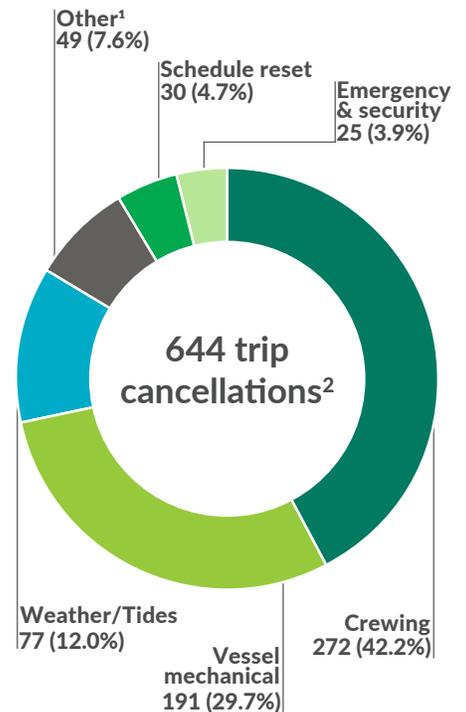
Notes: Fiscal year = July 1 through June 30. As a result, April through June 2022 represents the fourth quarter of FY2022.

Notable results

- WSF completed 33,328 (98.2%) of its 33,925 regularly scheduled trips in the fourth quarter of FY2022
- WSF ridership was approximately 4.6 million in the fourth quarter of FY2022, with 249,455 (5.2%) fewer passengers than the corresponding quarter in FY2021
- WSF on-time performance was 81.8% in the fourth quarter of FY2022

Crewing issues cause the majority of cancellations in fourth quarter

Fourth quarter (April - June) FY2022



Data source: Washington State Ferries.

Notes: Fiscal years run from July 1 through June 30. As a result, April through June 2022 represents the fourth quarter of FY2022. Percentage totals may not add to 100 due to rounding. 1 The category for "Other" includes issues at terminals, and events such as disabled vehicles, environmental issues and non-vessel related incidents that can impact operations. 2 WSF replaced 47 of the 644 canceled trips for a total of 597 net missed trips.

WSF on-time performance and reliability down in the fourth quarter of fiscal year 2022

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

Route	On-time performance (fourth quarter)				Trip reliability (fourth quarter)			
	FY2021	FY2022	Status	Trend	FY2021	FY2022	Status	Trend
San Juan Domestic	66.5%	61.8%	-4.7%	↓	98.5%	96.6%	-1.9%	↓
Anacortes/Friday Harbor/Sidney, B.C. ¹	N/A	N/A	N/A	↔	N/A	N/A	N/A	↔
Edmonds/Kingston	97.7%	84.1%	-13.6%	↓	99.8%	99.2%	-0.6%	↓
Fauntleroy/Vashon/Southworth	84.8%	84.9%	0.1%	↑	99.7%	99.6%	-0.1%	↓
Port Townsend/Coupeville	88.3%	90.6%	2.3%	↑	95.5%	94.9%	-0.6%	↓
Mukilteo/Clinton	95.0%	94.8%	-0.2%	↓	99.5%	97.6%	-1.9%	↓
Point Defiance/Tahlequah	93.9%	94.7%	0.8%	↑	99.8%	99.9%	0.1%	↑
Seattle/Bainbridge Island	76.3%	67.0%	-9.3%	↓	98.5%	98.7%	0.2%	↑
Seattle/Bremerton	86.7%	96.0%	9.3%	↑	96.0%	99.7%	3.7%	↑
Total system	85.2%	81.8%	-3.4%	↓	98.9%	98.2%	-0.7%	↓

Data source: Washington State Ferries.

Notes: FY = fiscal year (July 1 through June 30). As a result, April through June 2022 represents the fourth quarter of FY2022. A trip is considered delayed when a vessel leaves the terminal more than 10 minutes later than the scheduled departure time. WSF operates nine 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. Numbers shown in the table have been rounded to the tenth and may not add correctly. ¹ The Anacortes/Friday Harbor/Sidney, B.C. route has been closed since the beginning of the COVID-19 pandemic.

M/V *Spokane* led to 11 cancellations; eight cancellations occurred when a clutch air leak was discovered on the M/V *Kittitas*. Various causes led to the remaining 26 vessel breakdowns, with no more than six trips cancellations for any one event.

Tides accounted for 61 cancellations and severe weather for 16, all of which occurred on the Port Townsend/Coupeville route. This route is the most vulnerable to tides and weather patterns passing through the Puget Sound region.

There were 30 schedule resets, which occur when a vessel is so far behind schedule that it is necessary to show a missed trip to get the vessel back on schedule. Emergencies accounted for 25 cancellations, with six for search and rescue missions. The remaining 49 cancellations were due to miscellaneous reasons including issues at terminals, events like disabled vehicles, environmental

issues, and non-vessel related incidents that can impact operations.

Ridership decreases 5.2% during the quarter

There were 4,550,017 boardings during the fourth quarter of FY2022, 5.2% (249,455) fewer than the same quarter of last year (4,799,472). The Edmonds/Kingston route experienced 214,028 (21.3%) fewer riders. There were two boats operating on this route in FY2021, and only one boat most days in the fourth quarter of FY2022. Under the service restoration plan, the Edmonds/Kingston route is scheduled for one boat each day with a second vessel going into service for all or part of the day as crewing allows. WSF is conducting public outreach and offering training opportunities to improve crew levels and restore full service to all routes.

The Seattle/Bainbridge Island route had 1,177,791 boardings in the

final quarter of FY2022, an 18.8% increase from 991,661 in the same quarter last year; this was the only route to experience an increase in ridership. With the Bremerton/Seattle and Edmonds/Kingston routes operating one-boat service during the quarter, more riders opted to use Bainbridge Island/Seattle route, which operates two vessels.

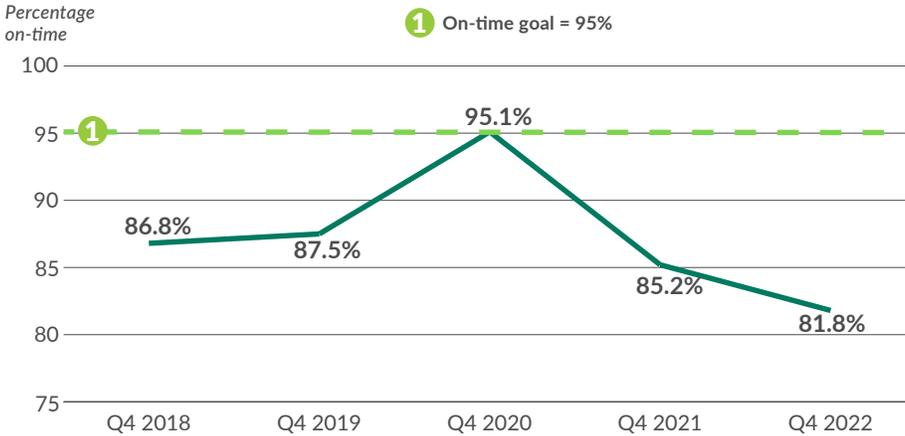
On-time performance decreases during quarter

On-time performance was 81.8% in the fourth quarter of FY2022, 3.4 percentage points lower than the same quarter in FY2021. This means 6,065 sailings did not leave the dock within 10 minutes of the scheduled time. The quarterly rate was below WSF's annual on-time performance goal of 95%. The only route to achieve the annual on-time performance goal for the quarter was Seattle/Bremerton at 96%.

The Edmonds/Kingston route experienced the largest decrease in

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

Fourth quarters; Fiscal years 2018 through 2022; Percentage of ferry trips reported as on-time¹



Data source: Washington State Ferries.

Notes: Fiscal year = July 1 through June 30. As a result, April through June 2022 represents the fourth quarter of FY2022. ¹ A trip is considered delayed when a vessel leaves the terminal more than 10 minutes after the scheduled departure time.

on-time performance, going from 97.7% in the fourth quarter of FY2021 to 84.1% in the same quarter of FY2022. The current one-boat service on this route means it is more fully loaded during each sailing, which requires more time to load and unload.

WSF farebox revenue decreases in fourth quarter

Farebox revenue for the fourth quarter of FY2022 was approximately \$46 million, approximately \$8 million below the forecasted amount of \$54 million, and \$3 million less than the revenues collected in the same quarter of FY2021. The annual revenue of \$167 million was \$23.9 million (12.5%) under the forecast for FY2022. The forecast was made before the long-lasting effects of the pandemic were understood, with the reduction in service not being anticipated at the time of the forecast.

Passenger and employee injury rate increases

The rate of passenger injuries was 1.76 per million riders in the fourth quarter of FY2022, an increase from 0.63 in the corresponding quarter of FY2021. This represents five more passenger injuries than the same quarter in the previous year. The passenger injury rate during the quarter missed WSF's annual goal of having one or fewer injuries per million riders.

The rate of Occupational Safety and Health Administration recordable crew injuries per 10,000 revenue service hours increased from 8.7 in the fourth quarter of FY2021 to 10.5 during the same period in FY2022. This represents three more injuries than in the same quarter in FY2021, and missed WSF's annual goal of having a rate of fewer than 7.6 crew injuries per 10,000 revenue service hours.

Passenger complaints decrease for the quarter

WSF received 356 complaints and 19 compliments during the fourth quarter of FY2022, compared to 429 complaints and 25 compliments during the same quarter in FY2021. One way to compare this information is to use a ratio of complaints per 100,000 riders. Based on this method, there were 8.94 complaints per 100,000 riders in FY2021 and 7.82 complaints per 100,000 riders in FY2022, a decrease of 1.12 complaints per 100,000 riders. The category with the most complaints in the fourth quarter in both years was employee behavior with 2.5 per 100,000 riders (122) in FY2021 compared to 1.5 per 100,000 riders (73) in FY2022. The second highest category of complaints in FY2022, 1.4 (69), were related to schedules.

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

Customer feedback:

"... I saw an elderly gentleman using a walker heading west toward the ferry terminal via the sidewalk on the south side of Main Street... As the elderly gentleman began to cross the tracks, the crossing gate came down in front of him, effectively trapping him on the tracks. He seemed confused and befuddled and just stood there! At that point, one of your employees ran over and safely escorted the elderly gentleman around the crossing gate with only seconds to spare. It is not hyperbole to suggest these actions saved that man's life... I definitely wanted to make WSF aware of his actions!"

(Comment is an edited excerpt)

86 FISH PASSAGE ANNUAL REPORT

Notable results

- WSDOT completed 15 fish passage projects statewide in 2021, improving access to 98.2 miles of upstream fish habitat
- Since 2013, WSDOT has corrected 100 fish passage barriers within the case area of the 2013 injunction, improving access to 474 miles of salmon and steelhead habitat

WSDOT improves access to 98.2 miles of upstream habitat

WSDOT completed 15 fish passage projects statewide in 2021, restoring fish access to 98.2 miles of upstream habitat. Fourteen of the projects were located in the area designated by a March 2013 federal injunction that requires WSDOT to restore access to 90% of blocked habitat within the injunction area by 2030, for more information, visit: <https://wsdot.wa.gov/construction-planning/protecting-environment/fish-passage>.

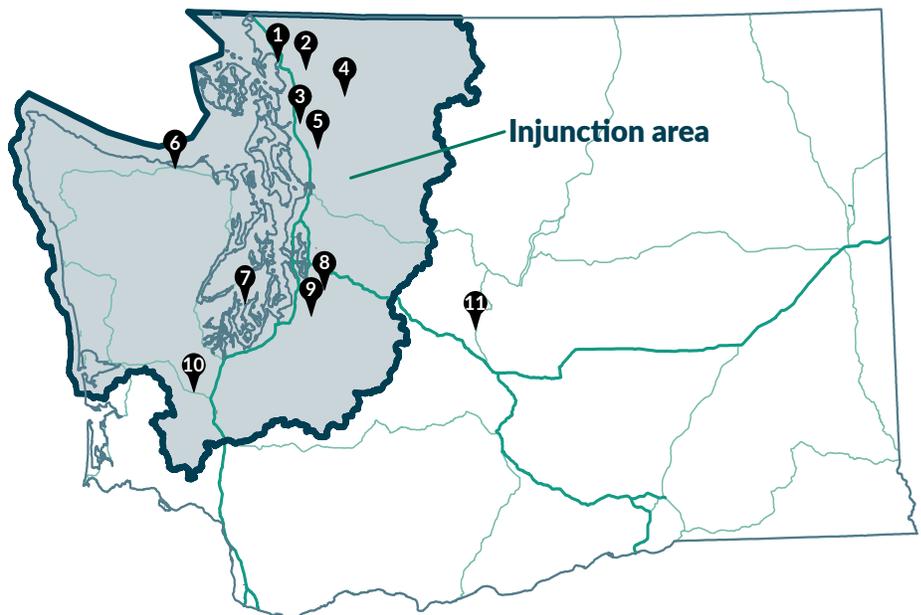
The other fish passage project, Swauk Creek, located on SR 97 in the Okanogan-Wenatchee National Forest near Blewett Pass, was constructed through collaboration with Washington Department of Fish & Wildlife, US Forest Service, Mid-Columbia Fisheries Enhancement Group, the Yakima Basin Fish & Wildlife Recovery Board, and the Yakama Tribe.

As of June 2022, WSDOT has corrected 100 fish passage barriers within the federal injunction area, improving access to about 474 miles of previously blocked habitat. WSDOT must correct approximately 400 additional barriers by 2030 in order to comply with the injunction. These numbers are updated

WSDOT completes 15 fish passage projects in 2021, including 14 in injunction area

Map No.	Road	Body of water
1	SR 11	Padden Creek
2	SR 9	Tributary to Landingstrip Creek
3	SR 538	Logan Creek
4	SR 20	Fish Creek
4	SR 20	Lorenzan Creek
5	SR 9	Tributary to Pilchuck Creek
6	US 101	Bagley Creek
6	US 101	Tributary to Bagley Creek
6	US 101	Siebert Creek
7	SR 302	Minter Creek
8	SR 169	Tributary to Cedar River
9	SR 164	Pussyfoot Creek
10	SR 6	Tributaries to Chehalis River ¹
11	US 97	Swauk Creek ²

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



Data source: WSDOT Environmental Services Office.

Notes: Numbers on markers correspond with numbers in the table on the left. Numbers 4 and 6 have multiple fish passage barrier correction sites in the same area.

as WDFW completes habitat assessments to determine the amount of habitat blocked by barrier culverts.

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

WSDOT recognizes climate resilience as a factor regarding the integrity of its structures and approaches the design of bridges and buried structures through risk-based assessments.

For bridges and buried structures, the largest risk to the structures will come from increases in flow and/or sea level rise. The goal of fish passage projects is to maintain natural channel processes and

maintain passability for all expected life stages of fish through the life of the structure, approximately 70 years.

To date, and including those corrected in the federal injunction area, WSDOT has completed 379 total fish passage projects statewide, providing access to approximately 1,301 miles of potential upstream habitat for fish.

WSDOT coordinates barrier corrections with partners

WSDOT supports partnerships with other public agencies, cities, counties, public and private enhancement groups, and others who seek to help advance this work. WSDOT collaborated with the Mid-Columbia Fisheries Enhancement Group to secure funds from the United States Bureau of Land Management and the US Forest Service to expand the restoration footprint between the two highway crossings on US 97, including the Swauk Creek project. An additional 160 large woody material structures and native riparian plant species were placed on the stream buffers to improve shading and habitat on a 0.5-mile section where it was previously open and exposed.

Move Ahead Washington contributes to fish passage projects

In 2022, the Washington State Legislature passed the Move Ahead Washington transportation package that invests \$16.8 billion in the state's transportation system over 16 years. Move Ahead Washington includes \$2.4 billion to help the state comply with the federal injunction to replace fish passage barrier culverts by 2030.

Why and where WSDOT does fish passage work

Correcting fish passage barriers contributes to healthy fish and wildlife, including salmon and southern resident orca whale recovery.

To comply with state fish passage laws (RCW 77.57.030 and 77.57.060), WSDOT started working collaboratively with the Washington Department of Fish and Wildlife in 1991 to systematically identify and correct fish passage barriers that occur where state-owned highways intersect streams.

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



Before: The old Swauk Creek crossing beneath US 97 was a multi-plate steel culvert 6 feet wide and 9 feet tall that was a barrier to fish passage due to a large vertical drop at the outlet.

After: The new Swauk Creek crossing on US 97 is a 100-foot span bridge that restores connectivity to approximately 6.92 miles of spawning and rearing habitat for steelhead, resident rainbow trout and bull trout.



WSDOT corrects the last barriers on Swauk Creek and restores nearly seven miles of potential upstream habitat

Swauk Creek crosses US 97 nine times along the highway corridor between Blewett Pass and Swauk Prairie, eventually discharging into the Yakima River. This project completes a multi-year restoration of Swauk Creek between two WSDOT barriers on US 97, locally known as the Mill Crossing at milepost 159.24 and the Boundary Crossing at milepost 159.66. This project corrected the last WSDOT fish passage barriers on Swauk Creek.

WSDOT and the Washington Department of Fish & Wildlife identified this barrier as a high priority for environmental retrofit due to the quality and length of potential habitat gain (6.92 miles) in this virtually-untouched section of mountain stream. The innovative design reused native bed materials, minimized grading to protect native vegetation, and preserved off-channel cold water refuge habitat.

Siebert Creek project restores 34 miles of potential upstream habitat

Siebert Creek is a large tributary to the Strait of Juan de Fuca that crosses US 101 at MP 256.1 between Sequim and Port Angeles. This project corrects the lowest fish passage barrier on Siebert Creek, restoring access to 34 miles of spawning and rearing habitat upstream for Chinook and coho salmon, steelhead, coastal and resident cutthroat trout and bull trout.

The new crossing is a full span bridge with reinforced walls to stabilize the bank slopes, as this area is geologically prone to landslides. The span between the walls is 50 feet wide. Adult Chinook salmon were observed within the project area and upstream of the new bridge during the post-construction monitoring inspection, which is the first documented observation of Chinook utilizing Siebert Creek.

A video describing the barrier corrections at Siebert Creek and nearby Bagley Creek, also completed in 2021, can be viewed at <https://www.youtube.com/watch?v=2BsyZLctMn4>.



Before: The old Siebert Creek crossing on US 101 was a double cell box culvert seven feet high and seven feet wide that was a fish passage barrier due to low depth of flow and high water velocity.



After: The new Siebert Creek crossing on US 101 has reinforced walls lining the channel with large woody material placed within the floodplain which is spanned by a bridge, restoring access to 34 miles of spawning and rearing habitat upstream.

Monitoring ensures barrier corrections remain functional

In FY2021, WSDOT conducted a total of 68 monitoring assessments. Of those 68 assessments, 59 were scheduled inspections and the remaining nine assessments were performed at sites that required additional monitoring due to possible performance concerns.

The 59 scheduled assessments determined 54 sites were functioning as expected, and five were at risk of becoming fish passage barriers and are being reviewed to ensure they are 100% fish passable.

For the nine sites that received additional monitoring, three remain on an annual assessment schedule, four no longer pose a concern for fish passage and are reverting to the regular monitoring schedule, and two had no concerns.

Monitoring is a vital component of the Fish Passage Program that informs WSDOT to make data-driven decisions regarding designing and maintaining fish passable structures.

Individual monitoring reports can be generated on the WSDOT fish passage inventory web map by entering a site's unique Site ID or clicking on a corrected barrier. View the web map at <http://www.tinyurl.com/wsdotfishpassage>.

WSDOT plans to correct 14 fish passage barriers in 2022

WSDOT is scheduled to complete 14 fish passage projects in 2022 and open an estimated 29.61 miles of potential upstream habitat.

All 14 of the barrier corrections are stand-alone projects funded by WSDOT, with three addressing previous corrections that have reverted to barriers.

WSDOT collaborates with Brian Abbott Fish Barrier Removal Board

In collaboration with WSDOT, the Brian Abbott Fish Barrier Removal Board is scheduled to fund 21 fish passage barrier corrections in the 2021-2023 biennium. Of the 21 projects, 16 are complete restoration barrier corrections, while five are receiving funding for planning future projects.

The FBRB was established in 2014 through Washington state legislation. The board develops collaborative statewide strategies focused on maximizing habitat recovery through a coordinated approach and has developed a streamlined permitting process for fish passage projects.

Partners of the FBRB include WSDOT, Washington Department of Fish & Wildlife, Washington Department of Natural Resources, Governor's Salmon Recovery Office, tribes, and local governments statewide.

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

Full fish passage annual reporting available

WSDOT publishes its annual Fish Passage Performance Report each summer. It is available at [2022 WSDOT Fish Passage Annual Report](https://www.wsdot.wa.gov/fishpassage/annual-report).

More information on fish passage in Washington

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

86 FREIGHT SEMI-ANNUAL REPORT

Washington state imports and exports increase more than 28% from 2020 to 2021

Washington state's total imports and exports transported by any mode in 2021 were valued at \$115.5 billion, a 28.1% increase from \$90.2 billion in 2020. According to the U.S. Census Bureau, Washington was the 14th most trade-dependent state in the country per capita in 2021. Until 2019, it had been among the top 10 most trade-dependent states every year since 2008.

Washington's total international export value in 2021 was \$53.7 billion. Civilian aircraft and parts were the top commodities exported from the state, accounting for 25% of Washington's international export value. Total civilian aviation exports increased from \$8 billion in 2020 to \$13.3 billion in 2021 but remained 48% below the 2019 level of \$25.5 billion. Supply chain disruptions and manufacturing slowdowns have significantly affected this industry.

After shifting many of its manufacturing jobs to other states, Boeing lost its long-time position as Washington's top private-sector employer to Amazon. Amazon grew to approximately 80,000 employees in 2022 while Boeing—which had 72,000 employees two years ago—now employs less than 56,000 people in the state.

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

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

In June 2021, President Biden established a federal Supply Chain Disruptions Task Force to address both near-term and long-term concerns. In creating the Task Force the White House acknowledged the COVID-19 pandemic magnified issues that had been building for many years. The task force is working to identify structural weaknesses in both domestic and international supply chains that threaten America's economic and national security.

Despite these disruptions, Washington exports increased 1 percentage point in 2020 to make up 47% of the state's international trade in 2021 (with imports making up the remaining 53%). Historically, the state has had a 60/40 split in international goods between exports and imports, respectively.

In addition, exports to China (Washington's largest trade partner) totaled \$12.1 billion in 2021—up 33% from \$9.1 billion in 2020, when exports were heavily impacted by tariffs (refer to [Gray Notebook 82](#)). The 2021 levels were still 24% below the \$15.9 billion in trade with China that occurred in 2018.

Notable results

- *Total Washington state imports and exports were valued at \$115.5 billion in 2021, up 28.1% from \$90.2 billion in 2020*
- *The number of freight trucks entering Washington from Canada decreased from 607,387 crossings in 2020 to 638,471 in 2021*
- *Washington waterborne freight tonnage increased 2.4% from 2019 to 2020*
- *Air cargo tonnage in Washington increased 3.2%, from 1.99 million tons in 2019 to 2.05 million tons in 2020*

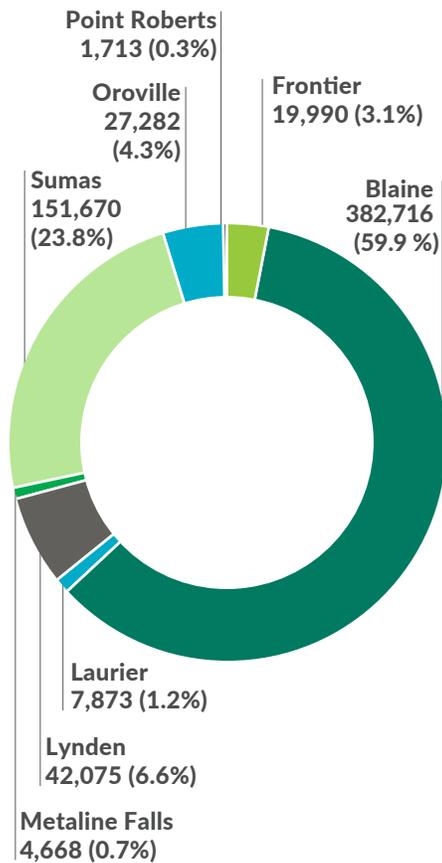
WSDOT facilitates multimodal freight transportation

WSDOT supports the freight system and freight-dependent industries by directly managing the state's highway and ferry system, a short line railroad and several freight rail programs. For more information on WSDOT's freight rail programs, refer to the Freight Semi-Annual Report in Gray Notebook 76 (at https://bit.ly/Freight_GNB76).

WSDOT also provides policy analysis and planning coordination for the movement of goods in commerce statewide. For additional information, refer to <https://wsdot.wa.gov/construction-planning/statewide-plans/freight-plans>.

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

Truck crossings from Canada into Washington at the border; 2021



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

Notes: Graph does not include truck crossings at Danville (287 crossings in 2021), Boundary (134 crossings in 2021), Port Angeles (33 crossings in 2021), Ferry (12 crossings in 2021) or Friday Harbor (zero crossings in 2021).

Washington experiences a 5.1% increase in trucks entering from Canada in 2021

The number of freight trucks entering Washington from Canada increased by 5.1%, from 607,387 in 2020 to 638,471 in 2021. In both years, the bulk of the traffic (a combined average of 83.7%) was at the Blaine and Sumas border crossings.

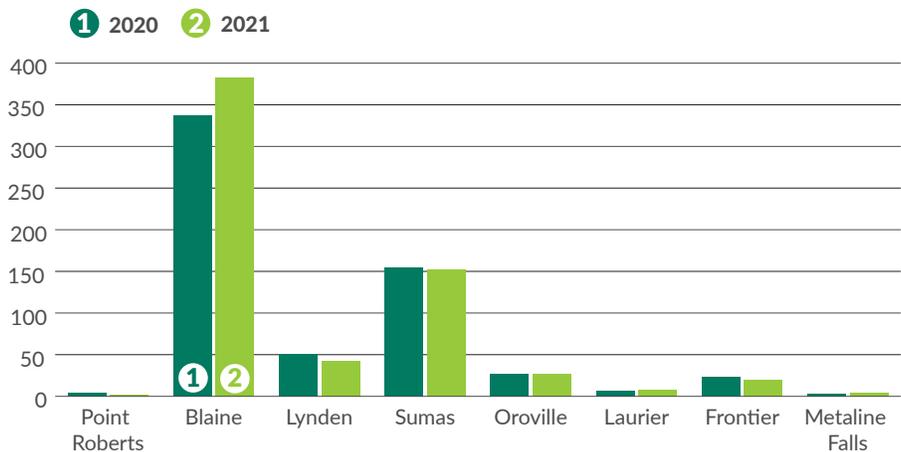
In 2021, 382,716 trucks entered Washington at the Blaine crossing on I-5, up 13.4% from the 337,412 that used this crossing in 2020. The Sumas crossing on State Route 9 had 151,670 trucks enter Washington

in 2021, down 2.2% from 155,013 trucks in 2020.

The border between Canada and the United States has remained closed to non-essential travel throughout 2021 due to the pandemic. However, as crossing protocols improved between 2020 and 2021, traffic became less congested at the popular Blaine crossing and many commercial trucking companies have shifted to using that crossing rather than alternatives.

Freight truck border crossings concentrated at Blaine and Sumas

Truck crossings (in thousands) from Canada into Washington at the border; 2020 and 2021



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

Notes: Graph does not include truck crossings at Danville (287 crossings in 2021 and 401 in 2020), Boundary (134 crossings in 2021 and 165 in 2020), Port Angeles (33 crossings in 2021 and 89 in 2020), Ferry (12 crossings in 2021 and 23 in 2020), or Friday Harbor (zero crossings in both 2021 and 2020).

Northwest Seaport Alliance sees an increase in containerized waterborne cargo in 2021

In 2021, the Northwest Seaport Alliance (which includes the merged marine cargo operations from the ports of Seattle and Tacoma) handled 3.74 million 20-foot equivalent units (refer to box at right) of containerized cargo.

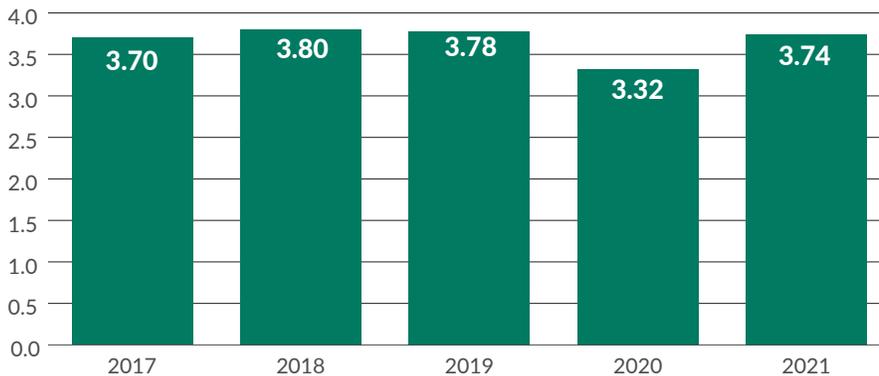
This was a 12.5% increase from 3.32 million TEUs in 2020 (refer to chart below). This increase in containerized freight moving through Washington's largest ports is indicative of the slowly recovering economy.

20-foot equivalent units

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

Northwest Seaport Alliance¹ sees increase in containerized waterborne cargo

Containerized volume of waterborne cargo in millions of TEUs²; 2017 through 2021



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

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



Ships carrying containerized freight at the Port of Seattle.

Approximately 73% of waterborne freight shipped in Washington in 2020 was categorized as foreign

In 2020, the most recent data available, approximately 109.7 million tons of waterborne freight were shipped in Washington, down 2.4% from 112.4 million tons in 2019. This decrease in waterborne freight activity was primarily due to the COVID-19 pandemic.

Waterborne freight is categorized as foreign, domestic or intrastate (with both origin and destination in Washington). In 2020, 58.4% of waterborne freight was international export and 14.4% was international import. Domestic shipments accounted for 19.5% and the remaining 7.7% was intrastate freight.

Foreign freight activity decreased 0.3% from 80.1 million tons in 2019 to 79.9 million tons in 2020.

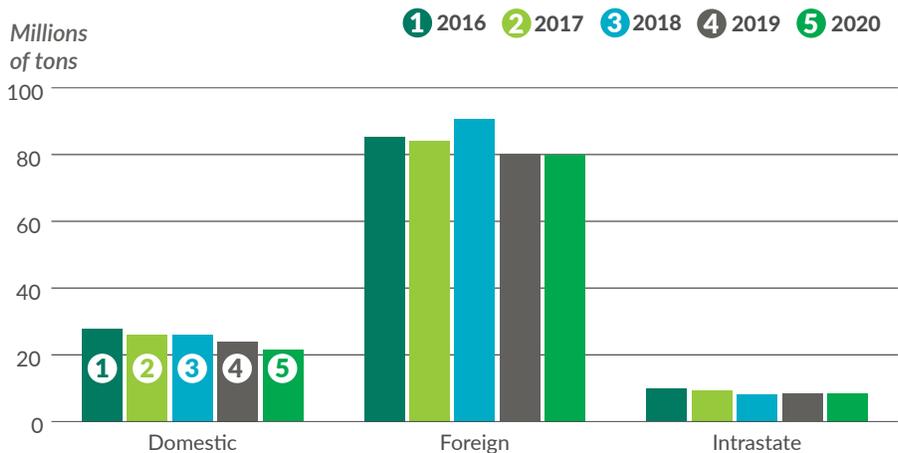
Domestic freight activity decreased 10.6% from 23.9 million tons in 2019 to 21.4 million tons in 2020, while intrastate freight activity increased 0.9% from 8.3 million tons to 8.4 million tons (refer to chart below).

The top commodities shipped to, from and within Washington state by water include food and food products (such as grain, oilseeds and other agricultural products).

Petroleum products made up 11.5% and crude petroleum comprised 8.3% of shipments. Between 2019 and 2020, the quantities of both petroleum products and crude petroleum shipped decreased by 17.5% and 26.8%, respectively. Food/kindred products increased by 10.2% over the same period.

Majority of waterborne freight in Washington crosses international borders

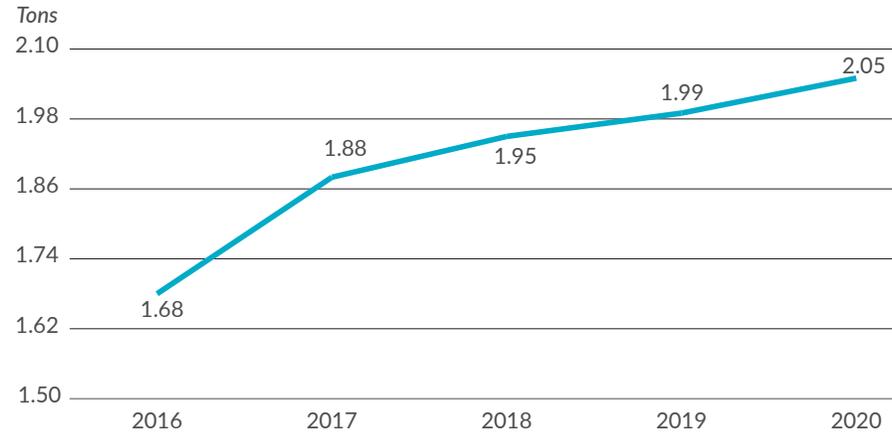
2016 through 2020; Tonnage in millions; Domestic, foreign and waterborne freight



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

Washington total air cargo continues to increase in 2020

2016 through 2020; Tonnage measured in millions; Plane plus cargo weight



Data source: Federal Aviation Administration.

Air cargo tonnage increases 3.2% from 2019 to 2020

Washington airports handled 2.05 million tons of cargo (plane plus cargo weight) in 2020, continuing an upward trend that began in 2013. In 2020, the most recent year for which statewide data is available, air cargo tonnage grew by 3.2% from 1.99 million tons in 2019. Much of this increase can be attributed to the 9.5% increase in cargo shipped through Sea-Tac Airport between 2019 and 2020. In addition, Bellingham International Airport received Federal Aviation Administration approval in 2020 to begin shipping air cargo, increasing the overall capacity for air cargo in the state.

Sea-Tac Airport continued to handle the bulk of all air cargo in the state in 2020, with 66.2% of the statewide total according to the FAA. Sea-Tac Airport also provides daily, non-stop service to 91 domestic and 27 international destinations.

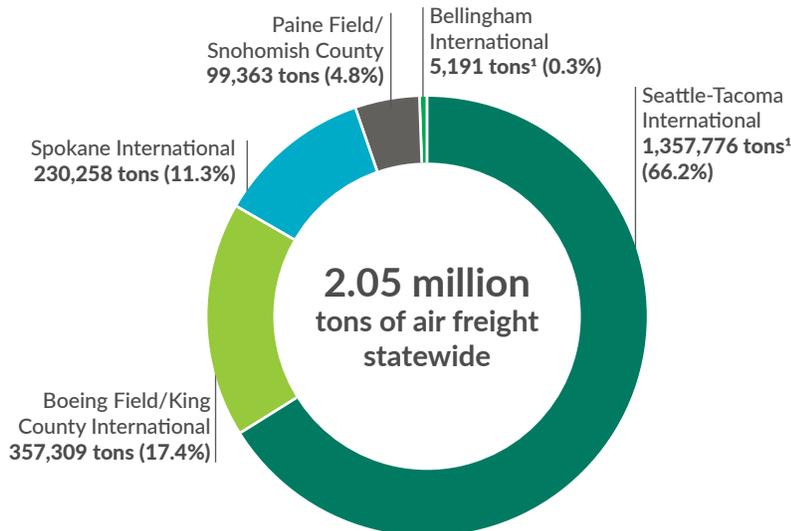
Sea-Tac air cargo tonnage increases from 2020 to 2021

According to the Port of Seattle, Sea-Tac handled approximately 498,741 metric tons of total cargo (not including plane weight) in 2021—an increase of 9.7% from 454,584 metric tons in 2020, setting a new record for air cargo volume.

Fewer Sea-Tac international passengers led to passenger planes carrying more cargo by 28.1% from 2020 to 2021. Thus, leading air cargo to increase by 4.3% to offset when passengers started flying again and the space was no longer available. Increased demand for fast product delivery due to more e-commerce

Seattle-Tacoma airport moves majority of state's air freight in 2020

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

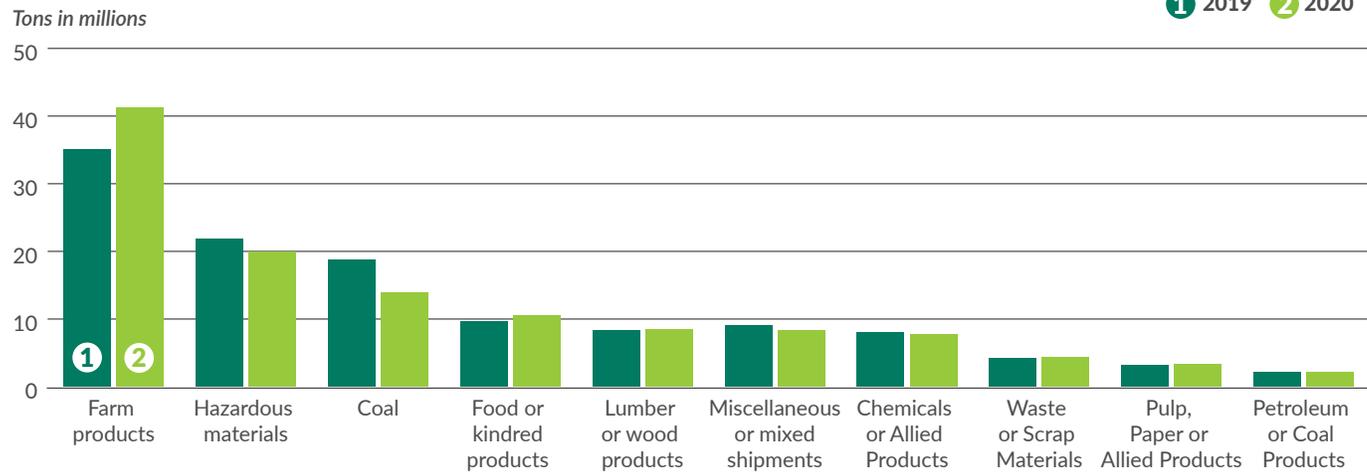


Data source: Federal Aviation Administration.

Note: **1** Tonnage reported in this chart includes the weight of the planes. Seattle-Tacoma International Airport also reports tonnage of freight handled excluding plane weight; this figure was 454,584 metric tons of total cargo in 2020, and 498,741 metric tons of total cargo in 2021.

Farm products continue to make up largest share of freight shipped by rail in Washington state in 2020

2019 and 2020; Commodities shipped by rail; Tonnage in millions



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

during the pandemic led to more demand for air cargo shipments.

Freight rail tonnage decreases by 1.4% in 2020

Railroads in Washington state transported 127 million tons of freight in 2020, a 1.4% decrease from the 129 million tons transported in 2019. The overall decrease was driven by a drop in coal shipments.

The amount of inbound rail freight (freight that originated outside Washington and was terminated at a destination within the state) increased 1.9% from 66.9 million tons in 2019 to 68.2 million tons in 2020.

Inbound freight made up 53.6% of all statewide rail freight in 2020. Freight rail shipments passing through Washington (with both origin and destination outside the state) accounted for 29.2% (37.2 million tons) of total rail freight tonnage, compared to 38.2 million tons in 2019. Approximately 15.6 million tons of outbound rail freight (which had an in-state origin and an out-of-state

destination) was transported in Washington state in 2020, making up 12.2% of total freight rail tonnage. The remaining 4.9% (6.3 million tons) of rail freight was intrastate, with both origin and destination inside Washington.

Farm products shipped by rail increased 18% in 2020

In 2020, 41.3 million tons of farm products (such as soybeans, corn, wheat and dried peas) were shipped by rail in Washington state, an 18% increase from the 35.0 million tons shipped in 2019 (refer to chart above). This was mainly driven by the amount of corn shipped by rail, which was up 37.5% from 9.5 million tons in 2019 to 13 million tons in 2020. The increase in corn shipments was associated with more corn originating in the Midwest. The jump in corn exports was largely due to a higher demand from China and competitive U.S. prices in the global market.

Soybean shipments by rail increased 18.7% from 11.9 million tons in 2019

to 14.1 million tons in 2020. This was driven largely by higher demand from China.

The amount of wheat shipped by rail remained steady at around 10.7 million tons, increasing 0.6% from 2019 to 2020.

Less hazardous material shipped by rail in 2020 than in 2019

Railroad shipments of hazardous materials decreased by 8.8% in 2020 with 20 million tons compared to 21.9 million tons in 2019. Shipments of hazardous materials—such as petroleum crude oil, ethyl alcohol, asphalt, propane gas and petroleum/shale oil—declined largely due to less inbound traffic from North Dakota and Alberta, Canada to Washington. Rail shipments of coal decreased by 26.3%, going from 18.8 million tons in 2019 to 13.9 million tons in 2020, primarily because there were fewer coal shipments from Wyoming to Washington and Washington to Oregon.

Contributors include Janet Matkin, Cara Motte, Wenjuan Zhao, Joe Irwin and Michele Villnave

Notable results

- *A Connecting Washington project and contract were operationally complete during the fourth 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.

Connecting Washington project and contract, operationally complete during the quarter

A Connecting Washington project and contract were operationally complete by WSDOT during the fourth quarter of the 2021-2023 biennium (April through June 2022).

Interstate 90/Easton Hill to West Easton Interchange Westbound - Replace Bridge and Build Detour

(Kittitas County)

Operationally complete: May 12, 2022

The original concrete pavement on this section of I-90 east of Snoqualmie Pass was severely deteriorated and in need of replacement while unstable, adjacent slopes resulted in rock and debris falling onto the highway. Travelers experienced stop-and-go traffic conditions due to increasing traffic volumes and crashes with vehicles and wildlife.

This Connecting Washington contract constructed detours including segments of the permanent alignment between mileposts 67 and 70 that will be utilized by the next phase of construction between Cabin Creek interchange and the west Easton interchange to address the identified needs.

Budget: The contract was completed for \$14.6 million, which was slightly higher than the last approved budget of \$14.5 million. The total initial cost decreased by \$2.9 million due to an updated estimate prior to advertisement and included lower bid item quantities for crushed surface base course and lower bid item costs for hot mix asphalt.

Schedule: The contract was operationally complete in May 2022, approximately seven months later than the originally-programmed schedule of September 2021. The contract's advertisement was delayed by six months from January to June 2020 in response to the passage of Initiative-976, after which the Governor directed WSDOT to postpone projects not yet underway. The contract also was delayed due to winter weather, which prohibited completion of the shoulder paving during the fall of 2021 as originally planned.

I-90/Medical Lake Interchange to Geiger Field Interchange - Reconstruction - Phase 2

(Spokane)

Operationally complete: May 23, 2022

Increasing private and commercial development on the west plains between Spokane and Cheney adjacent to Interstate 90 increased traffic demands at the Medical Lake Interchange (Exit 272). The level of service at the this interchange (which was originally constructed in 1965) and the Geiger Field interchange (constructed in 1962) could not meet demand.

Budget: Phase two of the project was completed for \$6.4 million, which was on target with the last approved budget.

Costs decreased by \$1.2 million to approximately \$6.2 million due to favorable bids and lower cost for the bid items of mobilization, roadway excavation, crushed surfacing base course, hot mix asphalt, illumination and information technology systems. Total costs increased by \$150,000 to \$6.4 million to cover to overtime needed as the contractor worked long hours and weekends to complete major components.

Schedule: The contract's advertisement date was delayed seven months from March 2020 to October 2020 and the scheduled operationally complete date was delayed six months from March 2022 to September 2022 in response to the passage of Initiative-976. After I-976, where the Governor directed WSDOT to postpone projects not yet underway. The project was operationally complete in May 2022.



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ADVERTISEMENT RECORD QUARTERLY UPDATE

Connecting Washington Account projects in construction ¹ Through June 30, 2022; (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	\$49.2
SR 509/King County Trail (WSDOT Contribution)	Delayed	Jul-2023	\$12.0
SR 509/I-5 & SR 516 I/C to 28th/24th Ave. South - SR 509 Completion Stage 1	Delayed	Jun-2025	\$432.0
SR 167/I-5 to SR 509 - Stage 1B	Delayed	Sep-2026	\$607.8
I-405/Renton to Bellevue - Corridor Widening (King)			
I-405/Renton to Bellevue - Corridor Widening & ETL (Stage 2)	Delayed	Dec-2024	\$788.8
I-405/Toll Vendor for Renton to Bellevue - Toll System	On schedule	Sep-2024	\$42.5
Land Mobile Radio Upgrade (multiple counties)			
Wireless Communication	Delayed	Sep-2022	\$37.0
SR 520 Seattle Corridor Improvements - West End (King)			
SR 520/Montlake to Lake Washington - I/C and Bridge Replacement	Delayed	Jun-2023	\$669.6
SR 520/I-5 to Lake Washington - Bridge Replacement - Mitigation	On schedule	Jul-2023	\$26.3
SR 520/I-5 Interchange - Improvement	Delayed	Nov-2023	\$ 114.1
US 395 North Spokane Corridor (Spokane)			
US 395/NSC Wellesley Ave. Improvements	On schedule	Oct-2022	\$35.8
US 395/NSC Spokane River to Columbia	On schedule	Oct-2022	\$51.4
US 395/NSC Spokane River to Columbia - Shared Use Path	On schedule	Sep-2022	\$13.3
US 395/NSC Sprague Ave. to Spokane River	Delayed	Dec-2022	\$123.8
I-90/Eastgate to SR 900 - Corridor Improvements (King)			
I-90/Eastgate to SR 900 - Corridor Improvements	Delayed	July-2022	\$73.0
US 12/Walla Walla Corridor Improvements (Walla Walla)			
US 12/Nine Mile Hill to Frenchtown Vicinity - Build New Highway	Delayed	Jul-2023	\$161.4
I-90 Snoqualmie Pass - Widen to Easton (Kittitas)			
I-90/Easton Hill to W. Easton I/C Westbound - Replace Bridge/Build Detour	Delayed	May-2022	\$14.5
I-90/Cabin Creek I/C to W Easton I/C Phase 3 - Add Lanes/Wildlife Bridges	Delayed	Oct-2027	\$338.4
I-90/Barker to Harvard - Improve Interchanges & Local Roads (Spokane)			
I-90/Barker to Harvard Phase 2 - Improve Interchanges and Local Roads	On schedule	Jun-2023	\$12.6
SR 305 Construction - Safety Mobility Improvements (Kitsap)			
SR 305/Johnson Rd. - Roundabout	Delayed	Aug-2022	\$5.9
I-405/NE 132nd Interchange - Totem Lake (King)			
I-405/NE 132nd Street I/C Improvements	On schedule	Dec-2023	\$83.4
I-5/Northbound Marine View Dr. to SR 529 - Corridor & Interchange Improvements (Snohomish)			
I-5/NB Marine View Dr. to SR 529 - Corridor & I/C Improvements	Delayed	Sep-2024	\$123.0

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. I/C = Interchange. ETL = Electronic Toll Lanes.

Connecting Washington Account projects in construction Through June 30, 2022; (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 - I/C and Profile Improvements	Delayed	Nov-2022	\$6.4		
SR 520/148th Ave NE Interchange - Overlake Access Ramp (King)					
SR 520/148th Ave NE I/C - Overlake Access Ramp	Delayed	Aug-2023	\$68.3		
US 395/Ridgeline Intersection (Benton)					
US 395/Ridgeline Drive - Construct Interchange	Delayed	Oct-2022	\$17.6		
I-90/SR 18 Interchange Improvements (Kittitas)					
I-90/SR 18 I/C to Deep Creek - I/C Improvements & Widening	Delayed	Oct-2024	\$188.5		
I-90/SR 18 Interchange Improvements (Snohomish)					
SR 9/SR 204 Intersection - Improvements	Delayed	Oct-2023	\$69.2		
SR 9/SR 204 Interchange (Whitman)					
SR 26/Dusty to Colfax - Add Climbing Lanes	Delayed	Oct-2022	\$10.1		
Nickel & TPA projects in construction Through June 30, 2022; (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/Tunnel Alternative, South Access Surface Street Connection	Nickel/ TPA	Late	Feb-2021	Jan-2023	\$25.0
SR 99/Alaskan Way and Elliot Ave Surface Street Restoration	Nickel/ TPA	√	Nov-2018	Feb-2024	\$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. - Southbound HOV	TPA	Late	Sep-2017	Nov-2022	\$159.8
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 tracks two change orders of \$500,000 or more

WSDOT had two change orders of \$500,000 or more recorded during the quarter ending June 30, 2022. **1)** A \$504,000 change order increased I-5 Portland Avenue to Port of Tacoma Road Southbound project costs to account for work to design and construct ADA compliant pedestrian facilities, including the implementation of traffic control, in three quadrants of the McKinley Way and D Street intersection and one area on the Pacific Avenue and South 32nd Street intersection. **2)** A \$1 million change order increased SR 290, Barker Road BNSF Grade Separation project costs to account for this change order adds BNSF requirements for importing or exporting soil, adding a common borrow from the Hatch Road source to be placed on the BNSF Railway right of way including an equitable adjustment for embankment compaction of this material, reclamation of the Hatch Road source after the borrow is complete, and necessary traffic control at the Hatch Road source.

When changes must occur to build projects, WSDOT issues a change order to modify the original contract. The order directs contractors how to handle the change, and also modifies the contract cost, plans and specifications as necessary. Oftentimes, these costs are included in the project's risk reserves. Each month, WSDOT posts all change orders estimated at \$500,000 or more online at [Change orders over \\$500,000 | WSDOT \(wa.gov\)](https://www.wa.gov/Change-orders-over-500000-WSDOT).

86 PRE-EXISTING FUNDS QUARTERLY UPDATE

WSDOT advertises 74 Pre-existing Funds projects in the fourth quarter of the biennium

WSDOT advertised 74 of 95 Pre-existing Funds projects in the fourth quarter of the 2021-2023 biennium (April through June 2022). Of the 74 total projects advertised, 10 were on time, 47 were emergent, eight were emergency projects and nine were late. Of the remaining 21 projects originally scheduled to be advertised during the quarter, WSDOT advertised three in an earlier biennium, delayed nine within the 2021-2023 biennium, deferred eight out of the biennium and deleted one.

As of June 30, 2022, WSDOT's current cost to complete the 191 PEF projects advertised through the fourth quarter of the 2021-2023 biennium was about \$840.4 million, approximately \$233.7 million (38.5%) more than the original value of \$606.7 million (refer to chart at right).

Cash flows currently lower than original projections

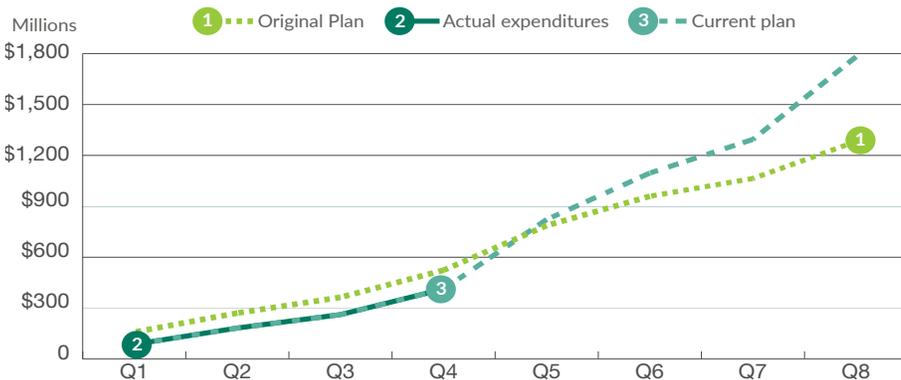
WSDOT originally planned to have approximately \$523.4 million in cumulative combined PEF improvement and preservation cash flows at the end of the fourth quarter of the 2021-2023 biennium, but had \$412.4 million, approximately \$111.0 million (21.2%) less in actual expenditures due to adjustments in 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, WSDOT uses the original plan as a goal while working to meet the projections 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 June 30, 2022; Planned vs. actual expenditures and current plan; Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: Q4 refers to the fourth quarter (April through June 2022) of the 2021-2023 biennium, which runs from July 2021 through June 2023.

Current cost to complete PEF advertisements \$233.7 million more than original value

2021-2023 biennium (July 2021 through June 2023); Fourth quarter (ending June 30, 2022); Dollars in millions

	Number of projects	Original value	Current cost to complete
Planned PEF advertisements for the 2021-2023 biennium	426	\$2,896.2	\$3,045.9
Actual PEF advertisements through the fourth quarter	191	\$606.7	\$840.4

Data source: WSDOT Capital Program Development and Management.

WSDOT advertises 191 PEF projects during the 2021-2023 biennium

Advertisement status	Quarter ¹	Cumulative ²
Advanced ³	0	11
On time	10	75
Emergent ⁴	47	57
Emergency	8	33
Late	9	35
Total projects advertised	74	191
Early ⁵	3	10
Delayed within the biennium	9	143
Deferred out of the biennium	8	11
Deleted	1	5

Data source: WSDOT Capital Program Development and Management.

Notes: **1** Quarter refers to April through June 2022. **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 74 Pre-existing Funds projects during the fourth quarter of the 2021-2023 biennium

April through June 2022

On time (10)	
SR 520/Toll Collection, Repair and Replacement	I-90/Tinkham Rd. Vic. to Yellowstone Rd. Vic. - Roadside Safety Improvements
SR 240 Et Al/Safety Features - Roadside Hardware Preservation	I-90/Snoqualmie Pass Corridor - Rehab Weathering Steel Guardrail 2021-2023
SR 22 Et Al/Yakima & Kittitas County - Bridge Deck Repair	I-90/North Bend to Hyak Safety Features - Roadside Hardware Preservation
I-90/Oakes Ave I/C to Elk Heights Rd. Vicinity Eastbound - Replace Concrete Panels	I-90/Easton to Ellensburg Safety Features - Roadside Hardware Preservation
I-90/Elk Heights Rd. Vic. to Yakima River Bridge - Replace Concrete Panels	I-90/West Easton to Renslow Vic. - Bridge Deck Repair
Emergent (47)	
Strategic Pavement Preservation 2021-2023 - Contract	I-205/Glen Jackson Bridge to I-5 - Replace Deteriorated Concrete Panels
NWR HMA Crack Seal and Pavement Repair	SR 500/NE 182nd Ave. - Intersection Improvements
NWR HMA Ramps Crack Seal and Pavement Repair	SR 500/NE 162nd Ave. to Leadbetter Rd. - Paving
I-405/SR 522 and Sammamish River Bridges - Deck Seal and Joints	21-23 SCR Region Wide Safety Features - Signing
I-405/SR 522 and Sammamish River Bridges - Deck Seal and Joints (Toll)	SR 10 Et Al/Kittitas and Yakima County - Centerline Rumble Strips
US 2/Stevens Pass East - Paving	SR 128 Et Al/Southeast Washington - Centerline Rumble Strips
I-90/SR 26 Interchange Ramps - Paving	US 12 et al/SCR Rumble Strip Replacement - Rumble Strips
I-5/McAllister Creek Bridges - Repair Bridge Piles	SR 17 et al SCR Strategic Pavement Preservation
US 101/East of Wisen Creek Rd. to East of Sol Duc Hot Springs Rd. - Chip Seal	SR 17/US 395 to Rd. 170 - Paving
US 101/Sol Duc River Bridges - Expansion Joint Repairs	I-82/County Line Rd. Interchange - Paving
US 101/North of Kalaloch Campground to Hoh River Bridge - Chip Seal	I-82/Gap Rd. Interchange - Paving
US 101/Mud Bay Bridges - Repair Bridge Piles	I-82/Selah Creek to Yakima Vicinity - Paving
SR 106/US 101 to West of SR 3 - Chip Seal	I-82/Selah Creek Bridge Westbound - Bridge Deck Preservation and Joint Repair
SR 113/US 101 to SR 112 - Chip Seal	I-90/S Cle Elum Rd. Bridges - Deck Rehabilitation
SR 115/Ocean Shores to SR 109 - Chip Seal	I-90/Homestead Valley Rd to Hyak - Bridge Deck Repair
SR 116/East of Indian Island Ferry Rd. to Fort Flagler Park Gate - Chip Seal	US 97/Pumphouse Rd. Vic. to SR 22 - Chip Seal
SR 119/South of North Lookout Place to Staircase Rd. - Chip Seal	US 97/Desmond Rd. to Lower Green Canyon Rd. - Chip Seal
SR 706/SR 7 to Mt. Rainier National Park - Chip Seal	SR 125/Oregon State Line to Military Rd. - Paving
21-23 SWR Regionwide Bridges Concrete Deck - Patching	SR 125/Oregon State Line to Military Rd. - ADA Compliance
I-5/BNRR Overcrossing Bridge - Painting	SR 241/Sheller Rd. Vicinity to Roza Canal Bridge - Paving
I-5/Dike Access Rd. and BNRR Overcrossing Bridge - Painting	SR 970/East of Cle Elum to US 97 - Chip Seal
I-5/North of 63rd St Bridge Vicinity - Drainage Improvements	US 395/Loon Lake - Roundabout
I-5/SB I-205 to 179th St. - Replace Deteriorated Concrete Panels	US 395/Loon Lake to Hafer Rd. - Paving
I-205/0.4 Miles North of SR 14 to Salmon Creek Bridge - Joint Rehab	

Data source: WSDOT Capital Program Development and Management.

Notes: SRA = Safety Rest Area. Vic. = Vicinity. WSDOT Regions: ER = Eastern Region, NCR - North Central Region, NWR = Northwest Region, OR = Olympic Region, SCR = South Central Region and SWR = Southwest Region. HMA = Hot Mix Asphalt. PCCP = Portland Cement Concrete Pavement.

WSDOT advertises 74 Pre-existing Funds projects during the fourth quarter of the 2021-2023 biennium

April through June 2022

Emergency (8)	
NWR Emergency Pavement Repair	US 101/South of Forks - Emergency Project
I-5/Northbound 12th Street NE Bridge - Girder Replacement	SR 113/South of Old Sappho-Pysht Highway - Stabilize Slope
I-90 Emergency Pavement Repair	SR 20/Republic to US 395 - Emergency Pavement Repair
I-405 Emergency Pavement Repair	SR 20/Stevens County Line to Tiger - Emergency Pavement Repair
Late (9)	
SR 96/North Creek - Fish Passage	I-405/BNRR Bridge to Pedestrian Trail Bridge - Seismic Retrofit
SR 99/Duwamish River to S Spokane St. Vicinity - Paving	I-405/SR 520 Vic. to Pedestrian Trail Bridge - Seismic Retrofit (Toll)
SR 99/S Lucile St. to S Idaho St. - ADA Compliance	SR 900/68th Ave. S Vic. - Pedestrian Safety - Phase 2
I-405/NE 160th St. to 228th St. SE - Seismic Retrofit	US 2/Cashmere East - Paving
I-405/NE 160th St. to 228th St. SE - Seismic Retrofit (Toll)	
Early (3)	
Strategic Pavement Preservation 2021-2023 - State Forces	I-405/SR 522 to SR 527 - Early Utility and Mitigation
SR 20/Olson Creek and Unnamed Tributary to Skagit River - Fish Passage	
Delayed (9)	
Northwest Region Strategic Concrete Bridge Deck Preservation	I-5/Northbound Toutle River Bridge - Deck Repair and Overlay
SR 518/24th Ave. S Bridge - Girder Replacement	I-5/Southbound Lewis River Bridge - Deck Overlay and Expansion Joint Replacement
SR 28/White Trail Rd. - Roundabout	I-5/Northbound Lewis River Bridge - Deck Repair and Overlay
US 12/SR 8/Grays Harbor County Fish Passage Barriers - Remove Fish Barrier	US 2/Creston to Rocklyn Rd. - Paving
SR 16/SR 160/Kitsap County Fish Passage Barriers - Remove Fish Barriers	
Deferred (8)	
SR 8/Elma SRA - Unisex Restroom Installation - OR	SR 529/Northbound Steamboat Slough Bridge - Bridge Scour
SR 529/Northbound Union Slough Bridge - Scour Repair	I-705/I-5 to Pacific Ave. - Expansion Joint Replacement Stage 3
SR 529/Southbound Union Slough Bridge - Rehabilitation	I-5/East Fork Lewis River Bridge Northbound - Replace Bridge
SR 529/Northbound Union Slough Bridge - Substructure Repair	US 12/White Pass Vicinity - Major Drainage Phase 3B
Deleted (1)	
US 395/SR 240 Interchange Northbound - Safety Improvements	

Notes: SRA = Safety Rest Area. Vic. = Vicinity. WSDOT Regions: ER = Eastern Region, NCR - North Central Region, NWR = Northwest Region, OR = Olympic Region, SCR = South Central Region and SWR = Southwest Region. ADA = Americans with Disabilities Act. PCCP = Portland Cement Concrete Pavement. BST = Chip seal. HMA = Hot mix asphalt. ITS = Information Technology Systems.

STATEWIDE TRANSPORTATION POLICY GOALS & GRAY NOTEBOOK INFORMATION GUIDE

Statewide transportation policy goals

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

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

Gray Notebook edition archives available online

Readers can access past GNB editions online. The GNB archives include the past five years of publications. Earlier editions are available upon request, details are on the [archive page](#).

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 provide the photographs in each edition.

Calendar, state fiscal and federal fiscal quarters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calendar												
State Fiscal												
Fed. Fiscal												

2021-2023 biennial quarters (used by Legislature)

Period	Quarter	Period	Quarter
Jul – Sep 2021	Q1	Jul – Sep 2022	Q5
Oct – Dec 2021	Q2	Oct – Dec 2022	Q6
Jan – Mar 2022	Q3	Jan – Mar 2023	Q7
Apr – Jun 2022	Q4	Apr – Jun 2023	Q8

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

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