

# 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 71 ■ September 2018

### Sound decisions

Preserving and maintaining Washington State Ferries vessels and terminals

### Crystal clear

WSDOT continues to improve its stormwater management facilities

### Flight plans

WSDOT Aviation helps land federal funds for public use airports

# WALK THIS WAY

## WSDOT TAKING STEPS TOWARD ACTIVE TRANSPORTATION NETWORK CONNECTIVITY



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## PERFORMANCE HIGHLIGHTS reported for the quarter ending September 30, 2018



**37 PERCENT** of WSDOT-owned primary buildings are more than 50 years old

**1.16 BILLION** miles traveled by active transportation users in 2017

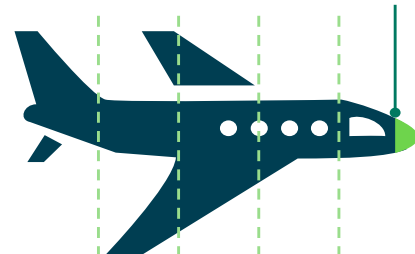
**63 PERCENT** farebox recovery rate by WSDOT-owned Amtrak Cascades in federal fiscal year 2018

**78** stormwater treatment facilities were constructed by WSDOT in fiscal year 2018

**\$25.9 MILLION** in economic benefit provided by WSDOT's Incident Response teams clearing 15,948 incidents during the quarter

Construction projects completed with Nickel or Transportation Partnership Account funds **380**

**WSDOT SURPASSED ITS 95% GOAL**



**FOR REGISTRATION COMPLIANCE WITH 6,565 WASHINGTON AIRCRAFT RENEWED**

# 71 WSDOT'S STRATEGIC PLAN

## New strategic plan operational

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

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

The strategic plan's goal teams developed strategies, five for each goal area. Work plans are being created which will define the actions and deliverables needed to achieve the agency's goals. Articles in this issue, indicated by a box with a goal name, show how these goals are being realized. A strategic plan dashboard is under development; look for it in upcoming issues of the Gray Notebook. A web-based version of the dashboard is also in the works.

In addition to three goals, the strategic plan features a vision, mission and values. WSDOT's vision, defined as where the agency wants to go, is "Washington travelers have a safe, sustainable and integrated multimodal transportation system." The strategic plan's mission is a statement about the agency's core purpose, "We provide safe, reliable and cost-effective transportation options to improve communities and economic vitality for people and businesses."

WSDOT's Strategic Plan features six values, defined as "how we do business" or statements of guiding principles. The values are: safety, engagement, innovation, integrity, leadership and sustainability.

Recent editions of the Gray Notebook have featured articles on Workforce Development and Inclusion efforts at WSDOT. See [Gray Notebook 70, pp. 40-43](#) for the Inclusion Annual Report and [Gray Notebook 69, pp. 31-34](#) for the Workforce Development Annual Report.



### Inclusion Goal

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



### Practical Solutions Goal

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



### Workforce Development Goal

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

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RESULTS WASHINGTON  
DASHBOARD

Results Washington, the state's performance management system, outlines Gov. Jay Inslee's priorities. This strategic framework sets the state's vision and mission, as well as the expectation that state agencies will achieve goals collaboratively. For more information, visit <http://www.results.wa.gov/>.

Results Washington Measures by goal <sup>1</sup>	Previous period	Current period	On target <sup>2</sup>	Current trend	Desired trend
Annual Measure for which WSDOT is the lead agency					
Goal 2: Prosperous Economy					
Control the percent of National Highway System bridges, state and locally owned, in poor condition from increasing over 10% by 2020 <small>(FY2017 &amp; FY2018)</small>	8.6%	7.4%	Yes	↓	↓
Control the percent of National Highway System pavement, state and locally owned, in poor condition from increasing over 10% by 2020 <small>(2015 &amp; 2016)</small>	6.7%	7.4%	Yes	↑	↓
Control the percent of ferry terminal systems (by value) that are past due for replacement from increasing over 6% by 2020 <small>(2016 &amp; 2017)</small>	10.0% <sup>4</sup>	9.6%	Yes	↓	↓
Control the percent of ferry vessel systems (by value) that are past due for replacement from increasing over 10% by 2020 <small>(FY2017 &amp; FY2018)</small>	13.3%	16.9%	No	↑	↓
Maintain percentage of transit fleet that exceeds the Federal Transit Administration’s minimum useful life at 25% or below through 2020 <small>(2016 &amp; 2017)</small>	40.2%	44.0%	No	↑	↓
Increase the percentage of Washingtonians using alternative transportation commute methods to 29% by 2020 <small>(2015 &amp; 2016)</small>	27.6%	27.9%	No	↑	↑
Ensure travel and freight reliability on strategic corridors does not deteriorate more than 5% through 2020 <sup>3</sup> <small>(2015 &amp; 2016)</small>	5.0% <sup>5</sup>	5.7%	No	↑	↓
Operate strategic corridors at 90% efficiency or higher through 2020 <small>(2015 &amp; 2016)</small>	93.4%	94.0%	Yes	↑	↑
Reduce the number of pedestrian and bicyclist fatalities on public roadways from 87 in 2012 to zero in 2030 <small>(2016 &amp; 2017)</small>	105	122	No	↑	↓
Annual measures for which WSDOT is not the lead agency, but has an interest include:					
Goal 2: Prosperous Economy					
Increase state agency and educational institution utilization of state certified small businesses in public works and other contracting and procurement by 2017 to: Minority owned businesses, 10%; Women owned businesses, 6%; Veteran owned businesses, 5% <sup>5</sup> (FY2017)	Minority-owned: 2.76% <sup>5</sup> Women-owned: 2.29% <sup>5</sup> Veteran-owned: 0.49% <sup>5</sup>		No	N/A	↑
Goal 3: Sustainable Energy and a Clean Environment					
Reduce transportation related greenhouse gas emissions from 44.9 million metric tons/year (projected 2020) to 37.5 million metric tons/year (1990) by 2020 <small>(2014 &amp; 2015)</small>	41.2	44.0	No	↑	↓
Reduce the average emissions of greenhouse gases for each vehicle mile traveled in Washington by 25% from 1.15 pounds in 2010 to 0.85 pounds by 2020 <small>(2014 &amp; 2015)</small>	1.13	1.13	No	↔	↓
Increase the average miles traveled per gallon of fuel for Washington’s overall passenger and light duty truck fleet (private and public) from 19.2 mpg in 2010 to 23 mpg in 2020 <small>( 2015 &amp; 2016)</small>	21.0	21.5	Yes	↑	↑
Increase the number of plug-in electric vehicles registered in Washington from approximately 8,000 in 2013 to 50,000 by 2020 <small>(2016 &amp; 2017)</small>	17,941	27,858	No	↑	↑
Increase miles of stream habitat opened from 55 miles per year in 2017 to 80 by 2020 <sup>5,6</sup> <small>(2017)</small>	N/A	55	N/A	N/A	↑
Increase number of fish passage barriers corrected per year from 60 in 2017 to 90 by 2020 <sup>5,6</sup> <small>(2017)</small>	N/A	60	N/A	N/A	↑
Goal 4: Healthy and Safe Communities					
Decrease number of traffic-related fatalities on all roads from 454 in 2011 to zero in 2030 <small>(2016 &amp; 2017)</small>	536 <sup>6</sup>	565	No	↑	↓

Data sources: WSDOT Office of Strategic Assessment and Performance Analysis and Results Washington's Open Performance Program.

Notes: **1** In addition to the measures listed in the table, WSDOT contributes performance information that is combined and reported with data from all state agencies in Goal 5: Efficient, Effective and Accountable Government. **2** A measure is "on target" if it is currently meeting its goal or if it is on a path to meet its goal by the target date. Some measures may be trending in the desired direction but not on target. **3** This measure is the percentage difference between the value of the reliability index in one period and the average of the value of the reliability index in the three preceding periods. **4** Percentage has been updated since GNB 67 to better align with WSF reporting. **5** Measure applies to work completed by multiple state agencies. **6** This value has been updated since GNB 69.

# 71 STATEWIDE TRANSPORTATION POLICY GOALS DASHBOARD






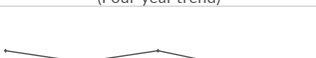
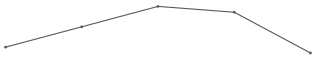

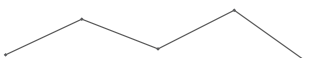





Statewide policy goal/ WSDOT performance measure	Previous period	Current period	Goal	Goal met	Five-year trend (unless noted)	Desired trend
<b>Safety</b>						
Rate of <b>traffic fatalities</b> per 100 million vehicle miles traveled statewide (Annual measure: calendar years 2016 & 2017)	0.88	0.92	<1.00 <sup>1</sup>	✓		↓
Rate of <b>recordable incidents</b> for every 100 full-time WSDOT workers (Annual measure: calendar years 2016 & 2017)	4.6	4.7	<5.0	✓		↓
<b>Preservation</b>						
Percentage of state <b>highway pavement</b> in fair or better condition by vehicle miles traveled (Annual measure: calendar years 2015 & 2016)	93.0%	91.7%	≥ 90%	✓		↑
Percentage of <b>state bridges</b> in fair or better condition by bridge deck area (Annual measure: fiscal years 2017 & 2018)	91.8%	92.5%	≥ 90%	✓		↑
<b>Mobility<sup>2</sup> (congestion relief)</b>						
<b>Highways:</b> Vehicle Miles Traveled (VMT) on state highways (Annual measure: calendar years 2016 & 2017)	34.2 billion	34.6 billion	*	N/A		↓
<b>Highways:</b> Average <b>incident clearance times</b> for all Incident Response program responses (Calendar quarterly measure: Q3 2017 & Q3 2018)	12.6 minutes	13.0 minutes	*	N/A		↓
<b>Ferries:</b> Percentage of trips departing on time <sup>3</sup> (Fiscal quarterly measure: year to year Q1 FY2018 & Q1 FY2019)	87.5%	85.7%	≥ 95%	—		↑
<b>Rail:</b> Amtrak Cascades on-time performance <sup>4</sup> (Annual measure: fiscal years 2016 & 2017)	74.2%	50.3%	≥ 80%	—		↑
<b>Environment</b>						
Number of WSDOT <b>stormwater management facilities</b> constructed (Annual measure: fiscal years 2017 & 2018)	129	78	*	N/A		Not applicable
Cumulative number of WSDOT <b>fish passage improvement projects</b> constructed (Annual measure: calendar years 2016 & 2017)	316 <sup>5</sup>	330	*	N/A		↑
<b>Stewardship</b>						
Cumulative number of Nickel and TPA <b>projects completed<sup>6</sup> and percentage on time<sup>7</sup></b> (Calendar quarterly measure: Q2 2018 & Q3 2018, trendline for percentage on time)	380/ 87%	380/ 87%	≥ 90% on time	—		↑
Cumulative number of Nickel and TPA <b>projects completed<sup>6</sup> and percentage on budget<sup>7</sup></b> (Calendar quarterly measure: Q2 2018 & Q3 2018, trendline for percentage on budget)	380/ 91%	380/ 91%	≥ 90% on budget	✓		↑
Variance of total project costs <sup>6</sup> compared to <b>budget expectations<sup>7</sup></b> (Calendar quarterly measure: Q2 2018 & Q3 2018)	Under budget by 1.5%	Under budget by 1.5%	On or under budget	✓		Not applicable

Data source: WSDOT Office of Strategic Assessment and Performance Analysis.

Notes: (\*) = goal has not been set. Dash (—) = goal was not met in the reporting period. For the Economic Vitality Policy Goal, see [p. 4](#) for Results Washington Goal 2: Prosperous Economy measures. **1** The Statewide Transportation Policy Goal for this performance measure is different than the federal MAP-21 goal for the same measure. **2** Mobility does not yet include goals for people walking/biking for transportation. **3** WSDOT 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** The 2016 number differs from previous publications to reflect the most recent available data. **6** Construction projects only. **7** Budget and schedule expectations are defined in the last approved state transportation budget. See [p. 40](#) for more information.

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# MULTIMODAL ASSET PERFORMANCE DASHBOARD

WSDOT performance measure	Previous period	Current period	Goal	Goal met	Five-year trend (unless noted)	Desired trend
<b>Highway Assets</b>						
<b>Bridges</b>						
Percentage of WSDOT owned bridges in fair or better condition by bridge deck area (Fiscal years 2017 & 2018)	91.8%	92.5%	≥90%	✓		↑
Number of WSDOT owned bridges load restricted or load posted (Fiscal years 2017 & 2018)	119	120	*	N/A		↓
Current WSDOT owned steel bridge painting due or past due in millions of dollars (Fiscal years 2017 & 2018)	\$460.8	\$365.3	*	N/A		↓
Projected 10-year WSDOT owned steel bridge painting backlog in millions of dollars¹ (Fiscal years 2017-2026 & 2018-2027)	\$740.8	\$657.5	*	N/A		↓
Current WSDOT owned bridge deck area due or past due for replacement in millions of dollars (Fiscal years 2017 & 2018)	\$99.2	\$112.5	*	N/A	 (Four-year trend)	↓
Projected 10-year WSDOT owned bridge deck area replacement backlog in millions of dollars (Fiscal years 2017-2028 & 2018-2028)	\$831.1	\$1,014.9	*	N/A	 (Four-year trend)	↓
Percentage of NHS bridge deck area located on bridges in poor condition (locally and WSDOT owned) (Fiscal years 2017 & 2018)	8.6%	7.4%	≤10%	✓		↓
<b>Pavement</b>						
Percentage of WSDOT owned pavement in fair or better condition² (Calendar years 2015 & 2016)	93.0%	91.7%	≥90%	✓		↑
Highway Pavement Asset Sustainability Ratio; long term service replenishment rate³ (Calendar years 2015 & 2016)	0.57	0.68	≥0.90	—		↑
Highway Pavement Deferred Preservation Liability (backlog) in millions of dollars (Calendar years 2015 & 2016)	\$403	\$330	\$0	—		↓
Highway Pavement Remaining Service Life as percentage of total useful life (Calendar years 2015 & 2016)	47.1%	48.6%	45%-55%	✓		↑
Percentage of lane miles of interstate pavement in poor condition (Calendar years 2015 & 2016)	4.0%	3.2%	≤5%	✓	 (Three-year trend)	↓
<b>Safety Rest Areas</b>						
Safety rest area score through the Maintenance Accountability Process⁴ (Calendar years 2016 & 2017)	B	B	B	✓		↑
Total visitors at safety rest areas in millions of visitors (Calendar years 2016 & 2017)	24.1⁵	24.4	*	N/A		N/A
<b>Highway Maintenance</b>						
Percentage of funded maintenance condition targets achieved⁶ (Calendar years 2016 & 2017)	93%	77%	100%	—		↑

WSDOT performance measure	Previous period	Current period	Goal	Goal met	Five-year trend (unless noted)	Desired trend
<b>Ferry Assets</b>						
<b>Vessels and Terminals</b>						
Ferry vessel systems past due for replacement by value <sup>7</sup> (Fiscal years 2017 & 2018)	13.3%	16.9%	≤10%		 (Three-year trend)	
Ferry terminal systems past due for replacement by value <sup>8</sup> (Calendar years 2016 & 2017)	10.0%	9.6%	≤6%		 (Four-year trend)	
Ferry vessel preservation backlog in millions of dollars <sup>9</sup> (Fiscal years 2017 & 2018)	\$162.2	\$209.0	*	N/A	 (Three-year trend)	
Ferry terminal preservation backlog in millions of dollars <sup>9</sup> (Fiscal years 2017 & 2018)	\$72.8	\$77.7	*	N/A	 (Three-year trend)	
<b>Multimodal Assets<sup>10</sup></b>						
<b>Aviation</b>						
Airport combined (federal, state, local) grant funding in millions of dollars <sup>11</sup> (Fiscal years 2017 & 2018)	\$88.5	\$47.8	*	N/A	 (Four-year trend)	
Percentage of airport Master Record inspections conducted by WSDOT <sup>10</sup> (Calendar years 2016 & 2017)	100%	100%	100%		 (Four-year trend)	
<b>Other Assets</b>						
<b>Facilities</b>						
Facilities Preventive Maintenance Plan completion rate <sup>12</sup> (Biennial measure: 2015-2017 & 2017-2019) - 2018 midterm update	82%	75%	71%		 (Two-biennium trend)	
Percentage of primary buildings <sup>12</sup> in fair or better condition (Biennial measure: 2015-2017 & 2017-2019) - 2018 midterm update	56%	55%	*	N/A	 (Two-biennium trend)	
10-year forecast of unmet needs (backlog) in millions of dollars <sup>13</sup> (Biennial measure: 2015-2017 & 2017-2019)	\$475.5	\$474.7	*	N/A	 (Two-biennium trend)	

Data source: WSDOT Office of Strategic Assessment and Performance Analysis.

Notes: N/A = not available or not applicable. Asterisk (\*) = goal has not been set. Dash (—) = goal was not met in the reporting period.

**1** Numbers for bridge painting and deck replacement do not match 10-year needs totals on pp. 23 and 25, because contract work in progress and border bridges are not included in the totals in this table. **2** Data includes only conditions for asphalt and concrete pavement; budget constraints prohibited data collection for chip seal pavement. Condition data is weighted by vehicle miles traveled. **3** Years of service life replenished through rehabilitation divided by service life consumed on an annual basis (long-term measure). **4** Safety rest areas are assigned a score according to the Maintenance Accountability Process on a level of service (LOS) scale, A through F. **5** This number has been updated and finalized to 24.1 from 24.0 as reported in previous editions. **6** Maintenance activities are assigned asset condition targets based upon an A through F level of service scale and funding levels; actual conditions are compared to funded asset condition levels on the LOS scale. See [GNB 32, p. 19](#) for additional information on LOS standards. **7** Washington State Ferries uses a risk assessment matrix, which combines the probability of system component failure with information on the failure's impact on ferry operations to gauge when ferry systems are past due for replacement; systems in Condition Rating 3 are past due for replacement. **8** Washington State Ferries uses an economic-based model for assessing terminal needs; the model has been updated each subsequent year to improve accuracy and is not directly comparable to previous data. **9** This measure has been changed from "preservation needs as percentage backlog of total value" to "backlog in millions of dollars" to better align with program reporting. **10** Multimodal Assets tracking does not yet include active transportation assets. **11** Asset condition data is not currently available for the WSDOT aviation programs; grant funding and inspections for the Airport Master Record are being used as stand-in measurements until data is available. The airport grant funding measurement applies to all public-use airports. The Airport Master Record inspection measurement only applies to public-use non-primary commercial airports. **12** The Preventive Maintenance Plan is developed biennially and ranks maintenance activities based upon a criticality assessment scale. Funding is insufficient to complete all activities; completion rate is measured only for funded work categories. **13** Measured as backlog of unmet needs over the next 10 years as identified by the capital facilities strategic plan.

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# MULTIMODAL SAFETY PERFORMANCE DASHBOARD

Statewide policy goal/ WSDOT performance measure	Previous period	Current period	Goal	Goal met	Five-year trend (unless noted)	Desired trend
<b>Highway</b>						
Total number of fatalities on Washington state public roads <sup>1</sup> (Calendar years 2016 & 2017)	536	565	≤489 <sup>2</sup>			
Total number of serious injuries on Washington state public roads <sup>1</sup> (Calendar years 2016 & 2017)	2,217	2,224	≤1,855 <sup>2</sup>			
Number of fatalities per 100 million vehicle miles traveled on Washington state public roads <sup>1</sup> (Calendar years 2016 & 2017)	0.88	0.92	≤0.813 <sup>2</sup>			
Serious injuries per 100 million vehicle miles traveled on Washington state public roads <sup>1</sup> (Calendar years 2016 & 2017)	3.64	3.62	≤3.068 <sup>2</sup>			
<b>Pedestrians &amp; Bicyclists</b>						
Number of combined pedestrian and bicyclist fatalities and serious injuries <sup>3</sup> (Calendar years 2016 & 2017)	591.0	575.0	≤511.8 <sup>2</sup>			
<b>Ferries</b>						
Passenger injuries per million passenger miles traveled <sup>4</sup> (Fiscal years 2017 & 2018)	0.70	0.41	≤1.0		 (Four-year trend)	
OSHA recordable crew injuries per 10,000 revenue service hours <sup>4,5</sup> (Fiscal years 2017 & 2018)	6.8	9.9	≤7.6		 (Four-year trend)	
<b>Rail</b>						
Total number of train-related fatalities in Washington state <sup>6</sup> (Calendar years 2016 & 2017)	13	30	*	N/A		
<b>Aviation</b>						
General aviation fatalities in Washington state <sup>7</sup> (Calendar years 2016 & 2017)	7	5 <sup>8</sup>	*	N/A		
<b>Public Transit</b>						
Fatalities involving Washington state public transportation (Calendar years 2015 & 2016)	3	8	*	N/A		
Injuries involving Washington state public transportation (Calendar years 2015 & 2016)	295	321	*	N/A		

Data source: WSDOT Office of Strategic Assessment and Performance Analysis.

Notes: N/A = not available or not applicable. Asterisk (\*) = goal has not been set. Dash (—) = goal was not met or is not on track in the reporting period. **1** Fatality and serious injury data for the current period has yet to be finalized. Also, numbers from the previous period may have been updated with the most recent available data and may not match those published in previous Gray Notebooks as a result. **2** These figures are the 2019 statewide targets for federal MAP-21 safety performance reporting and are based on the goal of reaching zero fatalities in 2030. They are based on a five-year rolling average. **3** Pedestrian and bicyclist fatality and serious injury data for the current period was finalized in May 2018. Pedestrians include people walking or using assistive mobility devices. **4** Ferries safety measures in previous GNBs were updated quarterly and were considered preliminary but are now reported annually (updated each fiscal year). **5** OSHA = Occupational Safety and Health Administration. **6** Count includes all fatalities involving rail (passenger rail and freight rail) in Washington state. **7** General aviation includes all civil aviation operations other than scheduled air services. **8** The fatality data for the current period (calendar year 2017) has been confirmed and finalized.



# 71 MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY

## WSDOT reports MAP-21 highway safety performance targets for 2019

WSDOT reported its Moving Ahead for Progress in the 21st Century highway safety targets for 2019 to the Federal Highway Administration on August 31, 2018. In December 2019, FHWA will make its first determinations of whether WSDOT has made significant progress toward achieving its 2018 targets for highway safety (also referred to as PM1).

On May 20, 2018, WSDOT established its federally-required MAP-21 targets for bridges and pavement (also referred to as PM2), and highway system performance, freight, and Congestion Mitigation and Air Quality (also referred to as PM3). Like the PM1 targets, WSDOT needs to show significant progress toward meeting PM2 and PM3 targets. These targets were established collaboratively by WSDOT and Metropolitan Planning Organizations.

WSDOT and state MPOs submitted MAP-21 targets for PM2 and PM3 to the FHWA's Washington state division office in the Baseline Performance Report on October 1, 2018, and the targets were recommended for acceptance to the FHWA national headquarters office. This begins a four-year reporting cycle for PM2 and PM3 performance measures, which includes WSDOT producing a Mid-Performance Period Progress Report (due by October 1, 2020) and a Full-Performance Period Progress Report (due by October 1, 2022).

When WSDOT and MPOs report on their progress toward achieving PM2 and PM3 targets in the 2020 mid-performance period progress report, they will provide updates on two-year condition/performance and investment strategy discussions as well as target adjustment discussions. WSDOT and

### MAP-21 safety reporting on an 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 2019 represent the second annual reporting cycle since the initial reporting of MAP-21 safety targets for 2018.

MAP-21 performance measures by program area		2019 target	Penalty <sup>1</sup>
<b>Highway Safety (PM1) 23 CFR Part 490 ID No. 2125-AF49</b>			
Number of traffic fatalities on all public roads <sup>2</sup>		≤ 489.2	Yes
Rate of traffic fatalities per 100 million vehicle miles traveled (VMT) on all public roads <sup>2</sup>		≤ 0.813	Yes
Number of serious traffic injuries on all public roads <sup>2</sup>		≤ 1,855.0	Yes
Rate of serious traffic injuries per 100 million VMT on all public roads <sup>2</sup>		≤ 3.068	Yes
Number of non-motorist traffic fatalities plus serious injuries		≤ 511.8	Yes
<b>MAP-21 Special Rules (Safety)</b>			
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 <sup>2</sup>		Show yearly progress	Yes
Highway-railway crossing fatalities <sup>3</sup>		Show yearly progress	No

Data source: WSDOT Transportation Safety & Systems Analysis.

Notes: The PM1 targets for 2019 were submitted on August 31, 2018, using 2013-2017 for current baseline data. 1 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. 2 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. 3 Includes bicyclists and pedestrians.

MPOs can also adjust their four-year targets at that time, but must explain the basis for the changes and how adjusted targets support expectations documented in longer-range plans.

In 2022, FHWA will use the full-performance period progress report to determine whether WSDOT has made significant progress toward its PM2 and PM3 targets. WSDOT may face penalties (see table below) if it does not show necessary

improvements on certain targets. While not showing significant progress toward targets triggers a penalty—and requires an explanation of what WSDOT will do to make future progress or require additional

reporting—specific measures in PM1 and PM2 invoke financial penalties if targets are not met. These penalties require redistributing federal monies to help ensure significant progress toward specific targets in the future.

### MAP-21 folios helping MPOs, stakeholders

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

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

Data sources: WSDOT Bridge and Structures Office, WSDOT Pavement Office, WSDOT Strategic Assessment Office, 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. <sup>1</sup> Two-year and four-year reports for PM2 and PM3 are due October 1, 2020, and October 1, 2022. <sup>2</sup> Base emissions are for the four-year period 2013-2016 as reported in the CMAQ Public Access System. <sup>3</sup> PM2 "Current data" is relative to four-year pavement targets only. <sup>4</sup> The National Highway Performance Program (NHPP) targets require the percent of Interstate pavement on the NHS in poor condition not exceed 5% and the percent of NHS bridges classified in poor condition (weighted by deck area) not exceed 10%.

# 71 ASSET MANAGEMENT: AVIATION ANNUAL REPORT

## Notable results

- *WSDOT's Airport Aid Grant Program leveraged federal funding to make \$42.9 million available for airport investments in fiscal year 2019*
- *WSDOT completed a \$5.1 million pavement rehabilitation project at the Methow Valley State Airport*
- *The WSDOT Aviation Division is taking a lead role in coordinating aerial disaster relief efforts*

## WSDOT conducts Airport Master Record Reviews annually

WSDOT completes Airport Master Record Reviews—also known as 5010 Inspections—to make sure funded projects meet FAA standards. The inspections verify the physical and operational features of civil public-use airports. They also ensure airports meet minimum safety standards, comply with regulations and follow FAA recommendations.

Inspections review items such as runways, taxiways and ramps, fuel types, repairs and other services, radio frequencies, wind indicators, and gather information regarding the types of aircraft serviced such as single engine, multi-engine, jet, helicopter, gliders, military and ultra-light.

FAA recommends that 5010 inspections occur every three years. Completed reports are available online. For more information, visit <https://www.gcr1.com/5010web/>.

## State contributes \$1.2 million and receives \$42.9 million in federal funds for airport aid

WSDOT awarded \$1.2 million for airport investments through its Airport Aid Grant Program for fiscal year 2019 (July 2018 through June 2019). Public-use airports in the state leveraged \$936,000 of these funds to secure \$42.9 million in federal grant funding. These grant awards will benefit 24 projects at 20 airports in FY2019. WSDOT's leveraged dollars make up 74.9% of the \$1.2 million in total state funds for the Airport Aid Grant Program (see table below). The remaining \$312,900 (25.1%) will assist airports not eligible for federal funding.

As shown in the table below, a total of \$47.8 million (local, state and federal funding) will be available for airport investment projects during FY2019. The majority of these funds (\$42.3 million or 88.5%) are slated for pavement projects, including nearly \$28 million for runway realignment at the Pullman-Moscow Regional Airport. This phase of the project includes installation of an instrument landing system, final utility relocation and construction of the realigned runway. The work will further separate the runway and the taxiway to meet federal standards and reduce the potential for incidents.

Projects that improve safety at airports account for 8.5% of the total dollars (\$4.1 million), with the remaining 3% (\$1.4 million) allocated for planning and environmental projects. For more information about WSDOT's Airport Aid Grant Program, visit: [www.wsdot.wa.gov/aviation/Grants](http://www.wsdot.wa.gov/aviation/Grants).

### Majority of airport investment funding slated for pavement projects

*Funding by source for fiscal year 2019; Dollars in millions*

Project type	Local	State	Federal	Total
Pavement	\$3.2	\$1.1	\$38.0	\$42.3
Safety	\$0.3	\$0.1	\$3.7	\$4.1
Planning and environmental	\$0.1	\$0.1	\$1.3	\$1.4
<b>Total</b>	<b>\$3.6</b>	<b>\$1.2</b>	<b>\$42.9</b>	<b>\$47.8</b>

Data Source: WSDOT Aviation Division.

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

## WSDOT completes pavement rehabilitation project at Methow Valley State Airport

The Methow Valley State Airport has all newly paved surfaces following the completion of a \$5.1 million paving project. The project, which was the largest construction project ever undertaken by WSDOT's Aviation Division, rehabilitated the airport's 22-year-old runway, taxiway connector and west general aviation aircraft parking apron; installed sub-drains; and graded and compacted the runway safety area.

To minimize the impact to airport users, the project was completed in three phases between May 14 and August 3, 2018. The newly-paved runway reopened on July 3 to avoid interfering with the firefighting support activities of the U.S. Forest Service's North Cascades Smokejumper Base, which operates out of the airport. The base employs approximately 30 staff who use the airport to conduct forest firefighting operations. The airport is also used for business and recreational travel.

In addition to the pavement rehabilitation, the taxiway connector was re-configured and widened to meet new Federal Aviation Administration design standards. The

runway safety area was also graded and compacted to FAA standards to improve the safety of aircraft and their occupants.

The Methow Valley State Airport is one of 16 airports that WSDOT operates. It is the only state-run airport eligible for federal funds because it is included in the FAA's National Plan of Integrated Airport Systems, which is the federal system of airports.

The FAA contributed 90 percent of the funding for the project with the remaining 10 percent coming from WSDOT Aviation through budget appropriations and the Airport Aid Grant Program.

## Majority of runway pavement, markings in good condition

WSDOT inspected 29 runways at 42 airports in 2018 (some airports have more than one runway) and determined that 55% (16) were in good condition, 35% (10) were in fair, and 10% (three) were in poor condition. With more than 130 airports in its system, WSDOT inspectors examine about 40 airports each year, which puts airports on a three-year rotation. Inspectors grade airport pavement condition as being: "excellent," "good," "fair," "poor" or "failed."

WSDOT inspected markings on 27 runways at 42 airports in 2018 (some airports do not have runway markings) and determined that 70% (19) were in good condition, 15% (four) were in fair, and 15% (four) were in poor condition. Runway markings such as runway directional headings and centerlines, are rated at three different levels: "good," "fair," and "poor" (see charts at right).

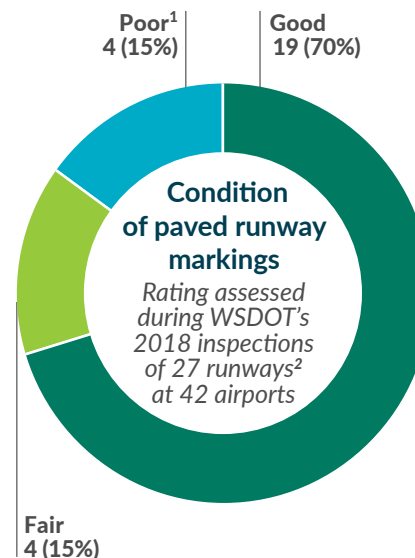
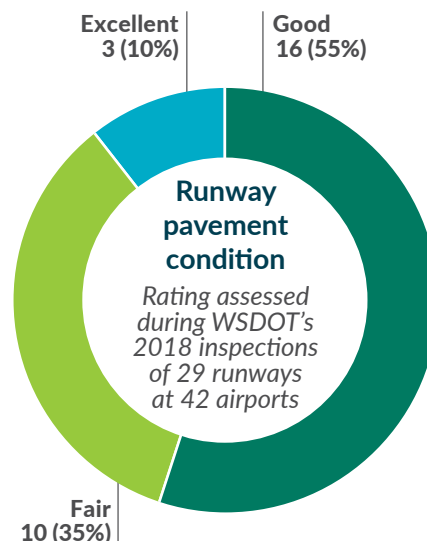
## State creates Aviation Revitalization Loan Program to assist with airport projects throughout Washington

Following the recommendations of a 2015 Airport Investment Study, the legislature appropriated \$5 million to fund loans provided through the Community Aviation Revitalization Board. The 11-member CARB was officially appointed in October 2018.

The Airport Investment Study evaluated short- and long-term airport capital and preservation needs at Washington's public-use

airports, identifying funding gaps between forecast funding and needs. WSDOT determined that the 134 public-use airports evaluated for the study would need an estimated \$3.6 billion over the next 20 years.

To address the shortfall, WSDOT identified 10 core solutions, one of which called for establishing a state-sponsored revolving aviation infrastructure loan fund.



Data Source: WSDOT Aviation Division.

Notes: Percentages are rounded. Some airports have more than one runway. The condition of runway markings was assessed at 27 of the 42 inspected airports because runways at the other locations were turf, gravel, or water surfaces. <sup>1</sup> Poor runway markings typically show signs of fading. <sup>2</sup> Two paved runways have no markings.



## WSDOT meets aircraft registration annual goal

WSDOT registered 6,565 aircraft and provided 3,399 exemptions to qualifying aircraft during the 2018 aircraft registration and renewal cycle. WSDOT has reached its annual registration goal of 95% of aircraft in the state for 13 years in a row.

*Calendar year 2018; Number of aircraft registered by type*

Aircraft type	Quantity
Single Engine	4,687
Home built	217
Helicopter	26
Piston, multi-engine, small	42
Turbojet, multi-engine	135
Sail/Glider	207
Turboprop, multi-engine	1,071
Lighter than air	35
Piston, multi-engine, large	119
Aircraft 9,001-12,500 lbs.	1
Aircraft 8,001-9,000 lbs.	6
Aircraft 4,001-6,000 lbs.	8
Aircraft under 4,001 lbs.	11
<b>Total</b>	<b>6,565</b>

Data source: WSDOT Aviation Division.

The revolving loan fund is a self-replenishing pool of funds that uses interest and principle payments on old loans to issue new loans. Key benefits include:

- A new self-generated aviation funding source for revenue-generating projects;
- A wide range of user group support; and
- Relief for an airport's borrowing capacity for other projects and programs.

The primary goal of the CARB is to issue loans to strengthen Washington's aviation system while providing additional funding for revenue generating projects that are not eligible for federal money. Loans issued through CARB must be used for improvements that either generate revenue or reduce the cost of maintaining and/or operating the airport. General public use airports with fewer than 50,000 commercial boardings annually will be eligible for funding under the new program. The CARB will score and evaluate eligible projects based upon one or more of the following criteria:

- Will the project create or retain long-term revenue generating opportunities?
- Is a specific private development or expansion ready to occur, and will it only occur if the aviation facility improvement is made?
- Does the loan ultimately result in the creation of jobs or private sector capital investment?
- Does the application clearly identify the source of funds intended to repay the loan?

- Is the project shovel ready and how quickly can the project be completed?
- Does the project result in leveraging additional funding for the airport or adjacent business park?

## WSDOT eyes Unmanned Aircraft System usage

In March 2018, the WSDOT Aviation Division hosted an internal training course on small Unmanned Aircraft System (sUAS), also known as "drones." WSDOT regions and programs interested in conducting a sUAS program must first have a trained coordinator.

The WSDOT Aviation Division is responsible for overseeing the sUAS program at WSDOT and plans to use drones for various tasks, including inspecting airports for Master Record Reviews (see sidebar on p. 11) by mapping airport boundaries and locating and measuring obstructions in the airspace.

At WSDOT Aviation, drones can also be used to help produce 3-D maps of airports, improving emergency operations planning. These maps would provide much more detailed information about space available for logistics staging, medical evacuation, casualty processing areas, displaced civilian evacuation marshalling areas, aircraft parking and staging areas, aviation maintenance areas, and water storage/distribution areas. This mapping information can then be shared with outside agencies such as the Federal Emergency Management Agency (FEMA) and others at the state, county and city levels to improve disaster response.

## WSDOT Aviation focuses on emergency services

Traditionally, the WSDOT Aviation Division focused its time and efforts toward the development and maintenance of airport infrastructure. However, as new aviation technology rapidly emerges and concerns of a catastrophic earthquake impacting Washington state increase, the division is working to better fulfill its responsibility to provide aeronautics and aviation emergency services.

Drones, the advent of electric propulsion for aircraft, and the closely related field of autonomous aircraft (with their accompanying potential benefits and concerns) have forced the division to pay more attention to these areas and how they affect the state.

The division is also taking a lead role in coordinating aerial disaster relief efforts with the state's Emergency Management Division, the National Guard, FEMA, FAA, county emergency management centers, pilot volunteer groups and others in order to build a basis of support for when disaster strikes. Because of these changes, the WSDOT Aviation Division's responsibilities have expanded to include emerging aviation technology and aviation emergency services.

## WSDOT Aviation collaboratively designs, builds visitor kiosk

WSDOT held a kiosk design competition in 2017 to help improve public outreach efforts at airports

across Washington. The winning design was chosen by the public and the first airport kiosk was finished in Lynden. To view photos of the kiosks, visit <http://bit.ly/avikiosk>. For more information about the kiosks, visit <https://www.wsaa.aero/kioskcompetition>.

The kiosks will also be the home of the Fly Washington Passport Program stamp if the airport chooses. The Fly Washington Program is an incentive program that encourages pilots and aviation enthusiasts to explore Washington's

public-use airports and collect stamps in their passport booklet. It is a joint effort between the City of Auburn, Washington Airport Management Association, Washington Pilots Association, Aircraft Owners and Pilots Association, and WSDOT. The program launches in February 2019 at the Northwest Aviation Conference and Trade Show in Puyallup.

*Contributors include Dave Chenaar, Rob Hodgman, Eric Johnson, John MacArthur, Tracy Paul, Max Platts, Paul Wolf, Patrick Wright, Joe Irwin and Dustin Motte*

## WSDOT-managed airports provide staging areas in wildfires management efforts across Washington

In summer 2018, WSDOT-managed airports continued to serve as critical staging areas for statewide wildfire management efforts.

In particular, the Lake Wenatchee and Tieton State airports were closed to the public for more than a month this summer to provide emergency staging access for resources and facilities in the effort to fight seasonal wildfires.

The Methow Valley State Airport remained open to the public, even though it was extensively utilized during the summer with 12 additional light, medium, and large helicopter (helibase) staged operations. Methow is home of the U.S. Department of Agriculture Forest Service Smokejumper Base. WSDOT-managed airports will again play a significant role in emergency staging operations in 2019.



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# ASSET MANAGEMENT: WASHINGTON STATE FERRIES VESSELS & TERMINALS ANNUAL REPORT

## WSF uses a Practical Solutions approach to manage vessels and terminal assets

Washington State Ferries transported approximately 24.6 million people in FY2018. Future ridership projections are trending upward due to population growth in the Puget Sound area. To accommodate this growth in the near-term, WSF is working to improve the ferry system. A new 144-vehicle, Olympic Class ferry, the Motor/Vessel *Suquamish*, entered service in October 2018. Multimodal projects are underway for the relocated Mukilteo Terminal and Seattle's WSF terminal, Colman Dock. Terminal construction is expected to be complete in Mukilteo and Seattle in late 2020 and in 2023, respectively.

WSF uses a risk assessment guide to help determine the funding needs of its vessel systems at the end of each fiscal year (July 1 through June 30), assigning each system a Condition Rating of 1, 2 or 3 depending on the likelihood of failure and the impact a failure would have on ferry service (see risk assessment matrix below). The percentage of vessel systems in Condition Rating 3 (overdue for preservation/renewal) increased from 11% in FY2017 to 13% in FY2018.

The percentage of vessel systems in Condition Rating 3 helps WSF rate conditions for each vessel (see chart on p. 16). In FY2018, WSF had nine vessels in good condition (with less than 10% of systems in Condition Rating 3), 12 vessels in fair condition (with 10% to 20% of systems in Condition Rating 3), and two in poor condition (with more than 20% of systems in Condition Rating 3).

WSF uses Practical Solutions methods in project prioritization to help select the appropriate preservation work at the right time and to effectively manage agency assets to minimize life cycle costs. In support of those methods, WSF's asset management planning considers the costs and benefits to lengthen asset service life through preservation activities and timely maintenance.

### WSDOT risk assessment criteria help prioritize ferry vessel funding

*Based on the likelihood of the system failing combined with the likely consequences of the system's failure*

Percent of life cycle remaining (Probability of failure factor)	Consequence of failure factor				
	Minimal impact: does not affect sailing	Marginal impact: less than 24 hours to repair	Moderate impact: one or more days to repair	Critical impact: one or more weeks to repair	Catastrophic: long-term, unscheduled impacts to sailings during repairs
Beyond life cycle (nearly certain to fail)	<div> <div>Condition Rating 2:</div> <div>Condition Rating 3:</div> </div>				
0% - 9% (likely to fail)					
10% - 24% (failure possible)					
25% - 49% (unlikely to fail)					
50% - 100% (very unlikely to fail)					
	<div> <div>Condition Rating 1:</div> <div>System does not currently need preservation/renewal</div> </div>				
	<div> <div>System requires preservation/renewal in the current or upcoming biennium</div> <div>System is overdue for preservation/renewal</div> </div>				

Data source: Washington State Ferries.

### Notable results

- WSF vessels were operationally available for 82% of fiscal year 2018
- Approximately 90% of WSF terminal systems were in fair or better condition at the end of calendar year 2017
- WSF's newest ferry, the 144-vehicle M/V *Suquamish*, went into service in October 2018
- WSF has completed the initial draft of its 2040 Long Range Plan, which had been provided to the public for stakeholder feedback

WSF's Practical Solutions approaches include:

- Lowest life cycle cost to preserve the system in a state of good repair;
- Transportation system management;
- Demand management; and
- Capital project investment.

WSF uses a risk-based life cycle management process in order to precisely time preventative maintenance work to extend the useful life of its assets while keeping them operating effectively. This strategy helps defer costly rehabilitation and reconstruction projects by helping WSF preserve ferry infrastructure in a state of good repair at the lowest possible cost.

WSF's asset management plans will evolve over time as changes in conditions, budgets, risks, constraints, and strategic priorities occur.

## Vessels operational for 82% of fiscal year 2018

On average, WSF's vessels were operationally available for 82% of days during FY2018. Of the seven vessel classes, the 188-vehicle Jumbo Class vessels had the lowest average percentage of availability. The average of the two Jumbo Class vessels was about 68% availability for the fiscal year.

In FY2018, the Super Class led all vessel classes with the highest preservation backlog, accounting for \$77.1 million of the fleet backlog of \$209 million (see chart at right). This class had an average vessel

## Super Class vessels have highest total preservation backlog in FY2018

*Fiscal year 2018; Age in 2018; Dollars in millions; Inspection results by vessel*

Vessel classes and vessels	Age	Preservation backlog	Systems in Condition Rating 3	Vessel condition <sup>1</sup>	Operational availability
<b>Jumbo Mark II Class (202-vehicle)</b>					<b>87%</b>
M/V Tacoma	21	\$12.6	13%	Fair	87%
M/V Wenatchee	20	\$33.2	18%	Fair	87%
M/V Puyallup	20	\$23.8	17%	Fair	88%
<b>Jumbo Class (188-vehicle)</b>					<b>68%</b>
M/V Spokane	46	\$10.9	14%	Fair	53%
M/V Walla Walla	46	\$11.8	16%	Fair	84%
<b>Super Class (144-vehicle)</b>					<b>79%</b>
M/V Hyak	51	\$25.1	27%	Poor	76%
M/V Kaleetan	51	\$1.6	9%	Good	90%
M/V Yakima	51	\$4.9	9%	Good	82%
M/V Elwha	51	\$45.5	37%	Poor	68%
<b>Olympic Class (144-vehicle)</b>					<b>85%</b>
M/V Tokitae	4	\$0	0%	Good	90%
M/V Samish	3	\$0	0%	Good	69%
M/V Chimacum	1	\$0	0%	Good	97%
M/V Suquamish	0	\$0	0%	Good	N/A <sup>2</sup>
<b>Issaquah Class (124-vehicle)</b>					<b>84%</b>
M/V Issaquah	39	\$4.8	19%	Fair	74%
M/V Kitsap	38	\$4.0	18%	Fair	79%
M/V Kittitas	38	\$4.6	18%	Fair	77%
M/V Cathlamet	37	\$10.4	20%	Fair	94%
M/V Chelan	37	\$3.4	12%	Fair	84%
M/V Sealth <sup>3</sup>	36	\$6.0	20%	Fair	94%
<b>Evergreen State Class (87-vehicle)</b>					<b>85%</b>
M/V Tillikum	59	\$4.2	16%	Fair	85%
<b>Kwa-di Tabil Class (64-vehicle)</b>					<b>82%</b>
M/V Chetzemoka	8	\$1.8	4%	Good	80%
M/V Salish	7	\$0.6	1%	Good	78%
M/V Kennewick	7	\$0	0%	Good	90%
<b>Fleet wide FY2018</b>	<b>Avg. 29</b>	<b>Total \$209.0</b>	<b>13%</b>	<b>N/A</b>	<b>82%<sup>2</sup></b>

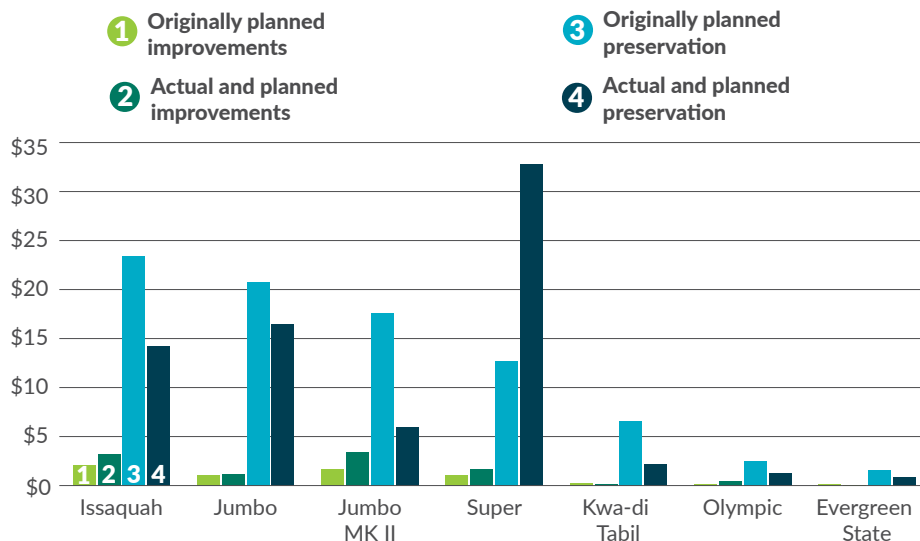
Data source: Washington State Ferries.

Notes: Percentages may not add to 100 due to rounding. Systems included in Condition Rating 3 are past due for replacement. Operational availability is the percent of days an asset was available for service. <sup>1</sup> Based on inspections, WSF uses systems in Condition Rating 3 (overdue for preservation/renewal) to help determine the conditions of its vessels with <10% = Good, 10% to 20% = Fair and >20% = Poor. <sup>2</sup> The M/V Suquamish was not active for all of FY2018 and was excluded from calculations of the fleet wide average. <sup>3</sup> The M/V Sealth is a 90-vehicle vessel in the Issaquah Class.



## Issaquah Class vessels rank first for originally projected improvement and preservation dollars, third for average expenditures during the biennium

2017-2019 biennium; Originally planned vs. revised actual and planned expenditure comparison of improvements and preservation by vessel class; Dollars in millions



Data source: Washington State Ferries.

Note: Approximately \$1.4 million in originally planned total fleet-wide funding and \$534,000 in actual and planned total fleet-wide funding are not shown in the table.

backlog of \$19.3 million which was the second highest average vessel backlog among the seven classes. The average vessel percentage of Super Class systems overdue for preservation/renewal (Condition Rating 3) was 21%—highest of the seven classes.

The FY2018 backlog of \$77.1 million for the Super Class vessels is higher than the total vessel backlog of \$66.2 million in FY2014. The fleet-wide vessel backlog has grown 215% from \$66.2 million in FY2014 to \$209.0 million in FY2018 (see graph on p. 21).

The M/V *Tokitae*, M/V *Samish* and M/V *Chimacum*—three of the four new Olympic Class vessels—were operationally available during FY2018 for 90%, 69% and 97% of the time, respectively. (The M/V *Suquamish* was not active until

October 2018, so operational availability data is not yet available). These new vessels required upgrades in order to meet U.S. Coast Guard specifications. The down time associated with the upgrades negatively impacted operational availability.

## WSF vessel needs change during 2017-2019 biennium

Among the seven vessel classes, the Issaquah Class accounted for almost 30% of originally projected improvement and preservation expenditures for the 2017-2019 biennium. It was followed closely by the Jumbo and Jumbo Mark II classes (see graph above).

However, the average expenditures on per vessel basis have been considerably more for the Jumbo Class and Jumbo Mark II Class

## How the Life Cycle Cost Model works for WSF

The Life Cycle Cost Model is an inventory database of systems, which includes information like the year systems were built and their standard life cycles. WSF uses the LCCM to develop budget requests for preservation funding to address the backlog of ferries maintenance and repair projects.

Control the percentage of ferry vessel systems (by value) that are past due for replacement from increasing to over 10% by 2020.

**Status: Off target (red) – 16.9% as of June 30, 2018**

**Strategies:**

- 1) Maintain vessel systems
  - Focus capital program preservation and operating program maintenance resources on vessel systems designated to maintain vessel reliability and apply cost benefit analysis based on the Life Cycle Cost Model to determine how long other systems should be operated beyond their life cycles.
- 2) Efficiently use resources
  - Integrate capital program preservation and operating program maintenance planning and contracting to achieve the best use of resources.
- 3) Use flexible planning to achieve goals - Minimize loss of preservation and maintenance opportunities by maintaining highly flexible project planning and execution that facilitates adjusting the biennial preservation and maintenance work plans to react to changes in vessel and shipyard availability.
- 4) Keep policy makers in the loop - Inform policy makers about strategic resources by applying the LCCM to establish preservation performance objectives and program delivery.

vessels than the Issaquah Class vessels. Funds originally planned to address issues on the heavily used Issaquah Class vessels were diverted to a steel replacement project on the aging M/V *Elwha*, a Super Class vessel. Super Class vessels, which were originally slated to have \$13.7 million in work done, ended up needing more than \$34.4 million in vessel preservation and improvement dollars in the 2017-2019 biennium.

### WSF prioritizes vessel preservation work

The originally approved WSF vessel capital budget for the 2017-2019 biennium included \$40 million to complete construction of the M/V *Suquamish* and \$68 million for preservation and improvement. The total preservation and improvement need for this period based on the vessel Life cycle Cost Model was projected to be \$94.4 million compared to the budgeted funds of \$68 million. To address the funding gap, WSF developed a constrained prioritized project list. Some of the more significant projects are highlighted below:

#### M/V *Elwha* emergency passenger deck steel replacement (March-November 2018, \$25 million)

When the 51-year-old M/V *Elwha* arrived at the shipyard for routine biennial dry-docking, there was concern about corrosion of the upper and lower passenger deck steel. The extent of repairs greatly exceeded the initial estimates. The project was originally planned to take two months and cost

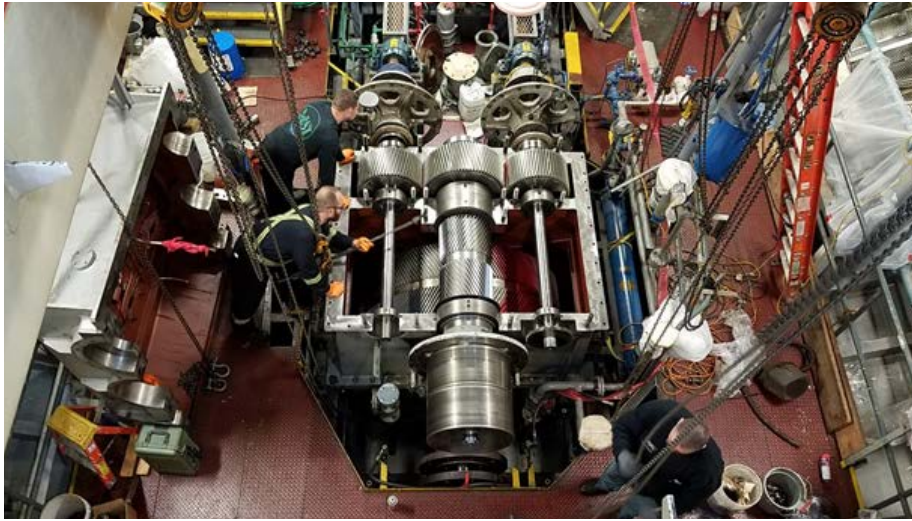
\$2.5 million. It grew to nine months and \$25 million. The passenger deck spaces were due for renovation in 2003 per the LCCM, but the work was deferred due to funding and vessel availability constraints.

The original scope for the 2018 contract included the replacement of 2,000 square feet of steel. During repair work, inspectors identified additional corrosion. The USCG's concern about maintaining an effective buffer in the event of a vehicle deck fire warranted full removal of the deck covering for inspection. In total, more than 14,000 square feet of steel was replaced in 2018.

The M/V *Elwha* is one of WSF's two vessels certified for international service; leaving WSF with little choice but to make these repairs. The funding for the unanticipated work came at the expense of other planned vessel and terminal projects.

#### ■ M/V *Spokane* topside preservation project (June-October 2017, \$12 million)

One of the most costly and time-consuming vessel preservation activities is topside preservation. This involves containment of the entire vessel, abrasive blasting, the application of anti-corrosive and topcoat paint and renewal of any wasted steel. Topside preservation typically needs be performed every 10 years on vessels. With 23 vessels in the fleet, this means that at least two vessels should receive topside preservation each year. In 2017, WSF completed topside preservation for the 46-year-old M/V *Spokane*. In addition to topside preservation,



Crews work to reassemble a main reduction gear on the M/V Issaquah in October 2018.

the vessel received improved solarium windows, LED lighting on the vehicle decks and additional life rafts to meet new U.S. Coast Guard requirements.

#### ■ **M/V Issaquah reduction gear overhaul and steering system replacement** (May-October 2018, \$1.7 million)

The LCCM estimates that Issaquah Class vessels need their reduction gears overhauled and steering systems replaced every 20 years. Both of these projects were included in the 39-year-old M/V Issaquah's summer 2018 maintenance contract. Inspection of the reduction gear discovered a fracture that necessitated a new shaft be manufactured. All reduction gear bearings were also replaced. WSF also replaced the steering control system—a source of service disruptions for the Issaquah Class

#### ■ **Life raft expansion project** (2017-2019, \$3.7 million)

Since 2002, WSF has been meeting USCG lifesaving requirements by operating under an alternative compliance program. Under this program, each vessel was not required to carry life rafts for 100% of passengers, but could rely on other ferry vessels in the system to provide support in case of emergency.

This changed in March 2017, when the USCG notified WSF the alternative compliance program would be discontinued and that WSF must install additional life rafts on 12 of its vessels by the end of 2019. To date, five vessels have been upgraded, and work on the M/V Yakima and M/V Kittitas is ongoing. The additional maintenance for these rafts is estimated to cost \$433,000 per biennium.

### **M/V Suquamish enters service in October 2018**

The new 144-car M/V Suquamish went into service in October 2018. This vessel is the fourth of the Olympic Class construction program. The M/V Suquamish cost \$122 million and features propulsion diesel engines that meet the Environmental Protection Agency's Tier 4 standards (the latest and most stringent emission standards). The engines reduce emissions of atmospheric pollutants by 70%. The vessel was delivered in July 2018, on schedule and within budget.



The M/V Suquamish undergoing sea trials in Elliott Bay in August 2018.



## Agency Emphasis Area PRACTICAL SOLUTIONS

The Washington State Ferries Terminals program increases maintenance actions on systems that have been targeted for deferral in order to extend the useful life of those systems.

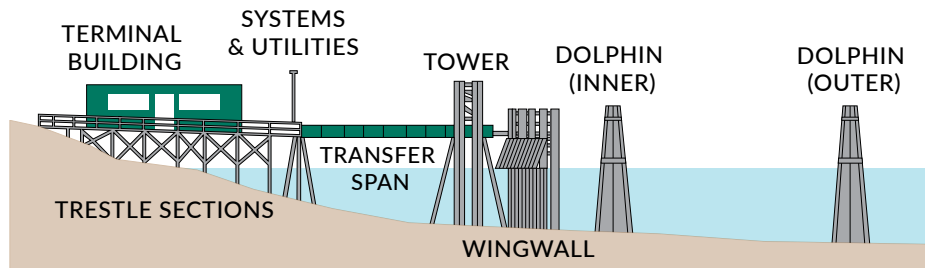


## Leading Indicator

Control the percentage of ferry terminal systems that are past due for replacement from increasing to over 6% by 2020.  
**Status: Off target (red) – 9.6% as of June 30, 2018**

### Strategies:

- 1) Reprioritize projects as needed - Use economic based life cycle model to prioritize projects to match available capital budget.
- 2) Extend the useful life of systems - Increase maintenance actions to extend the useful life of systems targeted for deferral by the economic model.
- 3) Reduce reliability risks - Target preservation dollars to reduce risk of degradation of service reliability.
- 4) Review asset conditions - Periodically review system asset conditions then compare results to planned budget amounts in future biennia.



## Structural system conditions of WSF terminals improve from 2016 to 2017

Facility or system type	Number of systems	Good or fair (70-100)	Poor or substandard (0-69)	Not rated
Buildings	136	97.9%	2.1%	0.0%
Landing aids <sup>1</sup>	176	91.1%	8.9%	0.0%
Overhead loading systems	66	76.1%	23.9%	0.0%
Passenger-only ferry facilities	14	89.3%	10.7%	0.0%
Pavement	84	84.3%	15.7%	0.0%
Trestles and bulkheads	69	98.2%	1.8%	0.0%
Vehicle transfer spans	210	85.0%	15.0%	0.0%
<b>Total/average 2017</b>	<b>755</b>	<b>90.4%</b>	<b>9.6%</b>	<b>0.0%</b>
<i>Total/average 2016</i>	<i>757</i>	<i>89.9%</i>	<i>10.0%</i>	<i>0.1%</i>

Data source: Washington State Ferries.

Notes: Percentages may not add to 100 due to rounding. Percentages are weighted based on the replacement value of each system and may not be comparable to unweighted percentages (based on the total number of systems) used in previous GNBs. <sup>1</sup> Landing aids ensure the ferry vessels are aligned correctly at the terminals, and include wingwalls and dolphins. The condition categories do not indicate whether systems are safe or unsafe, but rather how closely their condition should be monitored prior to spending funds on preservation.

## WSF terminal conditions improve in 2017

Approximately 90.4% of WSF terminal systems—which assist in the safe, efficient movement of people and vehicles to and from ferry vessels—were in fair or better condition at the end of 2017. The overall percent of terminal systems weighted by value in poor or substandard condition categories decreased 0.4 percentage points from 10.0% in 2016 to 9.6% in 2017. This slight improvement is partially attributed to the demolition of two aging buildings—the Orcas Terminal building and the Seattle Passenger Only Canopy—which removed multiple assets in poor or substandard condition from the asset inventory.

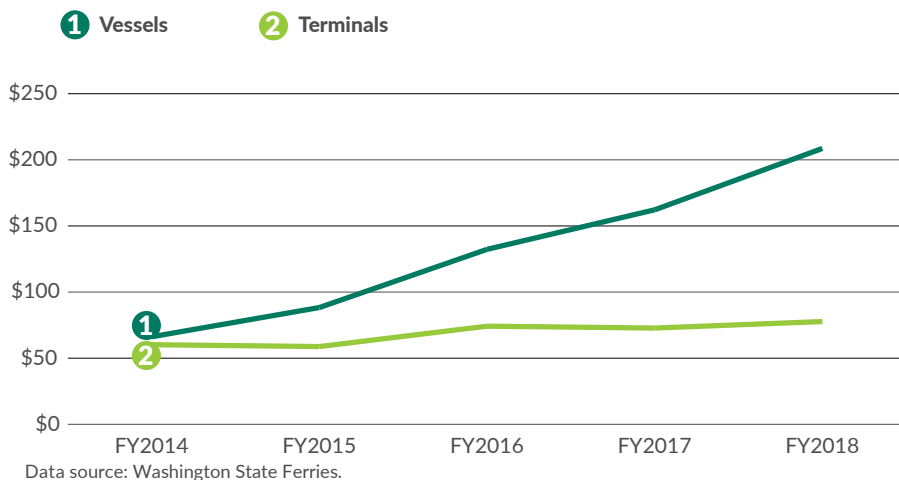
Terminal system condition ratings are based on inspections that are mandated by state law to occur at least once every three years. Improvements to system condition ratings occur after preservation work has been completed or after maintenance work is finished.

Systematic inspections do not always occur during the same year work takes place on an asset. As a result, repairs and improvements to terminal systems or individual assets may not be reflected in the reporting period the work was accomplished.



## Preservation backlog for ferries' vessels and terminals increases since FY2014

Fiscal years 2014 through 2018; Dollars in millions



## Terminal preservation backlog increases in FY2018

WSF's terminal preservation backlog increased 6.5% from \$72.8 million in FY2017 to \$77.7 million in FY2018, based on the terminal Economic Based Asset Management Model (see graph above).

One reason for this increase is that WSF has two major terminal projects under construction: the Seattle Multimodal Terminal at Colman Dock and the Mukilteo Ferry Terminal. These are multi-year, multi-million dollar projects that concentrate preservation funds on the most critical needs. Another reason is that some construction projects scheduled for the 2017-2019 biennium were postponed and will begin in 2021. When those construction projects are complete, assets past due for replacement that are within the scope of the larger projects will be replaced, resulting in a decrease of the overall past due percentage. Replacement of assets is not credited until the entire

project is completed, which creates a reporting lag of potentially several years between the asset's physical replacement and the past due percentage decrease.

WSDOT has budgeted \$319.3 million to support the terminal preservation plan in the 2017-2019 and 2019-2021 biennia. WSF is projected to spend this amount to reduce the terminal backlog.

## WSF delivers Transit Asset Management Plan in 2018

In October 2018, WSF published its Transit Asset Management Plan (TAMP), which is required by the Federal Transit Administration (FTA). This plan documents WSF's strategic, systematic practices of procuring, operating, inspecting, maintaining, rehabilitating and replacing WSF capital assets. It supports WSF efforts to manage asset performance, risks and costs over asset life cycles in order to provide safe, cost-effective and reliable public transportation.

## WSF's economic based asset management model helps gauge terminal needs

WSF uses an Economic Based Asset Management Model—an asset management model with economic inputs—to screen which preservation items fiscally make sense to replace at terminals. While the standard condition-based preservation backlog from the Life Cycle Cost Model (LCCM) is dependent on when items are past their life cycles, the economic based asset management model backlog includes items whose maintenance cost, risks, and financial impacts of failure are higher than the cost of replacement.

WSDOT updates the economic model for terminals annually, reviewing and reassessing the costs of risks, impacts of failure, system replacement, and maintenance. Conditions of systems are updated based on inspections, and systems are also added or removed from the model to match the inventory database in the LCCM.

Highlights of the TAMP include:

- The vessels asset inventory consists of 23 vessels with a total replacement value of approximately \$3.5 billion.
- The terminal asset inventory consists of 19 passenger facilities and one maintenance facility. The terminal asset replacement value totals approximately \$1.4 billion.
- Federal Transit Administration guidelines state that vessel condition ratings are based on age relative to a useful life benchmark. In 2018, none of WSF's vessels exceeded the useful life benchmark of 60 years.
- FTA requires terminal facilities be evaluated on a five-point Transit Economics Requirements Model scale. Three facilities are currently at TERM Condition Rating 4 (good) while the remaining 17 are TERM Condition Rating 3 (adequate).
- The report summarizes WSF's asset management systems and tools, and includes a prioritized project list for a four-year planning horizon.

WSDOT is developing a comprehensive State Transportation Asset Management Plan (STAMP) to meet the requirements of the FTA, the Federal Highway Administration and the Washington state legislature. This comprehensive plan is expected to be completed in August 2019 and will enhance the October 2018 plan. The current FTA plan can be downloaded at: <http://bit.ly/FerriesPPS>.

## WSF completes its draft long range plan for 2040

WSF has completed the initial draft of its 2040 Long Range Plan. It was provided to the public from September 10 through October 25, 2018, to offer stakeholders the opportunity to give feedback.

WSF's ridership is expected to grow by 30% between 2017 and 2040, which will further increase demand for service from an aging fleet and infrastructure.

Highlights from the long range plan focus on improving service reliability for vessels and terminals, and include:

### Vessels

- Build new vessels to stabilize the system. Extend the existing open contract for Olympic Class vessels to construct five more vessels as soon as possible—two to stabilize the fleet and three to replace vessels that are due to retire.
- Examine the 60-year life expectancy for vessels in the fleet that have not had the maintenance and preservation required to meet this life expectancy goal. Because the Issaquah Class vessels are experiencing reliability issues and steel degradation that shorten their attainable service life, the draft long-range plan proposes to retire the six Issaquah Class vessels early, at approximately 50 years of age.
- Allow for 12 weeks of annual out-of-service maintenance and preservation time for each vessel to achieve the 60-year life expectancy goal.

- Streamline the fleet composition to realize enhanced efficiencies and redundancy. Simplify the fleet from seven to five vessel classes by 2040.

### Terminals

- Plan for reliable terminal infrastructure. Continue to enhance the asset management model to prioritize projects that increase reliability and resiliency.
- Monitor terminal maintenance trends through 2040. Perform ongoing evaluation of methods to reduce paint maintenance costs, such as models to help plan and estimate when to repaint assets;
- Program terminal preservation projects to support reliable service. Continue to monitor for opportunities to enhance and support reliable service, and improve vehicle processing and operational efficiencies through preservation projects. Plan for critical preservation work to upgrade the Fauntleroy terminal.
- Work with stakeholders to determine the best solutions for operational challenges at the Edmonds terminal.
- Invest in the Eagle Harbor Maintenance Facility to serve system needs through 2040. Convert an existing tie-up to a drive-on slip at Eagle Harbor.

*Contributors include John Bernhard, Jeri Bernstein, Jim Hasselbalch, Nicole McIntosh, Sio Ng, Kynan Patterson, Srikanth Sree Ramoju, Donna Thomas, Matt Von Ruden, Joe Irwin and Dustin Motte*

## 71

ASSET MANAGEMENT:  
CAPITAL FACILITIES ANNUAL REPORTMajority of WSDOT's primary buildings are in  
"fair" or "poor" condition as they continue to age

Smoothly operating buildings and systems such as heating and ventilation help WSDOT support its workforce as it delivers services to the public. Twenty (7%) of WSDOT's 284 primary buildings (agency-owned buildings larger than 2,000 square feet) achieved a condition rating of "good" in 2018. The "good" rating means they are new construction and/or meet current industry standards. This is a decrease from approximately 8% (22) in 2017. WSDOT conducts building condition assessments on a biennial cycle in odd years; 2018 is an "off year" and updates or adjustments made to 2017 assessments resulted in minor changes to the overall condition ratings.

Out of its inventory of nearly 1,300 owned and leased buildings and structures, WSDOT owned 284 primary buildings as of September 2018, an increase of one building (the new North Central region headquarters building; the old region headquarters building is owned by WSDOT and is still in place as the Wenatchee Office Building) since 2017. These buildings support the majority of agency staff and provide shop and storage space for vehicles, equipment and supplies. Primary buildings represent approximately 21% of WSDOT capital facilities and 63% of total building area by square footage.

Forty-eight percent (137) of WSDOT's primary buildings received a condition rating of "fair," indicating that the facility does not meet current standards but remains functional and is in adequate condition (with some component deficiencies). This compares to 48% (135) in 2017. Forty-five percent (127) of WSDOT's primary buildings earned a condition rating of "poor." A poor rating indicates that a building is at or beyond its service life, with multiple major deficiencies that could lead to unexpected repairs and resulting costs. This percentage stayed the same as in 2017, with 45% (126).

## Majority of WSDOT's primary buildings in "fair" or "poor" condition

Number and percent of WSDOT primary<sup>1</sup> buildings by condition as of September 2018, compared to September 2017

Condition rating	September 2017	September 2018
Good	22 (8%) <sup>2</sup>	20 (7%)
Fair	135 (48%) <sup>2</sup>	137 (48%)
Poor	126 (45%) <sup>2</sup>	127 (45%)
Total	283	284

Data source: WSDOT Capital Facilities Office.

Notes: 1 Primary buildings are agency-owned buildings 2,000 square feet or larger.

2 Percentages do not add to 100 due to rounding.

## Notable results

- As of September 2018, 25 of WSDOT-owned primary buildings were 80 years or older
- WSDOT's current preservation and replacement backlog for WSDOT-owned primary buildings in 2018 is \$239.3 million
- WSDOT's North Central Region headquarters building in Wenatchee is complete at a cost of \$12 million

## WSDOT's primary buildings average 45 years old; 105 (37%) are more than 50 years old

The average age of WSDOT's 284 primary buildings is 45 years old. Less than one-third of the primary building inventory (27%; 78 buildings) is 25 years old or younger, and 36% (101) of primary buildings fall into the 26-50 years old category. The percent of primary buildings older than 50 years increased from 35% to 37% between September 2017 and September 2018. Seven buildings aged into the "26 to 50 years" category in 2018, including

- Berne Maintenance Cottage,
- Berne Shop and Vehicle Storage,
- Berne Maintenance Dorm,
- Central Park Maintenance/Project Engineering Office,
- Central Park Vehicle Storage,
- Bullfrog Vehicle Storage Building, and
- Bullfrog Office and Shop Building.

Twenty-five of WSDOT's primary buildings were 80 years or older as of September 2018.

### Approximately one-third of WSDOT's primary buildings are more than a half-century old; 57% will be older than 50 years by 2028

Number and percent of WSDOT primary buildings by age as of September 2018, compared to September 2017 and projected for September 2028

Building age	Sept 2017	Sept 2018	Sept 2028 <sup>2</sup>
25 years or less	81 (29%) <sup>1</sup>	78 (27%)	23 (8%)
26 to 50 years	104 (37%) <sup>1</sup>	101 (36%)	99 (35%)
Older than 50 years	98 (35%) <sup>1</sup>	105 (37%)	162 (57%)
<b>Total</b>	<b>283</b>	<b>284</b>	<b>284</b>

Data source: WSDOT Capital Facilities Office.

Note: 1 Percentages do not add to 100 due to rounding. 2 Projected based on current inventory.

### Many WSDOT primary facilities are functionally obsolete

Within 10 years, 92% of WSDOT's current primary building inventory will be 26 years old or older. By 2028, 162 primary buildings will be older than 50 years.

As buildings age beyond 25 years, design features become outdated and typically cannot be changed without major renovation or replacement. Many older maintenance shops cannot accommodate modern roadway work equipment such as larger trucks, wider plow blades or taller cranes and hoists that WSDOT road crews use to maintain the highways. Outdated office and crew spaces are less responsive to operational changes, which may lead to inefficient facility use or operational impacts to the program being supported. Crew rooms, supervisor offices, restrooms, data outlets and electrical service may be undersized or inadequate to support a modern work environment.

WSDOT is evaluating its aging facilities to establish the most appropriate investment strategies to address this risk. Such strategies are part of the agency's approach to asset management and will be included in WSDOT's Capital Facilities Asset Management Plan scheduled for completion in June 2019.

### Preventive maintenance completion rate exceeds target

The current WSDOT Facilities Preventive Maintenance Plan completion rate is 75%. This exceeds the target goal of 71%, but is down from the 82% reported in 2017 (see [Gray Notebook 67, p. 24](#)).

Under the current maintenance model, only the most critical preventive maintenance activities are planned. As facilities continue to age, costs for emergency repairs continue to significantly increase. Emergency repairs include but are not limited to broken water lines, leaking roofs and non-functioning heating systems.

One example of a recent emergency repair was the White Pass domestic waterline replacement for \$371,000 in WSDOT's South Central Region. Fixing this meant diverting funding from the Hyak boiler replacement for \$307,000 and the Union Gap boiler replacement for \$218,000. Both projects were previously programmed to be completed in the 2017-2019 biennium, but are now slated for the 2019-2021 biennium.

When costs for emergency repairs exceed available resources, funding from other facility activities and planned preventive maintenance is diverted. Completing an emergency



facility repair is comparable to not changing the oil in your car so that you can instead buy a used tire to replace a blown out tire; it is simply not sustainable.

### Unmet needs backlog estimate remains at \$474.7 million

In 2017, WSDOT completed its first round of primary building condition assessments using the Facility Inventory and Condition Assessment Program developed by Washington State University. The FICAP system generated a total backlog estimate of \$474.7 million; this value will be updated in 2019. For more about FICAP, see [Gray Notebook 59, p.10](#).

### As primary buildings age, total backlog increases

The current total preservation and replacement backlog for WSDOT's 284 primary buildings increased to \$239.3 million in 2018, up \$31 million, or 15%, from the 2014 estimates. This four year trend shows an average increase in deferred maintenance backlog of \$7.65 million per year, or \$15.3 million per biennium.

### WSDOT delivers the first of two new region headquarters

WSDOT has completed construction of a new \$12 million North Central Region headquarters building on Euclid Avenue in Wenatchee. This project received funding from the Legislature's 2015 Connecting Washington funding package. The Wenatchee Project Engineering Field Office building was demolished in December 2016 to make way for the new building.

The project's design-build contract was awarded in October 2016 to Garco Construction Inc. of Spokane. Construction began in April 2017 and was completed on budget and two months ahead of schedule in April 2018. The new office consolidates region administration and project engineering staff into a single building. The new building replaced both a 1930's era administration building and a 34-year-old modular portable construction site office that was intended to be temporary.

Collocating staff, facilities and functions saves money and improves efficiency. The new building preceded Gov. Jay Inslee's Executive Orders (EO) 18-01 (State Efficiency



WSDOT's new North Central Region headquarters building.

and Environmental Performance) and Executive Order 16-07 (Building a Modern Work Environment) but exceeds the Washington State Energy Code and was designed largely in accordance with EO 16-07.

### WSDOT makes progress on Olympic Region headquarters complex

A new Olympic Region headquarters complex on Marvin Road in Lacey will be home to 319 staff when it is complete in 2021; approximately 190 people will be located in a multistory administrative office building totaling approximately 40,000 square feet. About 120 people will be housed in light industrial buildings totaling approximately 90,000 square feet.

The site will also include a wash bay, a fueling station and a radio tower.

### As WSDOT's primary buildings age, preservation backlog increases to \$239.3 million

Number and percent of WSDOT primary buildings by age as of September 2018, compared to September 2014 and September 2017; backlog and replacement cost in millions of dollars

Building age	September 2014		September 2017		September 2018		
	Number	Total Backlog	Number	Total backlog	Number	Total backlog	Replacement cost
25 years or less	90	\$24.6	81	\$33.2	78	\$32.4	\$136.6
26 to 50 years	109	\$107.8	104	\$116.0	101	\$111.8	\$271.8
Older than 50 years	85	\$76.3	98	\$86.2	105	\$95.1	\$198.5
<b>Total</b>	<b>284</b>	<b>\$208.7</b>	<b>283</b>	<b>\$235.4</b>	<b>284</b>	<b>\$239.3</b>	<b>\$606.9</b>

Data source: WSDOT Capital Facilities Office.

About 20 acres will be developed to accommodate the buildings, equipment and material storage, and parking. WSDOT issued a Request For Proposals for a design-build contract October 1, 2018; the total project is expected to cost \$58.5 million.

The current Olympic Region headquarters in Tumwater was built in 1938 to serve regional maintenance and administrative functions. The site cannot accommodate newer equipment and vehicles, and no longer supports modern transportation operations in the region.

### **WSDOT schedules Dayton Avenue building for major remodel**

WSDOT's six-story Dayton Avenue office building in Shoreline north of Seattle, constructed in 1973, is about to get a major remodel at a cost of \$46.5 million. The project will accommodate the building's current need for 420 WSDOT employees and consultants, and add the capacity to support an additional 220 employees, potentially from another state agency.

The renovation will include major infrastructure improvements to the heating, ventilation and air conditioning (HVAC) system, electrical, information technology infrastructure, replacing single pane windows, and replacing the roofing system. The building will be brought up to Leadership in Energy and Environmental Design (LEED) Silver standards at a minimum, and incorporate Gov. Inslee's Executive Order for State Efficiency and Environmental Performance to the greatest extent feasible. The LEED designation is a globally

recognized symbol of sustainability achievement.

Tenant improvements will incorporate EO 16-07 (Building a Modern Work Environment) to modernize the workspace so that it is an efficient, purpose-driven space that optimizes the facility's footprint. The project is expected to be complete in summer 2021.

### **WSDOT slates \$5.12 million for minor projects in the biennium**

WSDOT allocated \$5.12 million in the 2017-2019 biennium to support ongoing minor preservation and repairs and code compliance projects. This is an increase of \$780,000 from what was reported in GNB 67. Additional funds were added to include National Pollution Discharge Elimination System Municipal Stormwater permit compliance projects and other code compliance projects.

Some examples of minor projects include HVAC replacements at the Davenport Area Maintenance Facility (AMF) Building 1 in WSDOT's eastern region (\$336,841) and the Kent AMF Building 1 in WSDOT's northwest region (\$341,429); a domestic well relocation at the Bullfrog AMF in WSDOT's south central region (\$52,190) and a lift rehabilitation at the Central Park AMF Building 1 in WSDOT's Olympic region (\$65,568).

### **WSDOT completes project to reduce energy consumption**

WSDOT completed work on a \$12.5 million energy conservation upgrade project that reduces energy use in more than 60% of

its buildings. This project allows WSDOT to save energy and improve facilities, including lighting fixtures, plumbing components, mechanical systems and some minor building modifications.

The project was funded by a combination of grants (\$350,000), utility rebates and incentives (\$1.1 million), and a loan financed through the Office of the State Treasurer (\$11 million). Budget savings from reduced utility costs will be redirected from utilities to repay the loan.

The project involved 821 buildings at 163 sites that included maintenance sheds, office buildings, Transportation Equipment Fund shops and rest areas. Buildings were selected that fit within the scope of the payback criteria. More than 2,300 energy savings improvement measures were implemented, including more than 750 light fixtures converted to LED, more than 560 plumbing fixtures upgraded, more than 450 weatherization upgrades completed, and nearly 500 HVAC upgrades completed, including programmable thermostats.

The project is expected to produce more than \$1.1 million annually in energy, water and sewer savings, with an annual inflation rate of 2.5% assumed for future years. Lighting, heating and control system upgrades are expected to reduce maintenance labor needed, allowing staff to focus on other critical work. The energy savings produced as a result of this project are expected to reduce carbon dioxide emissions by more than 11 million pounds annually.

*Contributors include Tim Hall, Steve Holloway and Yvette Wixson*

# 71 ACTIVE TRANSPORTATION & ACCESSIBILITY ANNUAL REPORT

## Rates of walking and bicycling continue to increase throughout Washington

The number of trips made via active transportation modes in Washington state increased by an average of 4.29% per year from 2009 through 2017. During this time, walking trips increased at a higher rate year-over-year (4.36%) compared to bicycle trips (3.75%). The state's population for this same period has grown 1.15% per year on average, indicating that a larger percentage of Washingtonians are walking and biking to meet their transportation and recreational needs.

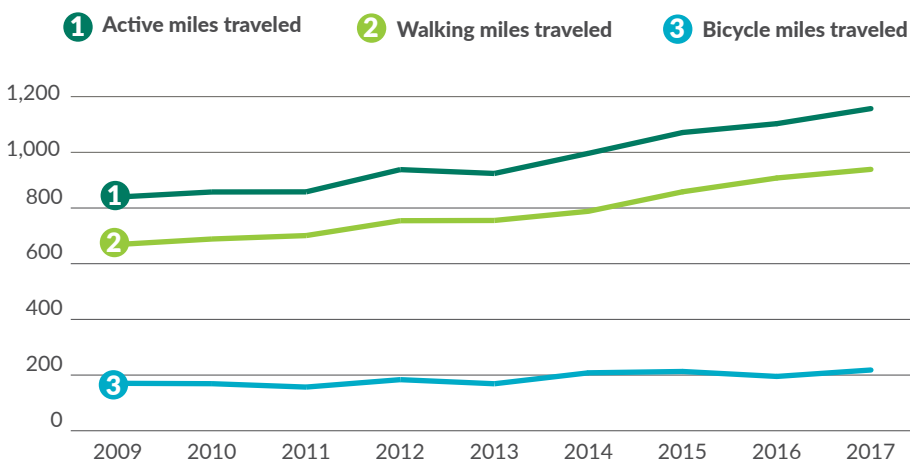
In 2017, it is estimated that people made 1.47 billion trips walking, biking, riding skateboarder and scooters, or using mobility assistive devices (such as wheelchairs or walkers) in Washington state, amounting to over 1.16 billion miles traveled. Approximately 94% of these trips were made by pedestrians, for an estimated 938 million pedestrian miles traveled (PMT). Although people biking accounted for 6% of all active trips, bicyclist miles traveled (BMT) represented 19% (218 million BMT) of all active miles traveled.

## WSDOT expands bicyclist and pedestrian count program to better understand the needs of state's active travelers

WSDOT's statewide estimates of bicyclist and pedestrian travel are based on the 2017 Household Travel Survey (see chart below). The results help WSDOT better understand high-level trends for large geographic areas. Additional data sources are needed to fully illustrate how bicyclist and pedestrian travel is distributed across the state's transportation system. Even though it is incomplete, the data helps WSDOT begin to set a baseline for active transportation performance in Washington.

### Active transportation travel sees upward trends in Washington

Miles in hundreds of thousands



Data source: WSDOT Active Transportation Division.

Note: Active miles traveled is a combination of walking and bicycle miles traveled.

## Notable results

- Travelers walked or biked an estimated 1.16 billion miles in Washington state in 2017
- Between December 20, 2017, and September 30, 2018, approximately 272,700 active transportation users traveled on the new SR 520 floating bridge trail across Lake Washington

## WSDOT releases new bicyclist/pedestrian count guidebook

WSDOT's new guide, Collecting Network-wide Bicycle and Pedestrian Data, provides recommendations for establishing and growing bicyclist and pedestrian count programs. Communities throughout Washington can use the guide to establish network-wide count programs to help measure bicyclist and pedestrian travel. The data collected by these programs can help determine which corridors see the largest bicyclist and pedestrian traffic volumes and can also be used at the facility level for funding decisions, planning, and design. [http://bit.ly/WSDOTbikepedcounts\\_pdf](http://bit.ly/WSDOTbikepedcounts_pdf).

## Majority of active transportation users in Washington are pedestrians

Based on 2017 volunteer counts



Data: WSDOT Active Transportation Division, Cascade Bicycle Club.

Note: "Other" includes transportation such as scooters and skateboards.

WSDOT is expanding its bicyclist and pedestrian count programs to better understand when and where people are walking and biking. The additional data from this expansion will help WSDOT and its local and regional partners make more informed decisions on system upgrades to improve safety, mobility, and accessibility for people who walk and bike or use other active transportation mobility devices such as scooters and skateboards.

Washington's Bicyclist and Pedestrian Count Program utilizes two types of counts:

### ■ Permanent - continuous

Permanent counts require installing equipment that can monitor bicyclist and pedestrian volumes constantly for at least one year. The resulting continuous data provides the only way to identify variations in facility volume throughout the day, week, and year, which can be used to understand how weather and temperature affects bicyclist and pedestrian travel.

### ■ Short duration - coverage

Short duration counts occur repeatedly throughout the year and over a period of years. The underlying goal is to collect coverage data for a wide geographic area. WSDOT has used volunteer counts in partnership with Cascade Bicycle Club to collect this data since 2008. In addition to the volunteer counts, WSDOT is exploring ways to expand its short duration counts by utilizing portable bicyclist and pedestrian counters or crowdsourced data.

## Active transportation sees more people walking

Washington's Bicyclist and Pedestrian Count Program—an annual, short duration volunteer count and survey of active transportation users—tallied 560,768 total active transportation users in 2017. The mode split between active transportation users recorded for the statewide survey was 67% pedestrian, 32% bicyclist, and 1% users of other active transportation mobility devices.

The volunteer counts also provide demographic information about who is walking and bicycling and rates of bicycle helmet use. According to the 2017 counts, 54% of pedestrians were male and 46% were female, while 83% of bicyclists were male and 17% were female. Of the bicyclists counted, 86% were wearing helmets, with women using helmets at a higher rate than men (90% and 85%, respectively).

In addition to providing data on active transportation user trends, the volunteer counts are also a key piece of WSDOT's efforts to estimate bicyclist and pedestrian volumes across the statewide network, providing critical short duration or coverage data.

The 2017 annual count included 425 volunteers who dedicated over 900 hours to survey the number of people walking and biking at 402 sites for a three-day period.



## Permanent count data shows 2017 weather affected state's biking and walking volumes

WSDOT has installed 53 permanent bicyclist and pedestrian counters across the state to collect continuous data on bicycle and pedestrian traffic volumes. The agency plans to install 20 additional counters over the next year. Most of the current counters were installed after 2016, and as a result the tables below reflect only those counters with full years of data for both 2016 and 2017: five counters within the central Puget Sound region, three in Spokane, and one in Wenatchee.

Overall, eight of these nine count locations saw a decrease in bicyclist and pedestrian volumes from 2016 to 2017. This was most likely due to weather impacts, as 2017 was both colder and wetter on average than 2016.

### ■ Puget Sound lowlands counters

The colder and wetter 2017 weather likely affected the number of bicyclist and pedestrian trips made at all five count locations in the Puget Sound lowlands (which includes areas of central and south Puget Sound). Overall, there was a 7.7% reduction in bicyclist and pedestrian volumes at these locations between 2016 and 2017, with pedestrian volumes dropping 4.4% and bicyclist volumes declining 9.6%.

For all but three months of 2017, active trips were down compared to 2016. Volume changes of active modes appeared to be correlated with the weather, particularly during the first six months of the year. From January to June, temperatures

in 2017 averaged 4 degrees colder each month and precipitation was six inches higher than in the same months in 2016.

The mode split for the Puget Sound lowlands counter sites for 2017 was 65% bicyclists and 35% pedestrian.

### ■ Spokane and Wenatchee area counters

Bicyclist and pedestrian volumes on three Spokane area trails were 6.9% lower overall in 2017 than in 2016. Over the full year, pedestrian volumes dropped 1.5% and bicyclist volumes decreased 16.9%.

Like other parts of the state, Spokane saw a colder and wetter 2017 than 2016: temperatures were

## Active transportation trips decrease from 2016 to 2017 largely due to adverse weather

Active, pedestrian and bicyclist trips by selected counters; Numbers in thousands

Puget Sound Lowlands <sup>1</sup>	All active trips			Pedestrian trips			Bicyclist trips		
	2016	2017	% Change	2016	2017	% Change	2016	2017	% Change
SR 520 Bellevue	49.5	46.1	-6.8%	6.6	7.0	5.0%	42.9	39.2	-8.7%
I-90 Bellevue	242.0	214.4	-11.4%	43.0	38.8	-9.8%	199.0	175.6	-11.7%
Bainbridge Island <sup>2</sup>	42.5	39.7	-6.6%	N/A	N/A	N/A	42.5	39.7	-6.6%
Sammamish River Trail	612.8	572.9	-6.5%	279.0	268.6	-3.7%	333.8	304.3	-8.8%
Woodland Trail	114.2	105.8	-7.4%	34.6	33.0	-4.4%	80.7	72.7	-9.9%
<b>Totals</b>	<b>1,061.0</b>	<b>978.9</b>	<b>-7.7%</b>	<b>363.2</b>	<b>347.4</b>	<b>-4.4%</b>	<b>698.9</b>	<b>631.6</b>	<b>-9.6%</b>
<b>Spokane</b>									
Centennial Trail	233.7	218.0	-6.7%	149.2	151.3	1.4%	84.5	66.7	-21.1%
Ben Burr Trail	35.3	35.4	0.4%	30.5	26.9	-11.9%	4.8	8.5	78.7%
Children of the Sun Trail	18.4	14.1	-23.4	4.7	3.5	-22.0	13.9	10.6	-23.8
<b>Totals</b>	<b>269.0</b>	<b>267.5</b>	<b>-6.9%</b>	<b>184.4</b>	<b>181.7</b>	<b>-1.5%</b>	<b>103.2</b>	<b>85.8</b>	<b>-16.9%</b>
<b>Wenatchee<sup>2</sup></b>									
<b>Totals<sup>2</sup></b>	<b>80.6</b>	<b>69.4</b>	<b>-13.9%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>80.6</b>	<b>69.4</b>	<b>-13.9%</b>

Data source: WSDOT Active Transportation Division.

Notes: Numbers have been rounded up and may not add to totals. 1 Includes central Puget Sound and south Puget Sound. 2 Bike only.

2 degrees colder on average each month and the area received over four inches more precipitation for the year.

In the months that the Spokane area saw a reduction in bicyclist and pedestrian volumes from 2016 to 2017, temperatures were on average 4.5 degrees lower in 2017 than in

the previous year. Peak volumes for 2016 and 2017 occurred in spring of both years. The mode split for these Spokane area counter sites was 68% pedestrian and 32% bicyclist.

Meanwhile, Wenatchee (which had bicyclist-only counters available for the period reviewed) marked a 13.9% decrease from 2016 to 2017.

## SR 520 Regional Trail improves connectivity and shows evidence of latent demand for active transportation

On December 20, 2017, WSDOT opened the trail connection on the SR 520 floating bridge, providing a critical regional bicyclist and pedestrian connection between Seattle and communities east of Lake Washington. As of September 30, 2018, approximately 272,700 active transportation users have traveled across the floating bridge trail.

Before the SR 520 Trail connection opened, bicyclists and pedestrians traveling between communities on the east and west sides of Lake Washington were restricted to two regional trail corridors: the Burke Gilman Trail along SR 522 and the I-90 Trail. WSDOT, King County, and the City of Seattle have permanent counters along these corridors that help monitor the change in use on the trails since the opening of the SR 520 trail connection.

The Burke Gilman Trail saw a 4% decrease in total use from January to August 2018 compared to the same time frame in 2017 (a reduction of 13,058 trips). The I-90 Trail into Seattle experienced a 12% decrease in usage when comparing January to August 2017 and 2018 data, a reduction of 26,383 trips. Even if all the decreases on the Burke Gilman Trail were due to active transportation users choosing to travel on the new SR 520 Trail instead, opening the new trail induced 200,629 active transportation trips in 2017. These trips, which would not have occurred had the SR 520 Trail not opened, represent latent demand for active transportation connections in the Lake Washington area.

### Lake Washington bicycle and regional trail corridors see increased usage

January through August; 2017 and 2018

Location	2017	2018	Difference	% Change
SR 520 Trail - Mountlake	N/A	240,070	N/A	N/A
SR 520 Trail - Bellevue	34,150	75,110	40,960	120%
Burke Gilman Trail	350,812	337,754	-13,058	-4%
I-90 Trail- Seattle	227,677	201,294	-26,383	-12%
I-90 Trail - Bellevue	161,179	149,503	-11,676	-7%

Data source: WSDOT Active Transportation Division, City of Seattle.



The new SR 520 Trail is seeing high demand from active transportation users since it was completed in December 2017

The new connection has affected use on the SR 520 trail in Bellevue and Redmond east of I-405. That segment of the SR 520 Trail saw a 120% increase in volumes totaling an additional 40,960 bicyclists and pedestrians for the analysis time period of 2018 compared to 2017. Even if the entire 7% drop in volume on the I-90 Trail in Bellevue was due to people choosing the SR 520 Trail instead, the new connection has still induced more than 29,000 additional trips on the SR 520 Trail at this location.

## WSDOT working to provide full mobility and access

In Washington state an estimated 13.1 percent of the population, or around 950,000 people, have some type of long-lasting condition or disability. The population of people age 65 or older will double by 2030 to more than 20% of Washingtonians, representing an even larger and overlapping group whose mobility needs and abilities will change.

The Americans with Disabilities Act requires looking at how the transportation system enables full mobility and access. In May 2018, the Federal Highway Administration approved WSDOT's ADA Transition Plan. WSDOT will be identifying measures to report our progress in future editions of the Gray Notebook.

In developing its transition plan, WSDOT inventoried pedestrian facilities between 2009 and 2012. ADA features inventoried include accessible pedestrian signals, crosswalks, bridge end ramps, curb ramps, detectable warning surfaces,

driveways, edge protection, handrails, rest areas, pedestrian bridges, shared use pathways, walkways, islands, ADA parking areas, rail crossings, sidewalks, stairways and ferries.

WSDOT will continue to collect data and information from field evaluations and future work to address scheduled ADA improvements each biennium. In addition to incorporating improvements in planned paving projects and new construction, WSDOT is prioritizing barrier removal projects based on public input and other criteria focused on need, consistent with federal requirements for existing facilities [28 CFR §35.150(d)(2)].

## WSDOT evaluating bicyclist Level of Traffic Stress

The concept of Bicyclist Level of Traffic Stress provides a new methodology for assessing bike network connectivity to help identify locations most in need of changes to the roadway and/or identification of a lower-stress alternative route.

WSDOT's Active Transportation Division has developed the first analysis evaluating LTS on Washington state highways. While still a work in progress, this is one step in the overall work to identify a basic statewide bicycle network that enables bicyclist mobility. Preliminary analysis found 63% of all state highway miles are rated LTS 4, or the most stressful context that only highly confident riders would generally consider using. Another 35% of state miles are rated at LTS 3; the second most stressful riding.

## How to get WSDOT's ADA transition plans

WSDOT's former and current transition plans are available on the web at <http://www.wsdot.wa.gov/publications/fulltext/access/WSDOT-ADA-Transition-Plan-April2018.pdf> or by request to the ADA Compliance Office. Other formats are available by emailing [wsdotada@wsdot.wa.gov](mailto:wsdotada@wsdot.wa.gov) or by calling toll free: 855-362-4ADA (4232). Persons who are deaf or hard of hearing can make a request by calling the Washington State Relay.

## Calculating bicyclists' Level of Traffic Stress

In addition to road characteristics, the bicyclist Level of Traffic Stress rating takes into account geographic locations and surrounding land use and adjusts the model accordingly. For example, rural and urban roads typically employ different methodologies, as well as roads with bike lanes compared to those without. The roadway variables WSDOT used in its LTS calculations include: speed limit, the number of lanes, annual average daily traffic and shoulder width.

## Active Transportation mobility: starting with the basics

Transportation mobility reports focus on numbers: vehicle movements, average wait times at traffic lights, delay, and other performance measures. Two underlying facts hide beneath the numbers: 1) We only have robust data on movements of motorized modes; 2) Those numbers are made possible by the existence of a network we completed with decades of construction.

We didn't wait to see how many people swam across the river before we built the bridge you're driving across to reach the other side. We build roads to places before people know why they'd want to go there. We put up signs to help you understand this road does lead to your destination; if there's an interruption we provide more signage.

Take those same basics and apply them to someone who's walking, bicycling, or moving with some form of mobility assistance and none of this can be taken for granted.

- If you're riding your bicycle you may come to a bridge that has no connection across it without forcing you into a high stress situation in a motor vehicle lane. You're sure to have encountered a "Bike Lane Ends" sign.
- Walking somewhere? You may or may not have a sidewalk, or separated path. You may or may not have crossing opportunities that provide sufficient line of sight for drivers and time to cross without high stress vehicle conflicts.
- Relying on complete and appropriate technology and designs for your mobility, such as a curb cut for a wheelchair or an accessible pedestrian signal to provide both visual and non-visual information? You won't find those at every intersection.

We're at a very different stage of development in providing the opportunity for real mobility to people who rely on active transportation as compared with other modes—let alone measuring and improving performance.

The most fundamental concept is that of network connectivity. As the FHWA describes it, multimodal network connectivity asks, "Can I get where I want to go easily and safely walking, bicycling, using transit, or driving?" A connected multimodal network allows everyone, including people who do not drive or do not have access to a motor vehicle, to travel by whatever mode they choose.

When we complete the connections, we tap into latent demand. As our story about the SR 520 path notes, before the completion of the bridge the number of people walking or biking across Lake Washington was zero. As of September 30, 2018, the counter on the west end of the bridge had recorded 272,700 trips.

In WSDOT's Active Transportation Statewide Plan we're working on in 2019 we'll be developing measures of network connectivity to track progress toward this most basic requirement for mobility. We're working to develop other measures that will help us understand and improve mobility for every Washingtonian.

- Barb Chamberlain, Active Transportation Director

LTS 2 roads include about 2% of highways, with LTS 1 being a very small group of low-speed, low-traffic state roads (0.04%). Rural state roads have a much higher proportion of miles rated LTS 3 and lower, largely due to the low traffic on these roads.

The stress rating takes into account road characteristics including traffic speed, volume, roadway function, presence of bike facilities, separation from traffic and other factors depending on data availability. The four LTS rankings correspond to the four types of bicyclists, a typology that helps WSDOT understand rider needs and characteristics:

- **No way no how:** People with little interest and experience in bicycling for transportation, and children with minimal bicycling skills. These individuals may still bicycle for recreation, but only on trails separate from vehicle traffic.
- **Interested but concerned:** The largest group, comprising around 50-60% of the population, interested in transportation bicycling but deterred by perceived exposure to a potential collision.
- **Enthusied and confident:** Bicyclists comfortable biking in mixed traffic given moderate speed and volumes or greater separation.
- **Strong and fearless:** Bicyclists willing to ride on any road regardless of conditions for riding.

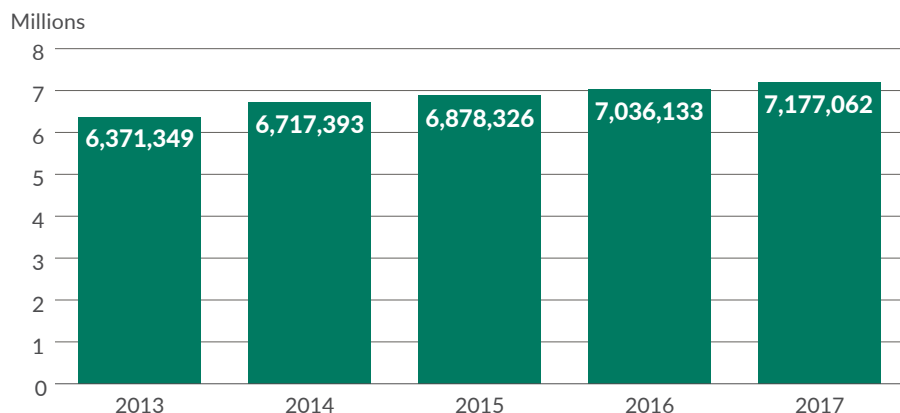
A few jurisdictions in the state have created bike maps using similar methodologies as LTS: Bellingham, Skagit County, and the Wenatchee Valley. WSDOT's



Active Transportation Division will be working to develop mobility performance measures around network completeness and quality. WSDOT will also incorporate data from its partners to help identify

connections to lower-stress regional trails and local streets as important elements of a truly complete network that can support riders of all ages and abilities.

### Washington State Ferries walk-on passengers numbers increasing annually



Data source: Washington State Ferries.

Note: Passenger numbers include bicyclists.

### WSF passenger numbers continue upward trend

Washington State Ferries provided access to 7,177,062 walk-on passengers in 2017, an increase of approximately 12.6% over the 6,371,349 walk-on passengers in 2013. Due to reporting constraints at WSF, accurate data for bicyclists traveling on ferry vessels is not available and those numbers are included in walk-on passenger totals.

WSF works to accommodate all passengers by ensuring most terminals are accessible and all regularly scheduled vessels have elevators.

### WSF improves bicyclist access to vessels, communication signage and access at terminals

After getting input from the Bainbridge Island bicycle group Squeaky Wheels, WSF restriped the car decks on its largest vessels—the Motor/Vehicle *Spokane*, M/V *Tacoma* and M/V *Wenatchee*—to make it more clear where bicyclists should park and disembark the vessels. The 2018 striping expanded bicycle parking without affecting vehicle capacity. It also improved how bicyclists get off the boat while making travel safer for all passengers.

In addition to the restriping work on the three 202-vehicle Jumbo Mark II vessels, WSF also created two dedicated bicyclist-only lanes at the toll plaza entrance at Colman Dock in Seattle and created two dedicated

### New guide assists bicyclists on WSF

This year Washington State Ferries and WSDOT's Active Transportation Division, with input from the Cascade Bicycle Club, collaborated to create updated information for bike/ferry travelers. The new guide is available online at <http://bit.ly/WSFbikes> and includes tips on traveling with bicycles on WSF vessels. Ferry staff will review it periodically to make sure the guide is consistent with training and operations.

bicyclist lanes (one for each route, Bainbridge and Bremerton) that provide priority ferry loading access for bicyclists at that facility.

In October 2018, WSF installed a new sign at the Anacortes ferry terminal to better communicate with passengers who are deaf or hearing impaired. The 7-foot-tall by 22-foot-wide sign allows terminal agents to provide real-time information to all passengers about traffic, the loading and unloading of vessels, service delays, and other information.

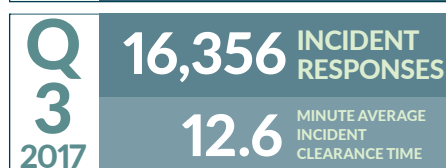
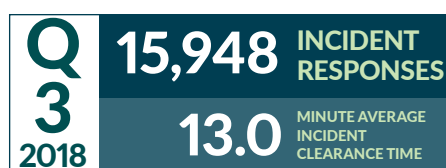
WSF also improved access to the Orcas Island Terminal in June 2017, making ADA upgrades to sidewalks, curbs and slopes.

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# 71 INCIDENT RESPONSE QUARTERLY UPDATE

## Notable results

- WSDOT responded to 15,948 incidents during the quarter, providing about \$25.9 million in economic benefits
- WSDOT cleared incident scenes in an average of 13 minutes, reducing traffic delay and the risk of secondary incidents



↓ **2.5%** INCIDENT RESPONSES DECREASED

↑ **3.2%** CLEARANCE TIME INCREASED

Third quarter incidents trend slightly down from last year



Data source: Washington Incident Tracking System.

Notes: The data above only accounts for incidents to which an IR unit responded. IR data reported for July-September 2018 (Q3 2018) is considered preliminary. In the previous quarter (Q2 2018), WSDOT responded to 15,033 incidents, clearing them in an average of 12.5 minutes. These numbers have been confirmed and are now finalized.

## WSDOT Incident Response teams assist at 15,948 incidents

WSDOT's Incident Response (IR) teams assisted at 15,948 incidents during the third quarter (July through September) of 2018. This averages to a WSDOT team responding to an incident scene every eight minutes and 18 seconds during the quarter. There were 408 fewer incidents during the third quarter of 2018 than during the same period in 2017, an 2.5% decrease.

WSDOT teams cleared the 15,948 incidents in an average of 13 minutes. This is 24 seconds longer than the average incident clearance time for the same quarter in 2017. During the current quarter, there was a 6.8% increase in incidents lasting more than 90 minutes, while incidents lasting 15-90 minutes decreased 3.3% and incidents lasting less than 15 minutes decreased 2.4%. The proportion of incidents which blocked at least one lane was 25.8% for this quarter—slightly higher than 24.6% during the same quarter last year.

WSDOT focuses on safety when clearing incidents, working to reduce incident-induced delay and 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. The IR teams help alert drivers about incidents and clear the roadway to reduce the likelihood of new incidents. A table summarizing the IR program's performance and benefits for the quarter is on the next page.

WSDOT's assistance at incident scenes provided an estimated \$25.9 million in economic benefits during the third quarter of 2018 by reducing the impacts of incidents on drivers. These benefits are provided in two ways:

- WSDOT reduces the time and fuel motorists waste in incident-induced traffic delay by clearing incidents quickly. About \$14.7 million of IR's economic benefits for the quarter result from reduced traffic delay.
- WSDOT helps prevent secondary incidents by proactively managing traffic at incident scenes. About \$11.2 million of IR's economic benefits result from preventing an estimated 3,023 secondary incidents and resulting delay. This figure is based on Federal Highway Administration data that indicates 20% of all incidents are secondary incidents.

Based on WSDOT's budget for IR, every \$1 spent on the program this quarter provided road users roughly \$17.28 in economic benefit.

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

## WSDOT teams respond to 219 over-90-minute incidents

WSDOT Incident Response units provided assistance at the scenes of 219 incidents that lasted more than 90 minutes during the third quarter of 2018. This is 14 more incidents—an 6.8% increase—than the same quarter in 2017. While these over-90-minute incidents accounted for only 1.4% of all incidents, they resulted in 22.6% of all incident-related delay costs.

Twelve of the 219 over-90-minute incidents took six hours or more to clear (referred to as extraordinary incidents). This is the same number of incidents as in the third quarter of 2017. The 12 extraordinary incidents took an average of 12 hours and 19 minutes to clear, accounting for 4.6% of all incident-induced delay costs for the quarter.

The average incident clearance time for all over-90-minute incidents was about three hours and 5 minutes. This is about 14 minutes faster than in the same quarter in 2017. Excluding the 12 extraordinary incidents, WSDOT's average clearance time for over-90-minute incidents was two hours and 35 minutes. Performance data reported in this article comes 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, Michele Villnave, Takahide Aso, Dustin Motte*

### Customer feedback:

- "Alvin was wonderful, professional, and responded in a timely manner. I didn't even have to get out of my car. He changed my tire and took care of everything. Bright spot in my day!"
- "This gal was phenomenal. Keep her and the service available I don't mind paying taxes for this kind of service."
- "Shane was kind and very helpful. I am thankful that WSDOT provides this service."

## WSDOT's Incident Response program provided an estimated \$25.9 million in economic benefit

*July through September 2018; Incidents by duration; Times in minutes; Costs and benefits in millions of dollars*

Incident duration	Number of incidents <sup>1</sup>	Percent blocking <sup>2,5</sup>	Average incident clearance time <sup>3,5</sup> (all incidents)	Cost of incident-induced delay <sup>5</sup>	Economic benefits from IR program <sup>4,5</sup>
Less than 15 min.	12,149	15.8%	4.7	\$14.3	\$6.7
Between 15 and 90 min.	3,580	56.0%	30.5	\$31.2	\$13.6
Over 90 min.	219	88.9%	185.5	\$13.3	\$5.6
Total	15,948	25.8%	13.0	\$58.8	\$25.9
Percent change from 3Q 2017	↓2.5%	↑1.2%	↑3.2%	↑0.9%	↑0.5%

Data source: Washington Incident Tracking System.

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

1 Teams were unable to locate 832 of the 15,948 incidents. Because an IR team attempted to respond, these incidents are included in the total incident count, but are not factored into other performance measures.

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

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

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

5 Excludes incidents IR teams were unable to locate.

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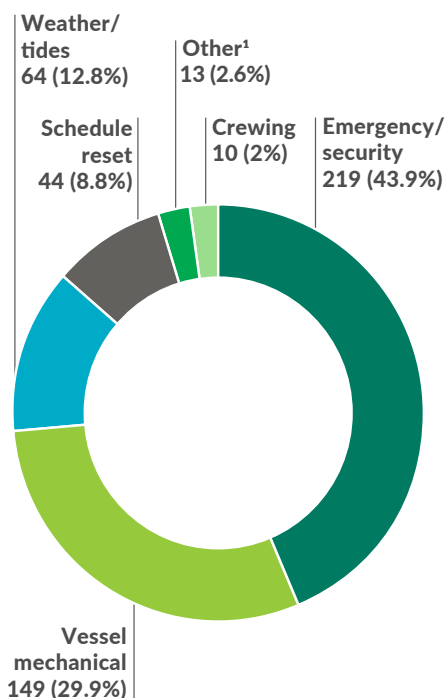
WASHINGTON STATE FERRIES  
QUARTERLY UPDATE

## Notable results

- *Washington State Ferries made 98.9% of its regularly scheduled trips in the first quarter of fiscal year 2019*
- *WSF ridership was approximately 7.6 million in the first quarter of fiscal year 2019, about 94,000 (1.3%) more than the corresponding quarter in FY2018*

## Emergency/security issues top reason for ferry cancellations during quarter

First quarter (July - September) FY2019



Data source: Washington State Ferries.

Notes: Fiscal years run from July 1 through June 30.

<sup>1</sup> The category for "Other" includes issues at terminals, and events like disabled vehicles, environmental reasons and non-vessel related incidents that can impact operations.<sup>2</sup> WSF replaced 29 of the 499 canceled trips for a total of 470 net missed trips.

## WSF service reliability increases to 98.9%

There were 42,697 regularly scheduled ferry trips during the first quarter of fiscal year 2019 (July through September 2018). Washington State Ferries completed 98.9% (42,227) of these trips. While this is 0.1% below the annual service reliability performance goal of 99%, it is 1.5 percentage points higher than the same quarter in FY2018.

In the first quarter of FY2019, WSF canceled 499 trips but was able to replace 29 of them, resulting in 470 net missed trips. This was 662 fewer net missed trips as compared to the same quarter in FY2018.

Four vessels were out of service for extended periods due to unplanned maintenance during the quarter. The Motor/Vessel *Elwha* was out of service the entire quarter when extensive corrosion was discovered on the passenger decks. The M/V *Issaquah* was also out of service for the entire quarter due to steering controls replacement and reduction gear repairs.

On August 22, the M/V *Hyak* was removed from service for urgent maintenance to one of its primary propulsion motors. Maintenance prevented a catastrophic failure of this motor, but kept the vessel out of service for 10 weeks. In September, the M/V *Salish* ran aground on approach to the terminal at Coupeville—causing extensive rudder and propeller damage—which resulted in the vessel being removed from service for repairs.

WSF has a standby vessel which is used as needed; however, with multiple vessels out for unplanned maintenance this was insufficient to cover service during the quarter. Without additional standby capacity, it was necessary to reduce the Port Townsend – Coupeville route from two vessels to one vessel; this resulted in a loss of 202 trips.

## Ridership increases during the first quarter of FY2019

WSF ridership was approximately 7.6 million during the first quarter of FY2019. This was 18,427 higher than projected for the quarter and about 94,300 (1.3%) more in total ridership than the corresponding quarter in FY2018. Most of the ridership increase for the quarter was due to an increase of 42,000 (1.9%) vehicle passengers and 49,000 (1.6%) vehicles.

## On-time performance decreases during the fall quarter

On-time performance dropped for the first quarter of FY2019 compared to the same quarter in FY2018, decreasing 1.8 percentage points from 87.5% to 85.7%. This is below WSF's annual on-time performance goal of 95%.

On-time performance decreased on seven of the nine routes compared to the first quarter of FY2018. The Anacortes – San Juan – Sidney route had the largest decrease (16.2%) compared to the same quarter last year.



## WSF on-time performance decreases and trip reliability increases in the first quarter of fiscal year 2019

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

Route	On-time performance (first quarter)				Trip reliability (first quarter)			
	FY2018	FY2019	Status	Trend	FY2018	FY2019	Status	Trend
San Juan Domestic	76.2%	75.2%	-1.0%	↓	97.0%	99.2%	+2.2%	↑
Anacortes/Friday Harbor – Sidney, B.C.	83.6%	67.4%	-16.2%	↓	93.5%	88.5%	-5.0%	↓
Edmonds – Kingston	91.3%	87.2%	-4.1%	↓	100.0%	99.6%	-0.4%	↓
Fauntleroy – Vashon – Southworth	88.5%	89.9%	+1.4%	↑	97.3%	100.0%	+2.7%	↑
Port Townsend – Coupeville	86.7%	92.8%	+6.1%	↑	84.0%	89.5%	+5.5%	↑
Mukilteo – Clinton	90.5%	87.8%	-2.7%	↓	99.3%	99.5%	+0.2%	↑
Point Defiance – Tahlequah	98.5%	94.8%	-3.7%	↓	99.9%	99.9%	0.0%	↔
Seattle – Bainbridge Island	85.1%	78.6%	-6.5%	↓	99.5%	99.6%	+0.1%	↑
Seattle – Bremerton	89.1%	84.1%	-5.0%	↓	96.9%	100.0%	+3.1%	↑
<b>Total system</b>	<b>87.5%</b>	<b>85.7%</b>	<b>-1.8%</b>	<b>↓</b>	<b>97.4%</b>	<b>98.9%</b>	<b>+1.5%</b>	<b>↑</b>

Data source: Washington State Ferries.

Notes: FY = fiscal year (July 1 through June 30). A trip is considered delayed when a vessel leaves the terminal more than 10 minutes later than the scheduled departure time. WSF operates 10 routes but combines the Anacortes – Friday Harbor route with the San Juan Interisland route as the San Juan Domestic for on-time performance and service reliability. Due to unique fare collection methods in the San Juan Islands, and similar origin and destination legs on both routes, some statistics cannot be separated between the two routes.

Mechanical issues on two, 144-vehicle Super Class vessels. Primary motor issues on the M/V *Hyak* and propeller damage—that occurred in April 2018 and could not be repaired until August—on the M/V *Yakima*, required vessels assigned to the San Juan Domestic route to travel at slower speeds during the quarter.

Anacortes – San Juan – Sidney route performance was not only directly affected by the domestic route slowdowns but also by deliberate slowdowns in the Haro Strait near Sidney, B.C. to support Southern Resident Killer Whale recovery.

On average in the first quarter of FY2019, 64 of 387 (16.5%) trips did not leave the terminal within 10 minutes of the scheduled departure time, a decrease from an average of 56 out of 452 (12.4%) daily trips for the same quarter last year.

### Number of employee injuries sees decrease

The rate of passenger injuries per million riders increased from 0.80 in the first quarter of FY2018 to 1.84 in the first quarter of FY2019, representing an increase from six to 14 total passenger injuries. In July 2018, the National Transit Database changed the criteria for reporting passenger injuries to include all injuries that resulted in transport to a medical facility. Previously, only injuries that resulted in transport via aid car were reported. The passenger injury rate during the quarter was above WSF's goal of 1.0 injury or less per million riders.

The rate of Occupational Safety and Health Administration recordable crew injuries per 10,000 revenue service hours decreased from 9.8 in the first quarter of FY2018 to 5.7

during the same period in FY2019. This remains below WSF's annual goal of having a rate of less than 7.6 crew injuries per 10,000 revenue service hours.

### Revenue follows ridership, trends up for the quarter

WSF's farebox revenue continued its upward trend, coming in at about \$64.1 million for the first quarter of FY2019. Farebox revenue was about \$2.55 million (4.1%) more than the same quarter in FY2018, and was \$1.35 million (2.15%) above projections.

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



The online version of this article links to an interactive map at [bit.ly/GNBferriesmap](https://bit.ly/GNBferriesmap).

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RAIL: AMTRAK CASCADES  
QUARTERLY UPDATE

## Notable results

- *Washington Amtrak Cascades farebox recovery rate improved slightly over federal fiscal year 2017 to 63% in FFY2018*
- *Collaborative efforts have Amtrak Cascades on track to meet a federal deadline for implementing the positive train control safety measure*

New safety measure  
operational on Amtrak  
Cascades corridor

December 31, 2018, is the federal deadline for all railroads carrying passengers or hazardous materials to implement positive train control. BNSF Railway, Union Pacific and Amtrak are coordinating efforts to ensure that deadline is met on the entire Amtrak Cascades corridor from Blaine, Washington to Eugene, Oregon.

Positive train control is designed to automatically slow or stop a train to avoid train-on-train collisions, excessive speeds, and improper movement of trains. This safety overlay will not prevent incidents involving automobiles or pedestrians on the railroad tracks. The National Transportation Safety Board stated that PTC might have prevented the Amtrak Cascades derailment that happened in DuPont in December 2017.

## Amtrak farebox recovery rate improves to 63%

Ticket revenue covered 63% of WSDOT-funded Amtrak Cascades operating costs in federal fiscal year 2018 (FFY2018; October 1, 2017, through September 30, 2018). This percentage, called the farebox recovery rate, is a 0.5 percentage point increase from FFY2017 (62.5%). In FFY2018, ticket revenue increased by 4.5%, from \$31.2 million in FFY2017 to \$32.6 million in FFY2018. Operating costs increased by 3.7% in FFY2018 from \$49.9 million to \$51.7 million. The percentage increase in ticket revenue exceed the percentage increase in costs, resulting in an improved farebox recovery rate.

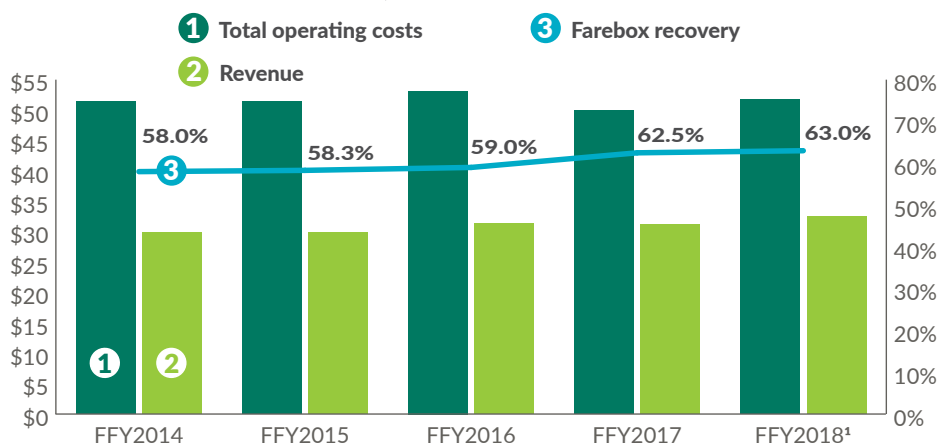
The \$1.4 million increase in ticket revenue is primarily due to changes Amtrak implemented during this federal fiscal year to discontinue or modify daily discounts for seniors, veterans, AAA members and children. Amtrak is offering periodic two- or three-day promotions to market train travel, which has resulted in passengers paying higher prices for many tickets.

Operating costs increased by \$1.8 million in FFY2018, primarily due to two factors. The train derailment in December 2017 resulted in the loss of a WSDOT-owned locomotive and trainset. Therefore, Amtrak-owned equipment has been used to supplement the fleet and maintain service levels. WSDOT is currently paying Amtrak for the use of this substitute equipment, resulting in higher costs for the state. Ultimately, when insurance reconciliations related to the derailment are finalized, these additional costs will be recouped by WSDOT. Secondly, the addition of new WSDOT-owned locomotives into the Amtrak Cascades fleet in fall 2017 increased WSDOT's insurance and maintenance costs. While these costs are higher in the short-term, long-term ownership of the equipment will save WSDOT money.

Contributors include Teresa Graham, Barbara LaBoe, Janet Matkin, Helen Goldstein and Joe Irwin

## Amtrak Cascades revenue and farebox recovery rate increases in FFY2018

Federal Fiscal Years 2014 to 2018; dollars in millions



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

Notes: Farebox recovery rate is defined as the percentage of operating costs covered by ticket revenue. The above revenue, operating costs and farebox recovery rates are for Washington-funded trains only. <sup>1</sup> FFY2018 numbers are based Amtrak's unaudited financial billing data. Final, audited numbers, will be available after December 31, 2018.

# 71 WATER QUALITY ANNUAL REPORT

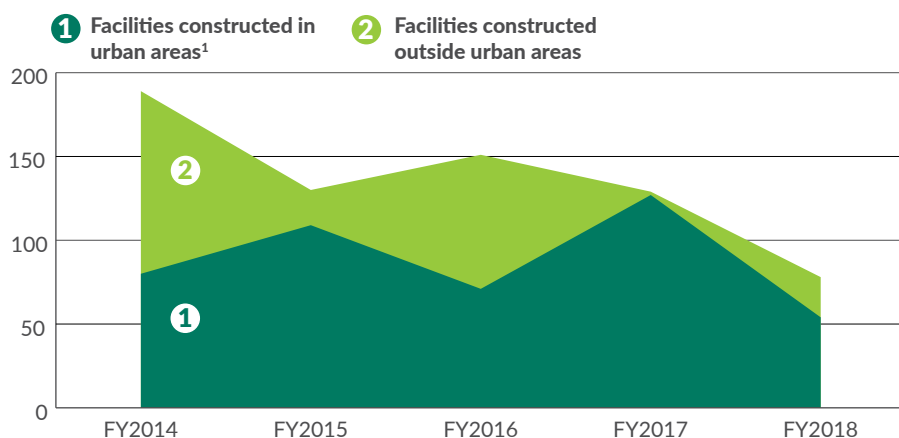
## WSDOT builds 78 new stormwater facilities

WSDOT built 78 stormwater treatment and flow control facilities during fiscal year 2018 to help prevent adverse effects to rivers, lakes and other water bodies. Of the 78 facilities, 54 were constructed in urban areas of the state covered by the agency's municipal stormwater permit.

All 78 stormwater facilities were components of larger WSDOT transportation projects. For example, when WSDOT adds new lanes to a highway, the agency is required to add a stormwater facility such as a biofiltration swale (a vegetated ditch that helps remove pollutants from stormwater before it flows into a river, lake, or groundwater). The number of transportation projects under construction is the primary influence on how many new stormwater facilities WSDOT builds each year.

### Most stormwater management facilities constructed in urban areas in FY2018

Fiscal years 2014-2018; number of facilities constructed



Data source: WSDOT Environmental Services Office.

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

## WSDOT prevents sediment from reaching water bodies

During FY2018, WSDOT collected 3,843 cubic yards of sediment; 3,775 from catch basins and stormwater facilities and 68 from ferry terminals. This was 504.5 cubic yards (11.6%) less than was removed in FY2017. Once removed, sediment is considered a solid waste and WSDOT disposes of it accordingly.

WSDOT employs various operational best management practices—such as street sweeping and catch basin maintenance—to prevent sediment from entering stormwater runoff and discharging to lakes, streams and other water bodies.

WSDOT began tracking how much sediment it removes from catch basins and stormwater facilities in July 2015. In FY2017, the agency also began tracking the amount of sediment it removes from ferry terminals.

Contributors include Gregor Myhr, Sheena Pietzold, Robert Price, Cory Simon, Trett Sutter, Garrett Starks, and Dustin Motte

### Notable results

- WSDOT built 78 stormwater treatment and flow control facilities in fiscal year 2018
- WSDOT prevented 3,843 cubic yards of sediment from reaching water bodies in FY2018

### What the municipal stormwater permit does

The municipal stormwater permit, issued by the Washington State Department of Ecology, authorizes WSDOT to discharge stormwater from highways in urban areas into state waters. It also sets requirements for pollution reduction. For more information, see [bit.ly/WSDOTmunicipalstormwaterpermit](http://bit.ly/WSDOTmunicipalstormwaterpermit).

### Sediment

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

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## Notable results

- *WSDOT completed one Connecting Washington project in the fifth quarter of the 2017-2019 biennium*
  - *WSDOT removed 18 projects from its Watch List during the fifth quarter of the 2017-2019 biennium; one remains*
  - *WSDOT advertised 27 of 46 Pre-existing Funds projects during the fifth quarter of the 2017-2019 biennium*
- 

## WSDOT completes one Connecting Washington contract during the quarter

WSDOT completed one highway program Connecting Washington funded contract in the fifth quarter of the 2017-2019 biennium (July through September 2018). The I-5 - Mounts Rd. to Center Dr. - Auxiliary Lane Extension contract is part of the larger I-5/Joint Bast Lewis McChord Corridor Improvement project. The agency has completed 11 highway program CW projects, including studies, totaling \$43 million since the funding package was passed in 2015. These individual projects may represent only a portion of their respective legislative budget line items.

WSDOT did not complete any additional Nickel or Transportation Partnership Account projects or contracts during the quarter. WSDOT has completed 380 total Nickel and TPA construction projects since July 2003, with 87% on time and 91% on budget. The agency currently has six Nickel and TPA projects underway (see p. 47 for additional information).

The cost at completion for the 380 Nickel and TPA construction projects is \$9.54 billion, 1.5% less than the baseline cost of \$9.69 billion. As of September 30, 2018, WSDOT had 19 Nickel and TPA projects yet to be completed, with a total value of approximately \$5.92 billion.

## Nickel, Transportation Partnership Account funding continue to be lower than original projections

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

Fuel tax funding from the 2005 TPA package has been lower than the original March 2005 projection. The original projection for the TPA account was \$4.9 billion over a 16-year period from 2005 through 2021. Current TPA projections through 2021 are estimated to be \$4.0 billion, roughly \$900 million (18.2%) less than the original 2005 projection.

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

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

*Beige Page contributors include Mike Ellis, Penny Haeger, Heather Jones, Thanh Nguyen, Theresa Scott, Aaron Ward, Dan Wilder, Joe Irwin and Kate Wilfong*



## 71

CURRENT LEGISLATIVE EVALUATION &  
ACCOUNTABILITY PROGRAM QUARTERLY UPDATE

Combined Nickel & Transportation Partnership Account Status of projects to date; 2003 through September 30, 2018; Dollars in millions	Number of Projects	Value of Program
Subtotal of completed construction projects <sup>1</sup>	380	\$9,689.8
Non-construction projects that have been completed or otherwise removed from Nickel/TPA lists <sup>2,3</sup>	5	\$74.4
Projects included in the current transportation budget but not yet complete	19	\$5,916.0
Projects that have been deferred indefinitely or deleted and removed from Nickel/TPA lists <sup>3,4</sup>	13	\$499.2
Projects now funded by Connecting Washington and removed from Nickel/TPA lists (see <a href="#">GNB 63, p. 35</a> )	4	\$101.7
Total number of projects <sup>4</sup> in improvement and preservation budget	421	\$16,281.2
Schedule and budget summary Nickel & TPA combined: Results of completed construction projects in the current Legislative Transportation Budget and prior budgets; Dollars in millions	Completed in 2017- 2019 Biennium Budget	Cumulative Program
Total number of projects completed	3	380
Percent completed early or on time	33%	87%
Percent completed under or on budget	67%	91%
Baseline cost at completion	\$2,713.0	\$9,689.8
Current cost at completion	\$2,714.6	\$9,541.2
Percent of total program over or under budget	0.1% over	1.5% under
Advertisement record: Results of projects entering the construction phase or under construction	Combined Nickel & TPA	
Total current number of projects in construction phase as of September 30, 2018	6	
Percent advertised early or on time	100%	
Total number of projects advertised for construction during the 2017-2019 biennium (July 1, 2017, through June 30, 2019)	0	
Percent advertised early or on time	N/A	
Projects to be advertised: Results of projects now being advertised for construction or planned to be advertised	Combined Nickel & TPA	
Total number of projects being advertised for construction (October 1 through March 31, 2019)	0	
Percent on target for advertisement on schedule or early	N/A	
Budget status for the 2017-2019 biennium; Dollars in millions	WSDOT biennial budget	
Budget amount for 2017-2019 biennium	\$1,036.6	
Actual expenditures in 2017-2019 biennium to date (July 1, 2017, through September 30, 2018)	\$448.2	
Total 2003 Transportation Funding Package (Nickel) expenditures	\$74.8	
Total 2005 Transportation Partnership Account expenditures	\$323.4	
Total Pre-existing Funds expenditures	\$50.0	

Data source: WSDOT Capital Program Development and Management.

Notes: Numbers have been rounded. This chart was updated in GNB 63 to reflect reconciled Nickel and TPA project counts, and as a result it does not exactly match Current Legislative Evaluation and Accountability Program charts from editions prior to GNB 63. **1** Cumulative projects completed from July 1, 2003, to September 30, 2018. **2** Non-construction projects include commitments for engineering and right of way work. **3** Projects that have been deferred indefinitely or deleted include projects that have no funding available, projects that have been halted by the Legislature and those for which other entities (e.g., cities and counties) are now serving as the lead agency. **4** The project total has been updated to show "unbundled" projects which may have been previously reported in programmatic construction groupings (such as Roadside Safety Improvements or Bridge Seismic Retrofit). See [Gray Notebook 38, p. 55](#) for more details.

# 71 COMPLETED PROJECTS & CONTRACTS UPDATE

## Contract reporting

The Gray Notebook differentiates completed projects from completed contracts. Contracts are basically smaller segments of larger projects (for example pavement repairs to a section of I-5 that are part of a larger concrete rehabilitation program). Completing contracts may or may not mean these larger projects are finished.

## WSDOT completes Connecting Washington contract in fifth quarter of the biennium

WSDOT completed one Connecting Washington contract during the fifth quarter of the 2017-2019 biennium (July through September 2018).

### I-5 - Mounts Rd. to Center Dr. - Auxiliary Lane Extension

#### PIERCE COUNTY

This contract is part of the larger I-5/Joint Bast Lewis McChord Corridor Improvement project and helps improve traffic flow through the that area in south Pierce County. This section of the corridor experiences routine congestion due to traffic entering I-5 from Mounts Road, commercial trucks using a nearby weigh station, traffic exiting and entering I-5 at the Center Drive interchange and traffic exiting I-5 to the Steilacoom-DuPont Road interchange and JBLM's DuPont Gate.

By extending the northbound I-5 auxiliary lane 1.5 miles to the Mounts Road bridge, commercial trucks approaching the weigh station along with other vehicles entering and exiting I-5 can travel in this lane while the majority of traffic uses the three adjacent thru-lanes.

**Project benefits:** The contract helps reduce congestion by providing a supplemental lane for trucks and traffic entering and exiting northbound I-5 through JBLM, and reduces the potential for crashes by adding a higher center median barrier.

**Budget performance:** This contract was delivered for approximately \$12.0 million, 1.8% above the last approved budget of \$11.7 million and 52% above the initial cost of \$7.9 million.

**Schedule performance:** This contract was delivered in August 2018, about one month later than the last approved schedule and about one year later than the initial schedule.

**Highlights/challenges:** The contract was initially delayed due to unseasonable weather although efforts were made to recover the schedule during construction. A late update to the contract plans also contributed to the delay. The auxiliary lane opened to travelers in November 2017 with temporary striping but the contract was not considered operationally complete until permanent striping was added.

# 71 WATCH LIST QUARTERLY UPDATE

## Two projects remain on Watch List

WSDOT added 19 projects with Watch List issues to its one existing project on the Watch List and removed 18 this quarter (July 2018 through September 2018), leaving two projects on the Watch List as of September 30. Watch List issues include significant changes or uncertainties in scope, schedule or budget. Projects may have more than one issue.

WSDOT maintains the Watch List to deliver on the agency's commitment to "No Surprises" reporting. WSDOT continuously monitors its projects' performance to ensure issues affecting schedule and/or budget are brought to the attention of legislators, executives and the public. The Watch List provides information on issues that have the potential to impact schedules or budgets of projects funded by Pre-existing Funds, Nickel, Transportation Partnership Account and Connecting Washington program revenue packages.

The Watch List helps track projects that have or may have issues and keep them in the spotlight so that they receive the necessary attention to resolve these issues. Projects are added and removed by WSDOT's Capital Program Development & Management Office. Projects are removed from the Watch List when the project has been completed or the issue has been resolved and the change has been approved by WSDOT.

### Watch List information:

A complete list of Watch List projects that have or may have significant changes in scope, schedule or budget can be found using the following link, reported by month: <http://bit.ly/ProjectDeliveryReports>.

Project (County)	Funding	Date added	Date removed	Phase	Watch List issue <sup>1</sup>
<b>Projects remaining on the Watch List</b>					
SR 150/No-See-Um Rd. - Intersection Improvements and Realignment (Chelan)	CW	Mar-2017	--	Construction	This project will construct a roundabout at the intersection of SR 150 and No-See-Um Road between Manson and Chelan on the north shore of Lake Chelan. The current cost estimate increased by \$1.2 million, to \$7.7 million. Previously, there were two budget risks (right of way and construction) that were being managed by WSDOT on this project. The right of way parcel has been acquired and remains on budget. There remains only one outstanding budget risk on this project for contractor claims. These contractor claims are currently in negotiations.
SR 290/Spokane River East Trent Bridge - Replace Bridge (Spokane)	TPA	Sep-2018	--	Design	As part of this project, the existing bridge will be demolished and a new bridge will take its place. In addition, East Trent Avenue will be re-surfaced from Hamilton Street to the new Martin Luther King Way roundabout at Perry Street. The project's estimated cost has increased by \$964,000. The cost increase is mainly due to the addition of new design elements that include a westbound, double left-turn lane at the intersection of SR 290 and Hamilton Street, instead of at the bridge. This change also incorporates a shared use path and bicycle lanes across the SR 290 East Trent River Bridge.
<b>Projects no longer on the Watch List</b>					
SR 518/42nd Ave. South and I-5/I-405 Bridges - Seismic Retrofit (King)	PEF	Jul-2018	Jul-2018	Design	The total cost estimate has increased by \$2.6 million.

Data sources: WSDOT Capital Program Development and Management and WSDOT regions.

Notes: CW = Connecting Washington, TPA = Transportation Partnership Account and PEF = Pre-existing Funds. 1 Projects are removed from the Watch List when they have been reported and/or the issue has been resolved by WSDOT

Project (County)	Funding	Date added	Date removed	Phase	Watch List issue <sup>1</sup>
<b>Projects no longer on the Watch List</b>					
SR 529/Northbound Union Slough Bridge - Scour Repair (Snohomish); SR 529 Southbound Union Slough Bridge - Rehabilitation (Snohomish); SR 529 Northbound Union Slough Bridge - Substructure Repair (Snohomish); SR 529 Northbound Steamboat Slough Bridge - Bridge Scour (Snohomish)	PEF	Jul-2018	Jul-2018	Design	This project was previously reported. Update to the November 2017 report: The advertisement date has been further delayed by one year to fall 2020, the construction season to 2021, and the operationally complete date to fall 2022.
US 101/5th St. to South H St. - ADA Compliance (Grays Harbor)	PEF	Jul-2018	Jul-2018	Design	This project was previously reported. Update to the February 2018 report: The project cost estimate has increased by \$500,000.
SR 510/Meridian Rd. Southeast - Roundabout (Thurston)	PEF	Jul-2018	Jul-2018	Design	This project was previously reported. Update to the March 2018 report: The project advertisement date has been delayed by seven months to fall 2018, and the construction season by one year to 2019.
SR 4/0.3 Miles West of Germany Creek - Slope Stabilization (Cowlitz)	PEF	Jul-2018	Jul-2018	Design	The project cost estimate has increased by \$1.2 million.
SR 6/Salmon Creek - Fish Passage (Pacific)	Nickel	Jul-2018	Jul-2018	Design	The project cost estimate has increased by \$645,000.
North Central Region Sign Update 2017-2019 (Adams, Chelan, Douglas, Garfield, Grant)	PEF	Aug-2018	Aug-2018	Design	The advertisement date has been delayed by one year to fall 2019, which has delayed the construction season by one year to 2020 and the operationally complete date to fall 2020.
SR 102/WA State Corrections Center St. to US 101 - Chip Seal (Mason)	PEF	Aug-2018	Aug-2018	Design	The project's cost estimate has increased by \$535,158.
I-82/Selah Creek Bridge Eastbound - Paving (Yakima)	PEF	Aug-2018	Aug-2018	Design	The project's estimated cost has increased by \$717,000 and the operationally complete date was delayed by one year to September 2018.
I-90/Tokio Interchange - Bridge Repair (Adams)	PEF	Aug-2018	Aug-2018	Design	The bridge was damaged by an over-height load. The cost estimate for the permanent repairs to the bridge is \$700,000. The contract has been awarded; construction will begin approximately October 1, 2018, and the project is anticipated to be operationally complete in fall 2018.
SR 524/Olympic Ave. vicinity to 48th Ave. West vicinity - ADA Compliance (Snohomish)	PEF	Sep-2018	Sep-2018	Design	The project's estimated cost has increased by \$712,000.
SR 109/Grass Creek Bridge to Conner Creek Bridge - Chip Seal (Grays Harbor)	PEF	Sep-2018	Sep-2018	Design	The project's estimated cost has increased by \$647,000.
SR 167/SR 410 to SR 18 - Congestion Management (King, Pierce)	PEF	Sep-2018	Sep-2018	Design	A fish barrier culvert was added to the project, which has increased the project's estimated cost by \$9.2 million and delayed construction by one year, which will delay operational completion by one year to fall 2022.
I-205 and I-5 Pavement Rehabilitation (Clark)	PEF	Sep-2018	Sep-2018	Design	The construction season will be delayed by one year to 2019.
SR 6/Two Tributaries to Chehalis River - Fish Passage	PEF	Sep-2018	Sep-2018	Design	The advertisement has been delayed by seven months to fall 2019, which has delayed the construction season by one year to 2020 and the operationally complete date by one year to fall 2020.



Project (County)	Funding	Date added	Date removed	Phase	Watch List issue <sup>1</sup>
<b>Projects no longer on the Watch List</b>					
I-90/468th Ave. Southeast to West Summit Rd. Eastbound - Rehabilitate Concrete (King); I-90/Franklin Falls Bridge Westbound - Deck Rehabilitation (King); I-90/Denny Creek Viaduct Westbound - Deck Rehabilitation (King); I-90/ Denny Creek Rd. Bridge Westbound - Deck Rehabilitation (King); I-90/2 miles West of West Summit Interchange Eastbound - Culvert Rehabilitation (King); I-90/South Fork Snoqualmie Bridge East of North Bend Eastbound - Deck Rehabilitation (King)	PEF	Sep-2018	Sep-2018	Construction	Due to unforeseen conditions, construction has lengthened by one year and the project's estimated cost has increased by \$8.4 million.
SR 518/42nd Ave. South and I-5/I-405 Bridges - Seismic Retrofit (King)	PEF	Sep-2018	Sep-2018	Design	This project was previously reported. Update to July 2018 report: The project's estimated cost has increased by \$1.2 million prior to advertisement.
I-90/468th Ave. Southeast to West Summit Rd. Westbound - Rehabilitate Concrete (King)	PEF	Sep-2018	Sep-2018	Construction	This project was previously reported. Update to November 2017 report: The project's estimated cost has increased by \$2.7 million.

Data sources: WSDOT Capital Program Development and Management and WSDOT regions.

Notes: CW = Connecting Washington, TPA = Transportation Partnership Account and PEF = Pre-existing Funds. <sup>1</sup> Projects are removed from the Watch List when they have been reported and/or the issue has been resolved by WSDOT.

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ADVERTISEMENT RECORD  
QUARTERLY UPDATE

Connecting Washington Account projects in construction <sup>1</sup> Through September 30, 2018; (County); Dollars in millions	Schedule status	Completion date	Total project cost
<b>US 195/Colfax to Spangle - Add Passing Lanes (Whitman &amp; Spokane)</b>			
US 195/Colfax to Spangle - Add Passing Lanes - Phase 2	On schedule	Nov-2018	\$5.5
<b>I-5/Rebuild Chamber Way Interchange Improvements (Lewis)</b>			
I-5/Chamber Way Bridge - Emergency Repair & Replacement	On schedule	Oct-2018	\$15.6
<b>I-5/Joint Base Lewis-McChord Corridor Improvements (Pierce)</b>			
I-5/Steilacoom-Dupont Rd. to Thorne Ln. - Corridor Improvements	On schedule	Apr-2021	\$332.5
<b>SR 518/Des Moines Interchange Improvements (King)</b>			
SR 518/Des Moines Memorial Dr. - Interchange Improvements	On schedule	Oct-2018	\$13.5
<b>SR 167/SR 509 Puget Sound Gateway (King)</b>			
SR 509/28th/24th Ave. South - City of SeaTac Lead	Delayed	Dec-2018	\$3.6
<b>I-405/Renton to Bellevue - Corridor Widening (King)</b>			
I-405/SR 167 Interchange - Direct Connector (Stage 1)	On schedule	Dec-2018	\$168.5
I-405/SR 167 Interchange Catch Basins - Drainage Repair	On schedule	Nov-2018	\$1.8
<b>I-5/116th St. and 88th St. Interchanges - Improvements (Snohomish)</b>			
I-5/116th St. Northeast Interchange - Tulalip Tribes Lead	Advanced	Dec-2018	\$16.9
<b>Land Mobile Radio Upgrade</b>			
Wireless Communication	On schedule	May-2019	\$12.0
<b>US 12/Wildcat Bridge Replacement (Yakima)</b>			
US 12/Wildcat Creek Bridge - Replace Bridge	Advanced	Dec-2018	\$12.0
<b>SR 520 Seattle Corridor Improvements - West End (King)</b>			
SR 520/Montlake to Lake Washington - Interchange and Bridge Replacement	Delayed	Apr-2023	\$586.8
<b>US 395 North Spokane Corridor (Spokane)</b>			
US 395/North Spokane Corridor - Columbia to Freya	Advanced	Oct-2018	\$20.0
<b>US 101 Lynch Rd. Intersection (Mason)</b>			
US 101/Lynch Road - Safety Improvements	Late	Oct-2019	\$5.0
<b>I-5/Marvin Road/SR 510 Interchange (Thurston)</b>			
I-5/SR 510 Interchange - Reconstruct Interchange	On schedule	Dec-2020	\$72
<b>I-82/ Eastbound/Westbound On- and Off-Ramps (Yakima)</b>			
I-82/South Union Gap Interchange - Construct Ramps	Advanced	Oct-2019	\$34.4

Data source: WSDOT Capital Program Development and Management.

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

Nickel & TPA projects in construction Through September 30, 2018; (County); Dollars in millions	Fund type	Advertised on time	Ad date	Operationally complete date	Award amount
<b>I-5 Concrete Rehabilitation Program (King)</b>	Nickel				
I-5/Northbound South 260th to Duwamish River Bridge - Concrete Rehab	Nickel	N/A	Nov-2016	Oct-2018	\$30.8
I-5/Northbound Boeing Access Rd. to Northeast Ravenna Bridge - Pavement Repair	Nickel	N/A	Dec-2016	Sep-2019	\$38.6
I-5/Southbound South Lucile St. to Spring St. - Pavement Repair	Nickel	N/A	Mar-2018	Nov-2019	\$8.2
Work associated with the I-5/Northbound South Spokane St. Vicinity - Concrete Pavement Replacement, and I-5/Northbound I-90 Vicinity to James St. Vicinity - Concrete Pavement Replacement is included in I-5/Northbound Boeing Access Rd. to Northeast Ravenna Bridge - Pavement Repair.					
<b>SR 99 Alaskan Way Viaduct Replacement (King)</b>	Nickel/ TPA				
SR 99/South King Street Vicinity to Roy Street - Viaduct Replacement	Nickel/ TPA	✓	May-2010	Feb-2019	\$1,089.7
The SR 99 Tunnel contract achieved substantial completion in October 2018. A ribbon cutting and tunnel opening event is scheduled for February 2, 2019.					
<b>US 395/North Spokane Corridor - Design and Right of Way - New Alignment (Spokane)</b>	Nickel/ TPA				
US 395/NSC Freya St. - Structures	TPA	N/A	Dec-2016	Nov-2018	\$7.6
<b>I-5/Tacoma HOV Improvements (Pierce)</b>	Nickel/ TPA				
I-5/SR 16 Interchange - Construct HOV Connections	TPA	✓	Feb-2016	Oct-2019	\$121.6
I-5/Portland Ave to Port of Tacoma Rd. - Northbound HOV	TPA	Late	Sep-2014	Jul-2018	\$152.6
I-5/M Street to Portland Avenue - Add HOV Lanes	Nickel	✓	Mar-2014	Aug-2018	\$99.9
<b>I-90/Snoqualmie Pass East - Hyak to Keechelus Dam - Corridor Improvement (Kittitas)</b>	TPA				
I-90/Snowshed to Keechelus Dam to Stampede Pass - Add Lanes/ Build Wildlife Bridges	TPA	Late	Feb-2015	Oct-2018	\$72.8
I-90/Snowshed to Keechelus Dam Phase 1C - Replace Snowshed and Add Lanes	TPA	Late	Apr-2011	Oct-2018	\$177.1
Advertisement was delayed to alleviate fire and safety issues associated with the original snowshed design, resulting in long-term savings.					
<b>I-90/Concrete Rehabilitation<sup>1</sup> (multiple counties)</b>	Nickel				

Data source: WSDOT Capital Program Development and Management.

Note: **1** The next I-90 concrete rehabilitation contract is scheduled to be advertised in 2019, but no contracts are currently under construction. It is listed here because it is an ongoing Nickel project.

# 71 SCHEDULE & BUDGET SUMMARIES QUARTERLY UPDATE

## Biennial summary of Nickel and Transportation Partnership Account projects

Costs estimated at completion; Dollars in millions

Cumulative to date	Fund type	Advertised on time <sup>1</sup>	Completed on time	Within scope	Baseline cost	Current cost	Completed on budget <sup>2</sup>
2017-2019 biennium summary <i>This information is updated quarterly during the biennium</i>	0 Nickel 3 TPA	1 on time 2 late	1 on time 2 late	1	\$2,713.0	\$2,714.6	1 on budget 2 over budget
2015-2017 biennium summary	0 Nickel 11 TPA	7 on time 4 late	10 on time 1 late	11	\$809.9	\$777.7	10 on budget 1 over budget
2013-2015 biennium summary	6 Nickel 15 TPA	16 on time 5 late	15 on time 6 late	21	\$555.7	\$514.0	18 on budget 3 over budget
2011-2013 biennium summary	5 Nickel 36 TPA	31 on time 10 late	32 on time 9 late	41	\$1,485.5	\$1,459.6	37 on budget 4 over budget
2009-2011 biennium summary	16 Nickel 74 TPA	73 on time 17 late	80 on time 10 late	90	\$1,641.6	\$1,597.0	85 on budget 5 over budget
2007-2009 biennium summary	42 Nickel 69 TPA	91 on time 20 late	96 on time 15 late	111	\$1,685.7	\$1,685.2	102 on budget 9 over budget
2005-2007 biennium summary	52 Nickel 24 TPA	71 on time 5 late	68 on time 8 late	76	\$673.9	\$668.8	67 on budget 9 over budget
2003-2005 biennium summary	27 Nickel	25 on time 2 late	27 on time 0 late	27	\$124.6	\$124.4	25 on budget 2 over budget

Data source: WSDOT Capital Program Development and Management.

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

## WSDOT has no change orders of \$500,000 during the quarter

WSDOT had no change orders of \$500,000 or more during the quarter ending September 30, 2018.

After an extensive review—which can involve subject matter experts, contract specialists and other outside stakeholders—WSDOT sometimes changes its engineers' original plans and specifications in order to complete projects. When this occurs, WSDOT issues a formal modification (or change order) to the contract containing a description of the change and details about how or if the contractor may be compensated for it. Each month, WSDOT posts all change orders estimated to cost \$500,000 or more online at <http://bit.ly/WSDOTchangeorders>.



# 71 PRE-EXISTING FUNDS QUARTERLY UPDATE

## WSDOT advertises 260 Pre-existing Funds projects during the 2017-2019 biennium

WSDOT advertised 27 of 46 planned Pre-existing Funds projects in the fifth quarter of the 2017-2019 biennium (July through September 2018). Of the 27 total projects advertised this quarter, two were advanced from future quarters, six were on time, 12 were emergent and seven were late. Additionally, three projects originally scheduled to be advertised during the quarter were advertised in a previous quarter, nine were delayed within the biennium, four projects were deferred out of the biennium, and three were deleted. See pp. 50-51 for this quarter's PEF advertisements.

To date in the 2017-2019 biennium (July 2017 through June 2019), WSDOT's current cost to complete all 260 PEF projects that have been advertised is \$545.9 million, about \$52 million (10.5%) more than the original value of \$493.9 million. See charts at right for additional information.

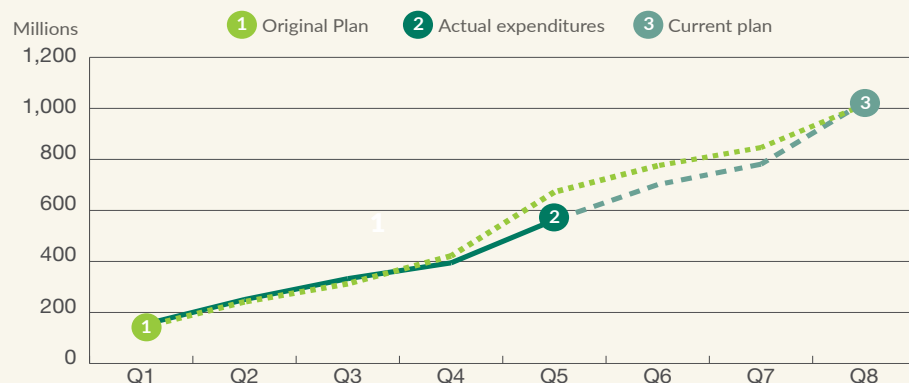
## Combined improvement and preservation cash flows come in slightly lower than original projections

WSDOT originally planned to have \$672.3 million in the cumulative combined improvement and preservation cash flow at the end of the fourth quarter of the 2017-2019 biennium, but had \$562.6 million instead (approximately 16.3% less). WSDOT expects to increase planned expenditures in future quarters which will meet the original biennial expenditure plan.

At the end of a biennium, funds not spent on active projects are reappropriated to the ensuing biennium, creating an expenditure plan that exceeds the current allotment plan. The allotment plan is then adjusted when the first supplemental budget is approved. As an additional strategy, WSDOT may also over-program how many preservation projects are planned for a biennium to help ensure it uses all of its federal obligation authority.

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

Quarter ending September 30, 2018; Planned vs. actual expenditures; Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: Q5 refers to the fifth quarter (July through September 2018) of the 2017-2019 biennium, which runs from July 2017 through June 2019.

## Current cost to complete project advertisements through quarter \$52.0 million over original value

2017-2019 biennium (July 2017 through June 2019); Fifth quarter (ending September 30, 2018); Dollars in millions

	Number of projects	Original value	Current cost to complete
Total PEF advertisements planned for the 2017-2019 biennium	532	\$1,060.8	\$1,167.9
Actual PEF advertisements planned for Sept. 30, 2018	260	\$493.9	\$545.9

Data source: WSDOT Capital Program Development and Management.

## WSDOT advertises 260 PEF projects during the 2017-2019 biennium

Project status	Quarter <sup>1</sup>	Cumulative <sup>2</sup>
Projects advanced <sup>3</sup>	2	11
Projects advertised on time	6	178
Emergent projects advertised	12	27
Projects advertised late	7	44
<b>Total projects advertised</b>	<b>27</b>	<b>260</b>
Projects advertised early <sup>4</sup>	3	10
Projects delayed within the biennium	9	96
Projects deferred out of the biennium	4	16
Projects deleted	3	5

Data source: WSDOT Capital Program Development and Management.

Notes: **1** Quarter refers to July through September 2018. **2** Cumulative refers to July 2017 through June 2019. **3** Advanced includes projects that were moved up from future quarters. **4** Early includes projects from the quarter that were advertised in a previous quarter.

## WSDOT advertises 27 Pre-existing Funds projects during the fifth quarter

July through September 2018

Advanced (2)	
I-705/I-5 to Pacific Ave. - Expansion Joint Replacement Stage 2	I-90/468th Ave. Southeast to West Summit Rd. Westbound - Rehabilitate Concrete
On time (6)	
I-5/Toutle River Southbound Safety Rest Area (SRA) - Decommission Well - Southwest Region	SR 20/Ferry St. - Railroad Crossing Improvements
I-5/Bow Hill Northbound SRA - Decommission Well - Northwest Region	SR 20/West State St. - Railroad Crossing Improvements
SR 20/SR 9 South Leg - Railroad Crossing Improvements	SR 599/Southwest South 133rd St. and South 124th St. Vicinity - Variable Message Sign Replacement
Emergent (12)	
SR 504/Forest Learning Center SRA Multi-directional - Beam Replacement - Southwest Region	SR 4/0.3 Miles W of Germany Creek - Slope Stabilization
US 2/Bridge 002/110 - Scour Repair	SR 500/42nd and 54th Intersections - Safety Improvements
SR 20/3.2 Miles East of Twisp - Yakama Nation Lead	I-90/1.0 Mile West of Snoqualmie Summit Eastbound - Rockfall Mesh Repair
SR 16/Tacoma Narrows Bridge - Toll Lane System Renew and Replacement	I-90/Kittitas to Vantage - 2018 Emergency Guardrail Repair
SR 165/ North of Carbon River Bridge - Rock Scaling	SR 21/Curlew to Canada - Flood Repair
SR 4/0.5 Miles East of County Line Park - Slope Stabilization	I-90/Tokio Interchange - Bridge Repair
Advertised late (7)	
SR 26/Hatton Coulee SRA - Water Line Replacement - Eastern Region	SR 7/Pedestrian Crossing - Safety Improvement
SR 906/Travelers Rest Safety Rest Area - Roof Repair - South Central Region	SR 7/SR 507 to South of South 38th St. - Americans with Disabilities Act (ADA) Compliance
SR 99/S 359th St. Vicinity to South 344th St. Vicinity - Paving (City Lead)	SR 165/Wilkeson Creek Bridge to North of Pearl St. Ct. - Stormwater Retrofit
SR 104/Sunset Ave. - Railroad Crossing Improvements	
Advertised early (3)	
Regionwide Curve Warning Signs (2017-2019)	SR 290/Hamilton St. to Mission Ave. ADA - Pedestrian Ramp Retrofit
Olympic Region - Regionwide Curve Warning Signing - Chevron Alignment 4	

Data source: WSDOT Capital Program Development and Management.

## WSDOT delays nine Pre-existing Funds projects within the 2017-2019 biennium

July through September 2018

Projects delayed within the biennium (9)	
SR 202/Evans Creek and Patterson Creek - Fish Passage	Olympic Region Breakaway Cable Terminal Replacement - Interstate
SR 202/Two Tributaries to Patterson Creek - Fish Passage	Olympic Region Breakaway Cable Terminal Replacement - Non-Interstate
I-405/61st Ave. South to Southeast 8th St. - Seismic Retrofit	I-5/Northbound Interstate Bridge - South Tower Trunnion Replacement
SR 17/I-90 to Broadway Ave. - Safety Improvements	US 2/Division Wye to Farwell Rd. ADA - Pedestrian Ramp Retrofit
17-19 Olympic Region - Region Wide Basic Safety - Signing	
Deferred (4)	
SR 433/Lewis and Clark Bridge - Replace Navigation Lights	US 2/Reardan to Espanola Rd. ADA - Pedestrian Ramp Retrofit
Eastern Region - Regionwide ADA Project - Pedestrian Ramp Upgrades	SR 27/Missouri Flat Creek to Stadium Way ADA - Pedestrian Ramp Retrofit
Deleted (3)	
I-5/Custer Northbound/Southbound SRA - Filter Chamber Installation - Northwest Region	SR 20/Republic to US 395 - ADA Pedestrian Ramp Retrofit
I-405/Northbound SR 520 to Northeast 70th Pl. - Auxiliary Lane	

Data source: WSDOT Capital Program Development and Management.

### PEF definitions

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

## 71

STATEWIDE TRANSPORTATION POLICY GOALS  
& GRAY NOTEBOOK INFORMATION GUIDE

## Statewide transportation policy goals

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

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

GNB subject index and  
edition archives online

Readers can access the GNB subject index online at [bit.ly/GNBsubjectindex](http://bit.ly/GNBsubjectindex). Past GNB editions are available at [bit.ly/GNBarchives](http://bit.ly/GNBarchives).

## 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 the small team at WSDOT's Strategic Assessment Office, and articles feature bylines indicating key contributors from dozens of WSDOT programs. The GNB and GNB Lite are printed in-house by Ronnie Jackson, Trudi Phillips, Talon Randazzo, Larry Shibler, Oma Venable and Deb Webb. OSAPA's Kate Wilfong coordinates distribution. WSDOT's graphics team (Marci Mill, Erica Mulherin and Steve Riddle) provides creative assistance, and WSDOT program staff and communicators take the photographs in each edition.

## Calendar, fiscal and federal fiscal quarters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	GNB 69			GNB 70			GNB 71			GNB 72		
Calendar	Q1 2018			Q2 2018			Q3 2018			Q4 2018		
Fiscal	Q3 FY2018			Q4 FY2018			Q1 FY2019			Q2 FY2019		
Fed. Fiscal	Q2 FFY2018			Q3 FFY2018			Q4 FFY2018			Q1 FFY2019		

## 2017-2019 biennial quarters (used by Legislature)

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

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