



STATE OF WASHINGTON

## **2016 BIENNIAL TRANSPORTATION ATTAINMENT REPORT**

### **WASHINGTON'S TRANSPORTATION SYSTEM: GOALS, OBJECTIVES AND PERFORMANCE MEASURES**

COMPILED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

OCTOBER 2016

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## Message from the Office of Financial Management

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Dear Governor, Legislators and Interested Readers,

I am pleased to comment on the 2016 Biennial Transportation Attainment Report on the state's transportation systems, which has been prepared by the Washington State Department of Transportation (WSDOT). The report is a concise summary of the goals and measures established in RCW 47.04.280 to monitor the progress in providing the citizens of our state with the best possible value for their transportation system dollars.

While this is the fourth edition of the Biennial Transportation Attainment Report, it is the first edition prepared by the WSDOT Office of Strategic Assessment and Performance Analysis, a widely recognized center of excellence in public sector performance measurement. Previous reports were prepared by the Office of Financial Management (OFM). OFM is committed to partnering with WSDOT and other transportation agencies and organizations to refine performance measures and related objectives to ensure that the state continues to attain maximum value for its transportation investments.

Key enhancements made by WSDOT in this edition include:

- The alignment of measures and data sources with other mandated state agency reports (Gray Notebook, Corridor Capacity Report, Results Washington, etc.).
- The use of standard reporting periods (fiscal years 2011 through 2015) wherever possible.
- A comprehensive update to the Mobility goal section using enhanced data sources (for example, the National Transit Database for transit ridership).
- Links to data sources and other reports for readers to find more in-depth information.

The performance measure data in this report tells the story of a transportation system that is supporting a recovering economy while facing significant challenges itself. The data shows that continued investment in our transportation infrastructure has improved the state's performance in many areas. It also shows where additional analysis and potential investment may be needed.

Where improvements are being made:

- Ferry, Amtrak and urban area transit ridership is increasing.
- Nickel and Transportation Partnership Act projects continue to consistently come in on time and on budget.
- WSDOT has opened almost 1,000 miles of potential habitat for fish since 1991.
- Truck, rail, air and waterborne freight tonnage increased in 2014.
- More structurally deficient bridges have been corrected in the current biennium than in the previous biennium.

Where challenges remain:

- The number and rate of traffic fatalities and serious injuries have increased dramatically across the state — indeed, across the country — as we recover from the recession and as vehicle miles travelled have increased.
- Pedestrian and biking fatalities have increased substantially.
- Seat belt usage rates are dropping, and distracted driving is becoming more prevalent as a contributing cause of accidents.
- Congestion is increasing and the demands on our transportation system are growing as the population increases and the economy improves. Commuter delay continues to grow in the Seattle metropolitan area.
- Transportation-related carbon dioxide emissions, while declining, remain the top contributor to the greenhouse gases influencing climate change.
- The state still needs to correct 450 roadway barriers that block critical migratory fish reproduction habitat.
- The state still has a high number of structurally deficient bridges in need of repair.
- Road pavement condition, while rated as being good or fair, is declining.

In preparation for the 2018 attainment report, OFM, in consultation with the State Transportation Commission, will work with transportation agencies to refine current performance measures and consider new ones to improve our ability to evaluate our transportation system.

In closing, the state reiterates its focus on maintaining the safety of our citizens on Washington roadways, managing rising congestion in our more densely populated areas, improving the reliability of our ferry fleet, reducing the man-made causes of climate change, improving fish passage, and keeping up with preservation and maintenance needs for our bridges and roads.

We look forward to working with you, the public and our transportation partners to attain Washington's transportation goals.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. Schumacher', with a long horizontal flourish extending to the right.

David Schumacher  
Director  
Office of Financial Management

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# Executive Summary

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This 2016 Biennial Transportation Attainment Report has been compiled by the Washington State Department of Transportation at the request of the Washington State Joint Legislative Transportation Committee. Where possible, performance measures are presented that encompass five or more years of data.

Where things are improving since the 2014 Biennial Transportation Attainment Report:

- Reduced passenger injuries on Washington state ferries.
- Increased Washington state's amount of pavement in fair or better condition on the National Highway System.
- Reduced the amount of structurally deficient bridges by deck area.
- Increased Amtrak and Ferry ridership.
- Increased numbers of ferry passengers satisfied with the system.
- Improved access to 70 miles of potential habitat for fish.
- Transported more freight tonnage by water.
- Increased transit use resulting in more vehicle miles avoided.

Where challenges remain:

- Rising traffic, pedestrian and bicyclist fatalities.
- Slightly increasing time that ferry vessels are out of service.
- Increased demand on Washington state's transportation system as a result of population growth.
- Reduced percent of Nickel and TPA projects delivered on time.
- Increased annual weekday delay on the central Puget Sound region's major urban highways.

The Transportation Attainment Report was compiled using data and information from these contributors:

- Washington State Department of Transportation
- Washington State Office of Financial Management
- Washington Traffic Safety Commission
- Washington State Department of Licensing
- Washington State Department of Ecology
- Washington State Transportation Center
- Washington State Transportation Commission

# Purpose of the Transportation Attainment Report

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**Washington state's transportation attainment report provides a high-level assessment of the state's progress in achieving its transportation goals, using key performance measures and data.**

## Statewide transportation goals

In 2007, the Washington State Legislature amended RCW 47.04.280, establishing five statewide transportation policy goals used to guide the planning, operation, performance of and investment in the state's transportation system. A sixth goal was added by the Legislature in 2010. They are not listed in priority order.

- **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 state, including congestion relief and improved freight mobility (underlined text was added by the Legislature in 2014);
- **Environment:** To enhance Washington state's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment;
- **Stewardship:** To continuously improve the quality, effectiveness and efficiency of the transportation system; and
- **Economic vitality:** To promote and develop transportation systems that stimulate, support and enhance the movement of people and goods to ensure a prosperous economy. (This goal was added by the Legislature in 2010.)

## Biennial transportation progress reports

The purpose of these reports is to assess progress on the statewide transportation goals and the performance of the transportation system. Rather than report on agency-specific performance, the focus is on overall system performance. Most of the objectives and measures were developed with input from transportation agencies, stakeholders and the Legislature in 2008, and are updated herein. This report provides a high-level indicator for each measure to allow for a quick assessment of progress. Many of the measures and supporting data are being used to make investment decisions, develop strategies and programs, promote accountability and transparency, and provide for stronger internal management through organizational performance assessments and improvement. Measures may evolve as progress is made in assessing the performance of the multifaceted components of Washington state's transportation system.

## A note about reporting periods

This report strives to report the latest available data. Unless otherwise stated, data is reported for the calendar year (CY) which is January through December. In some cases, the state's fiscal year (FY), which runs July through June, is the basis for reporting. In others, the federal fiscal year (FFY) is used, which runs October through September.

# Washington State Transportation System - Just the Facts

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Pressure on the transportation system comes from a number of sources including, but not limited to, population increases, job creation, new housing units constructed, and the increased numbers of vehicles and drivers. The following data helps put into context what some of these pressures mean.

**Washington state's population reached just more than 7 million in 2015, experiencing a 4.3% growth from 2011. Population has increased by 45.1% since 1990.**

Population forecasts from the Office of Financial Management expect another 440,000 Washington state residents by the year 2020. One interesting characteristic of Washington state's forecasted population make up is the increase in people 65 years of age and older. By 2030, the elderly population is forecasted to represent 21.1% of the state's total population, up from 14.6% of the population in 2015.

**Washington state has added an estimated 105,000 housing units from 2011 through 2015.**

In 2015 there were 3,009,221 housing units in Washington state up 3.6% from 2,904,264 in 2011.

**Non-farm employment in Washington state has grown from 2.8 million workers in June 2011 to 3.1 million workers in June 2015, representing a 9.5% increase.**

Employment has recovered from lows during the recession in 2008 and 2009. There has been steady growth in the number of people working since 2011. The unemployment rate in June 2011 was 9.2%; in June 2015 it was listed at 5.3%. Employment has significant impacts on commute rates and road congestion at peak travel times, transit usage, ferry ridership, port activity, train and airport boardings, and vehicle miles traveled on state roads. Mean travel time to work was 26.4 minutes in 2015, up 4.3% from 25.5 minutes in 2011.

**Vehicle ownership has grown faster than the state population.**

In 1990, there were 4.9 million vehicles registered in Washington state compared to 7.3 million vehicles registered in December 2015. This represents an increase of more than 2.4 million vehicles, or 49%. There are more registered vehicles than there are licensed drivers; in December 2015, there were approximately 5.6 million issued driver licenses in Washington state.

**The number of licensed drivers in Washington state grew by 7.8% between December 2011 and December 2015.**

Between December 2011 and December 2015, the number of licensed drivers in Washington state grew at an average rate of 100,000 additional drivers each year, representing a 7.4% total increase.



# 2015 Key Transportation Facts

## On the ground

5.6 million licensed drivers	1.2 million lane miles of roads treated for snow and ice control
4.9 million registered passenger vehicles (2016)	8,158 bridges statewide
7.3 million total registered vehicles	309 miles of HOV freeway lanes complete
59.7 billion vehicle miles traveled	346 park-and-ride lots with 57,300 spaces
3.5 billion gallons of fuel consumed (FY 2016)	31 transit systems
20.6 miles per gallon fuel economy on average (2014)	214.9 million transit passenger trips
11,012 miles traveled per licensed driver on average	2,920 vanpools in operation per month on average
18,699 state highway lane miles	9.1 million vanpool passenger trips
4,039 interstate freeway lane miles	640,000 state-supported Amtrak Cascades passenger trips
78,586 county road lane miles (2014)	3,069 miles of freight rail line
37,752 city road lane miles (2014)	121.8 million tons of rail freight (2014)
44.1% of daily traffic on county and city roads	284.8 million tons of freight carried by truck
55.9% of daily traffic on state highways	\$137.5 billion of cargo passing through ports

## In the air

16 state-managed airports (9 owned by state)	1.5 million tons of air cargo (2014)
134 public use airports	20.1 million passenger boardings at SeaTac Airport

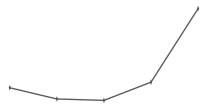


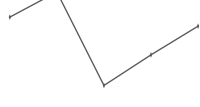

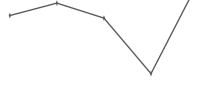

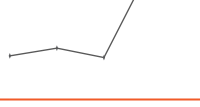
## On the water

24.1 million passengers and 10.6 million vehicles carried on state ferries	75 port districts
22 state ferries, largest system in the nation	3.5 million 20-foot container equivalent units through Seattle and Tacoma ports
20 state ferry terminals	119.2 million tons of waterborne freight tonnage (2014)
10 state ferry routes	450 daily state ferry sailings

Sources: Washington State Office of Financial Management; Washington State Department of Licensing; Washington State Department of Transportation; Washington State Department of Ecology; Results Washington; U.S. Department of Transportation; U.S. Department of Commerce. Data is for 2015 unless otherwise noted.



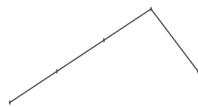
# Statewide Transportation Goals, Objectives and Performance Measures

## Summary of progress and five year trend through 2015

Goal 1- SAFETY					
To provide for and improve the safety and security of transportation customers and the transportation system.					
Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 1.1 Traffic fatalities</b> Number and rate of traffic fatalities per 100 million Vehicle Miles Traveled (VMT)	Reduce roadway fatalities	Traffic fatalities numbered 567 (preliminary) in 2015, a 24.9% increase from 454 fatalities in 2011.	—	↓	
	Reduce the rate of traffic fatalities per 100 million VMT	The rate of traffic fatalities per 100 million VMT was 0.95 (preliminary) in 2015, an 18.8% increase from the 0.80 rate in 2011.	—	↓	
<b>Measure 1.2 Collision reduction</b> Number of collisions and percentage resulting in serious or fatal injuries	Reduce number of collisions	Traffic collisions numbered 117,137 (preliminary) in 2015, an 18.4% increase since 2011.	—	↓	
	Reduce severity of collisions	Serious injuries resulting from traffic collisions numbered 2,094 (preliminary) in 2015, a 1.3% decrease since 2011.	✓	↓	
<b>Measure 1.3 Pedestrian &amp; bicyclist fatalities</b> Reduce pedestrian and bicyclist fatalities	Reduce the rate of pedestrian fatalities per 100,000 population	The rate of pedestrian fatalities was 1.22 in 2015 (preliminary), an 8.9% increase from 1.12 in 2014 and a net increase of 22% from the 1.00 rate in 2011.	—	↓	
	Reduce the rate of bicyclist fatalities per 100,000 population	The rate of bicyclist fatalities was 0.20 in 2015 (preliminary), a 100% increase from 0.10 in 2014 and a net increase of 25% from the 0.16 rate in 2011.	—	↓	
<b>Measure 1.4 Ferry passenger injuries</b> Number of passenger injuries per one million passengers	Reduce passenger injuries	The ferries passenger injury rate was 0.42 in fiscal year (FY) 2016, a decrease from a rate of 0.93 in FY2015.	✓	↓	
<b>Measure 1.5 Facial recognition license suspensions &amp; record cancellations</b> Number of identity theft complaints	Reduce fraudulent driver's licenses and records	Identity theft complaints numbered 9,043 in 2015, an increase of 86.3% since 2011.	—	↓	
<p>Data source: WSDOT Office of Strategic Assessment and Performance Analysis.</p> <p>Notes: ✓ = Performance is moving in a favorable direction based on the five-year trend. — = Performance is not moving in a favorable direction based on the five-year trend.</p>					



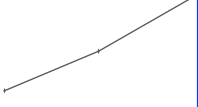

## Goal 2- PRESERVATION

To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.

Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 2.1 Pavement</b> Percent of National Highway System pavement in Washington state in fair or better condition	Extend the useful life of pavement	NHS pavement in fair or better condition increased from 93% in 2010 to 94% in 2011, remaining steady through 2014 (latest available data).	✓	↑	
<b>Measure 2.2 Bridges</b> Percent of state bridges rated structurally deficient (SD)	Keep bridges safe and open to traffic	7.6% of bridges by deck area statewide were rated structurally deficient in 2015, down 6.2% from 2014 and down 17.4% since 2011.	✓	↓	
<b>Measure 2.3 Ferry terminals</b> Percent of state ferry terminal systems in fair or better condition	Extend the useful life ferry terminals	87% of ferry terminal systems were in fair or better condition in 2015, down two percentage points from 89% in 2014.	✓	↑	

## Goal 3 - MOBILITY (ADDRESSING CONGESTION)

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 3.1 Annual hours of delay per traveler</b> Annual hours of delay per traveler on major corridors statewide and central Puget Sound areas	Reduce congestion on urban highways and arterials statewide	Delay in the central Puget Sound region reached 7.7 million hours in 2015, increasing 91.2% from 4.0 million hours in 2011.	—	↓	
<b>Measure 3.2 Avoided annual Vehicle Miles Traveled (VMT)</b> Vehicle miles avoided due to public transportation use	Reduce congestion by making systems more efficient	Nearly 860 million vehicle miles were avoided in 2014 (latest available data) due to public transit, up from 761 million vehicle miles in 2010.	✓	↑	
<b>Measure 3.3 Tolling operations</b> Annual toll trips in Washington state	Improve traffic flow through tolling operations	Tolling transactions totaled 37.6 million in FY2015, increasing 7.4% from 35 million transactions in FY2013.	✓	↑	
<b>Measure 3.4 High occupancy vehicle (HOV) lanes</b> Usage of Seattle-area network of HOV lanes in Person Miles Traveled	Improve performance of HOV lanes	Average weekday Person Miles Traveled on the central Puget Sound region HOV network increased 12.7% from 2011 through 2015.	✓	↑	


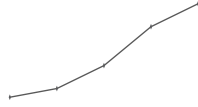

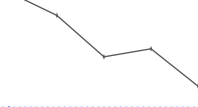
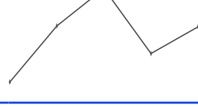
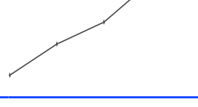
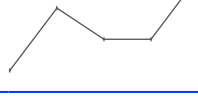
Data source: WSDOT Office of Strategic Assessment and Performance Analysis.

Notes: ✓ = Performance is moving in a favorable direction based on the five-year trend. — = Performance is not moving in a favorable direction based on the five-year trend.

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### Goal 3 - MOBILITY (ADDRESSING CONGESTION) *continued from page 9*

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 3.5 Drive-alone rate</b> Percentage of commute trips taken while driving alone	Reduce percentage of commuters who drive alone to work	The drive-alone rate had a net decrease of 0.9 percentage points from 73.3% in 2011 to 72.4% in 2015.	✓	↓	
<b>Measure 3.6 Ferries</b> Ridership and percent of trips on time for Washington State Ferries	Increase ridership	Ferries ridership reached 24.1 million in FY2016, increasing 8.4% from FY2012.	✓	↑	
	Increase percentage of on-time trips	Ferries annual on-time performance was 93.9% in FY2016, a decrease from 96.0% in FY2012.	—	↑	
<b>Measure 3.7 Passenger rail</b> Ridership and percent of trips on time for Washington state sponsored Amtrak Cascades train service	Increase ridership	Amtrak Cascades ridership decreased 9.4% from 2011 through 2015.	—	↑	
	Increase percentage of on-time trips	Amtrak Cascades on-time trips are increasing, from a yearly average of 66.8% in 2011 to 73.0% in 2015.	✓	↑	
<b>Measure 3.8 Transit</b> Transit ridership in Washington state.	Increase ridership across the state	Statewide transit ridership increased by 5.8% from 205.4 million riders in 2011 to 217.3 million riders in 2015 (not including some rural ridership).	✓	↑	
<b>Measure 3.9 Walking or biking</b> Percentage of commute trips taken walking or biking	Promote walking and biking to improve public health	Walking as a commute mode increased from 3.4% of all commuters in 2011 to 3.7% of all commuters in 2015, showing a net increase of 8.8%.	✓	↑	
<p>Data source: WSDOT Office of Strategic Assessment and Performance Analysis.</p> <p>Notes: ✓ = Performance is moving in a favorable direction based on the five-year trend. — = Performance is not moving in a favorable direction based on the five-year trend.</p>					

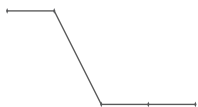


## Goal 4 - ENVIRONMENT

To enhance Washington state's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.

Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 4.1 Fish passage</b> Number of culverts fixed and miles of stream habitat with improved access	Increase number of culverts fixed	Ten culverts were corrected in 2015; 63 total culverts were corrected from 2011 through 2015.	✓	↑	
	Increase number of potential miles of habitat with improved access	Access to approximately 960 miles of potential fish habitat has been improved by WSDOT to date (2015), increasing from about 750 in 2011.	✓	↑	
<b>Measure 4.2 Stormwater runoff quality</b> Percent of stormwater quality measurements requiring Ecology notification	Improve water quality by managing stormwater runoff	0.6% of weekly site measurements in 2015 required Ecology notification, a reduction from 1.3% in 2014.	✓	↓	
<b>Measure 4.3 Greenhouse gases</b> Tons of greenhouse gases produced statewide	Reduce greenhouse gas emissions caused by transportation	Transportation greenhouse gas emissions have reduced by 6% from 2008 through 2012 (latest available data).	✓	↓	

## Goal 5- STEWARDSHIP

To continuously improve the quality, effectiveness and efficiency of the transportation system.

Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 5.1 Capital project delivery</b> Percent of 2003 (Nickel) and 2005 (TPA) revenue packages' capital projects completed on time and on budget (based on last legislatively approved list)	Deliver 90% of Nickel and TPA projects on time	87% of Nickel and TPA projects are considered completed on time at the end of FY2016, down from 88% at the end of FY2012.	—	↑	
	Deliver 90% of Nickel and TPA projects on budget	91% of Nickel and TPA projects are considered completed on budget at the end of FY2016, the same as at the end of FY2012.	✓	↑	
<b>Measure 5.2 Ferry terminal capital projects</b> Ferry terminal capital projects completed on time	Deliver 90% of ferry terminal capital projects on time	100% of ferry terminal capital projects were completed on time in FY2016, up from 50% in FY2015.	✓	↑	



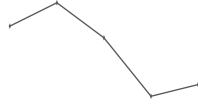


Data source: WSDOT Office of Strategic Assessment and Performance Analysis.

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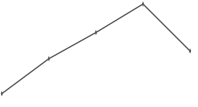

## Goal 5- STEWARDSHIP *continued from page 10*

To continuously improve the quality, effectiveness and efficiency of the transportation system.

Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 5.3 Ferry vessels' weeks out of service</b> Time that ferry vessels are out of service	Limit out-of-service time for ferry vessels	Each vessel averaged 9.5 weeks out-of-service in FY2016, up slightly from 9.4 weeks in FY2015.	—	↓	
<b>Measure 5.4 Rail capital project delivery</b> Nickel and TPA rail projects completed on time and on budget	Deliver 90% of rail capital projects both on time and on budget	100% of Nickel and TPA rail projects since 2006 have been completed both on time and on budget.	✓	↑	
<b>Measure 5.5 Grade transportation system</b> Survey local, regional and statewide customers	Measure public perception about condition and needs of the statewide transportation system	65% of survey respondents rated statewide transportation systems average or better in 2015, compared to 70% in 2011.	—	↑	
	Measure public perception about condition and needs of their local transportation system	57% of survey respondents rated local transportation systems average or better in 2015, compared to 70% in 2011.	—	↑	
<b>Measure 5.6 Passenger satisfaction – ferry system</b> Survey ferry system passengers	Measure passenger satisfaction with the ferry system	73% of survey respondents are “satisfied” or “very satisfied” with the ferry system in 2016, up from 67% in 2012 (2013 data is unavailable and not represented on the graph).	✓	↑	

## Goal 6- ECONOMIC VITALITY

To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.

Measure	Objective	Status	Progress	Desired trend	Five-year trend
<b>Measure 6.1 Jobs created</b> Number of jobs created or sustained by transportation projects	Create and sustain jobs through investments in transportation (2005-2007 biennium through 2013-2015 biennium shown)	Number of jobs increased from 2005 through 2013, then declined through 2015 as construction from funding packages began to scale back.	✓	↑	
<b>Measure 6.2 Freight</b> Amount of freight cargo moving in, out and within Washington state by truck, air, water or rail	Enhance transportation systems to facilitate movement of freight	Freight tonnage transported by water totaled 119.3 million tons in 2014, an increase from 104.1 million tons in 2010.	✓	↑	

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

Notes: ✓ = Performance is moving in a favorable direction based on the five-year trend. — = Performance is not moving in a favorable direction based on the five-year trend.

## SAFETY

To provide for and improve the safety and security of transportation customers and the transportation system.

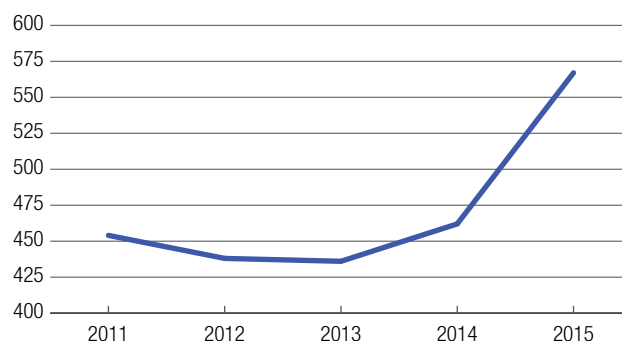
### Objective: Reduce roadway fatalities

*Traffic-related fatalities in Washington state have increased in 2014 and 2015.*

#### Trend analysis

Between 2013 and 2015, the number of traffic fatalities increased 24.9% from 454 to 567; however the number of fatalities declined between 2011 and 2013. Between 2011 and 2015, the rate of fatalities per 100 million Vehicle Miles Traveled (VMT) increased from 0.80 to 0.95, up 18.8%. The fatality rate in Washington state continues to trend below the national average in 2015 of 1.12 per 100 million VMT. However, the fatality rate increase in Washington state has moved closer to that average.

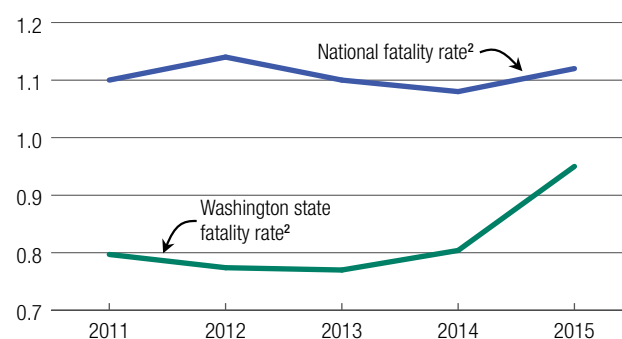
**Washington state traffic fatalities increase in 2014 and 2015**  
2011 through 2015<sup>1</sup>



Data source: Washington State Fatality Analysis Reporting System.

Note: 1 Data for 2015 is considered preliminary until January 1, 2017.

**The rate of traffic fatalities increases in Washington state**  
2011 through 2015<sup>1</sup>; Fatalities per 100 million Vehicle Miles Traveled

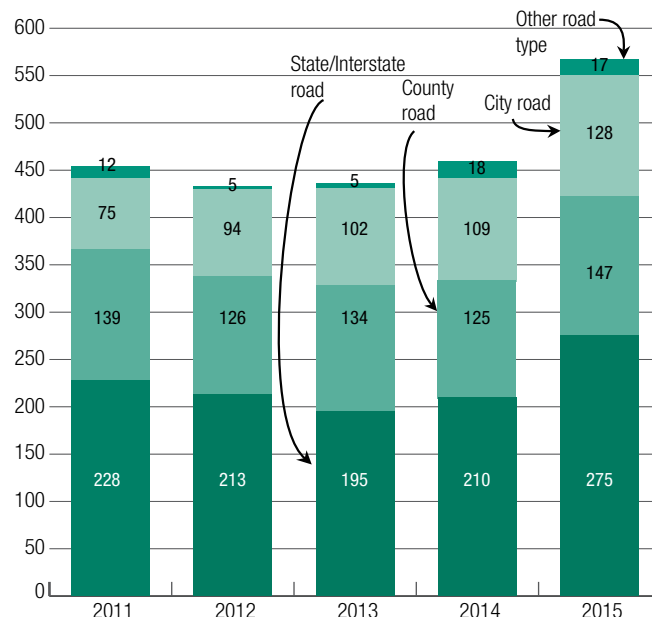


Data sources: National Highway Traffic Safety Administration and Washington State Fatality Analysis Reporting System.

Notes: 1 Data for 2015 is considered preliminary until January 1, 2017. 2 Fatality rate is number of fatalities per 100 million Vehicle Miles Traveled.

In 2015, 48.5% of fatalities occurred on state highways, 25.9% on county roads and 22.6% on city streets. While state highway fatalities increased in 2014 and 2015, fatalities in city streets steadily increased between 2011 and 2015.

**More Washington state motor vehicle fatalities occurred on state and Interstate roads than other road types**  
2011 through 2015<sup>1</sup>



Data source: Washington Traffic Safety Commission.

Note: 1 Data for 2015 is considered preliminary until January 1, 2017.

Washington state's "Target Zero" goal is to reduce traffic fatalities and serious injuries to zero by 2030. Target Zero contains three levels of priority factors based on the percentage of traffic fatalities associated with each factor. Priority Level One contains the factors involved in 30% or more of traffic fatalities or serious injuries and include impairment, speeding, lane departures, young drivers and intersections. Priority Level Two contains factors involved in at least 10% of traffic fatalities or serious injuries, including distracted driving, unrestrained occupants, unlicensed drivers, motorcyclists, pedestrians and older drivers. Priority Level Three factors are associated with less than 10% of fatalities or serious injuries and include drowsy driving, heavy trucks and bicyclists. The table on page 15 shows the Target Zero factors and the number of cumulative fatalities and serious injuries associated with each factor. More than one factor is commonly involved in fatalities and serious injuries; therefore, a single fatality or serious injury may be represented in multiple factors within the table.



## Nearly half of traffic fatalities in Washington state involved impairment from 2013 through 2015

2013 through 2015; Cumulative traffic fatalities and serious injuries; A fatality or serious injury may be represented in multiple factors

Factors	Fatalities		Serious Injuries	
	Number	Percent of Total	Number	Percent of Total
	1,465	100%	6,026	100%
<b>High Risk Behavior</b>				
1 <sup>1</sup> Impairment Involved	806	55.0%	1,229	20.4%
1 Speeding Involved	502	34.3%	1,559	25.9%
2 <sup>2</sup> Distraction Involved	441	30.1%	1,818	30.2%
2 Unrestrained Occupants	310	21.2%	625	10.4%
2 Unlicensed Driver Involved	276	18.8%	N/A <sup>4</sup>	N/A <sup>4</sup>
3 <sup>3</sup> Drowsy Driver Involved	45	3.1%	209	3.5%
<b>Crash Type</b>				
1 Lane Departure	789	53.9%	2,356	39.1%
1 Intersection Related	320	21.8%	2,083	34.6%
<b>Road Users</b>				
1 Young Drivers 16-25 Involved	473	32.3%	2,058	34.2%
2 Motorcyclists	217	14.8%	1,111	18.4%
2 Pedestrians	214	14.6%	857	14.2%
2 Older Drivers 70+ Involved	203	13.9%	549	9.1%
3 Heavy Truck Involved	121	8.3%	286	4.7%
3 Bicyclists	32	2.2%	291	4.8%
<b>Other Monitored Emphasis Areas</b>				
Wildlife Involved	6	0.4%	50	0.8%
Work Zone	9	0.6%	96	1.6%
Vehicle-Train	3	0.2%	2	0.0%
School Bus-Involved	2	0.1%	18	0.3%

Data source: Washington Traffic Safety Commission, Target Zero and WSDOT Transportation Data, GIS & Modeling Office.

Notes: More than one factor is commonly involved in fatalities and serious injuries; therefore, each fatality and serious injury tallied in the totals at the top may be represented in multiple factors shown in the table. Target Zero contains three level of priority factors based on the percentage of traffic fatalities associated with each factor. 1 Priority Level One emphasis areas include factors occurring in at least 30% of total fatalities or serious injuries. 2 Priority Level Two emphasis areas are factors occurring in at least 10% of total fatalities and serious injuries. 3 Priority Level Three emphasis areas are factors occurring in less than 10% of total fatalities or serious injuries. 4 Serious injury data for unlicensed drivers are unavailable.

**Lead agency:** Washington Traffic Safety Commission

**For more information, see:**

- *Gray Notebook* 62, Highway Systems Safety Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=10>
- NHTSA Traffic Safety Facts, July 2016: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812269>
- Quarterly Target Zero Data: <http://wtsc.wa.gov/research-data/quarterly-target-zero-data/>
- Target Zero website: <http://targetzero.com/>

## SAFETY

To provide for and improve the safety and security of transportation customers and the transportation system.

**Objective: Reduce the number and severity of roadway collisions**

*Collisions and serious injuries increase on public roads statewide. Seat belt use declines in Washington state.*

**Trend analysis**

The number of traffic related collisions increased in 2014 and 2015 after a relatively flat period between 2011 and 2013. Serious injuries declined overall between 2011 and 2015, but likewise mirrored the 2014 and 2015 increases in collisions.

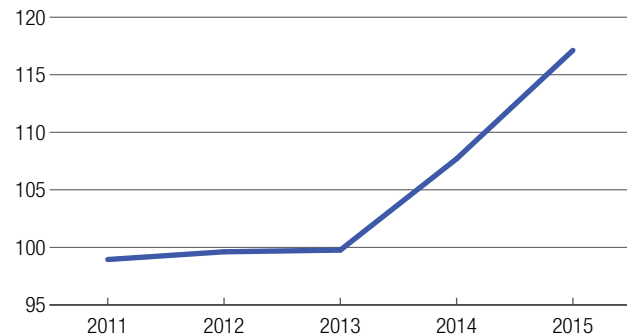
The state's seat belt use rate fell from 97.5% in 2011 to 94.6% in 2015, but continued to remain well above the national average of 88.5%. In 2010, 97.6% of Washington state drivers wore their seat belts, the highest rate in state history and the highest in the United States. Since then, observed seat belt usage has dropped 3 percentage points and Washington state is now fifth among other states.

**Lead agency:** Washington Traffic Safety Commission

**For more information, see:**

- *Gray Notebook 62*, Highway Systems Safety Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=10>
- WSDOT Crash Data Portal: <https://remoteapps.wsdot.wa.gov/highwaysafety/collision/data/portal/public/>
- Quarterly Target Zero Data: <http://wtsc.wa.gov/research-data/quarterly-target-zero-data/>
- NHTSA Traffic Safety Facts, May 2016: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812274>

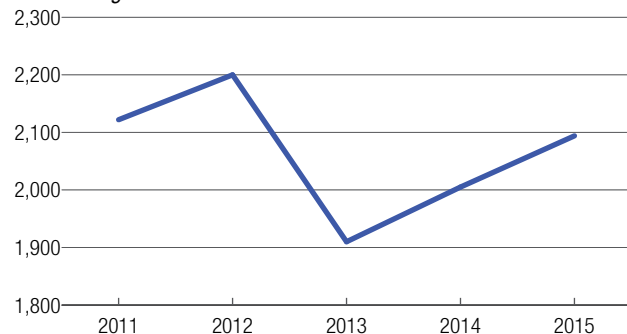
**Traffic related collisions increase in Washington state 2011 through 2015<sup>1</sup>; Collisions in thousands**



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

Note: 1 Data for 2015 is considered preliminary until January 1, 2017.

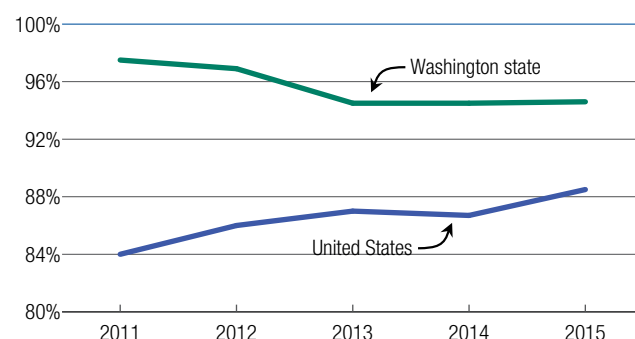
**Traffic related serious injuries increase in Washington state between 2013 and 2015; still lower than in 2012 2011 through 2015<sup>1</sup>**



Data source: Washington Traffic Safety Commission.

Note: 1 Data for 2015 is considered preliminary until January 1, 2017.

**Seat belt use in Washington state remains higher than the national average 2011 through 2015**



Data source: National Highway Traffic Safety Administration.

## SAFETY

To provide for and improve the safety and security of transportation customers and the transportation system.

### Objective: Reduce pedestrian and bicyclist fatalities

*Preliminary data shows a total of 100 pedestrian and bicyclist fatalities in Washington state in 2015. There has been a general upward change in the number of pedestrian and bicyclist fatalities from 2011 through 2015 with an annual average of 82.4 fatalities in the five-year period.*

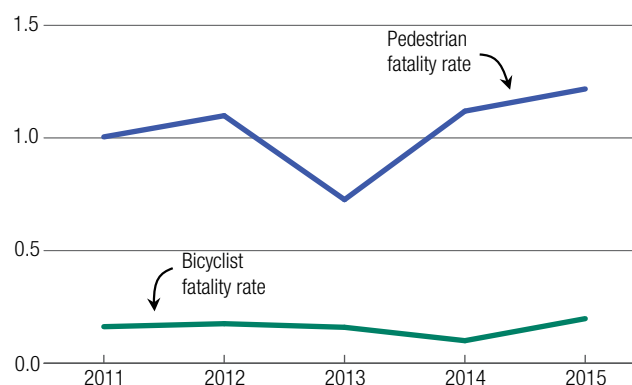
#### Trend analysis

There were 86 pedestrian fatalities and 14 bicyclist fatalities in Washington state in 2015 (data from the Washington state Fatality Accident Reporting System (FARS) is considered preliminary until January 1, 2017). This is eight (10.3%) more pedestrian fatalities and seven (100%) more bicyclist fatalities than in 2014. According to U.S. DOT's *Traffic Safety Facts* report published July 2016, traffic fatalities (including bicyclists and pedestrians) rose 7.7% nationally in 2015.

Pedestrian and bicyclist fatalities are monitored as part of the Target Zero program. Meeting the Target Zero goal for pedestrians and bicyclists means focusing on three aspects of exposure:

#### Washington state's pedestrian and bicyclist fatality rates increase in 2015

2011 through 2015<sup>1</sup>; Fatality rates per 100,000 population



Data source: Washington State Fatality Analysis Reporting System.

Note: <sup>1</sup> Data for 2015 is considered preliminary until January 1, 2017.

- **Volume exposure:** Where larger numbers of pedestrians and vehicle traffic exists there is a higher likelihood of conflicts between modes. Where there are more conflicts there is higher potential for crashes. Most pedestrian fatalities (69%) and serious injuries (67%) happen within cities where the prevalence of pedestrians tends to be higher. The data also shows the following pedestrian fatality percentage splits by posted speed – 14% at 25mph or less, 42% at 30-35mph, 17% at 40-45mph, and 23% at 50 mph and above. These percentages reflect a mix of the volume exposure and the severity exposure as defined below.
- **Severity exposure:** Crashes between pedestrians and vehicles expose pedestrians to potential injury because the vehicles are much larger and heavier than the pedestrian. Additionally, the potential for injury increases as speed increases.
- **Exposure to event:** numerous factors may increase the exposure to events. As an example, not being able to see a pedestrian (lower light conditions, non-reflective clothing); the time that a pedestrian may be exposed to a conflict (time to cross a street); time to react to a vehicle (higher speeds are more difficult for the pedestrian to judge the speed of the vehicle); crossing at unexpected locations (more difficult for the driver to perceive, react and determine what action to take); or driver and pedestrian behaviors that reduce judgment capabilities (drugs and alcohol). More than half (60%) of pedestrian fatalities and 62% serious injuries occurred while the pedestrian was crossing the road. Pedestrian fatalities occur more often (69% of the time) when it was dark, at dawn or at dusk. While less prominent, the two behavioral factors most often cited when there were pedestrian fatalities are driver distraction (32%) and pedestrian impairment (43%). Other behavioral factors such as failure to yield were represented in 14% of fatalities and 19% of serious injuries where the driver failed to yield and in 22% of fatalities and 20% of serious injuries where the pedestrian failed to yield.

**Lead agency:** Washington Traffic Safety Commission

**For more information, see:**

- *Gray Notebook* 61, Pedestrian and Bicyclist Safety Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Mar16.pdf#page=10>
- Washington Traffic Safety Commission's Quarterly Target Zero Database: <http://wtsc.wa.gov/research-data/quarterly-target-zero-data/>
- Results Washington Goal 2, Pedestrian and Bicyclist Safety Report: <https://data.results.wa.gov/reports/G2-3-2-c-Pedestrian-and-Bicyclist-Safety1>

## SAFETY

To provide for and improve the safety and security of transportation customers and the transportation system.

### Objective: Reduce passenger injuries on Washington State Ferries

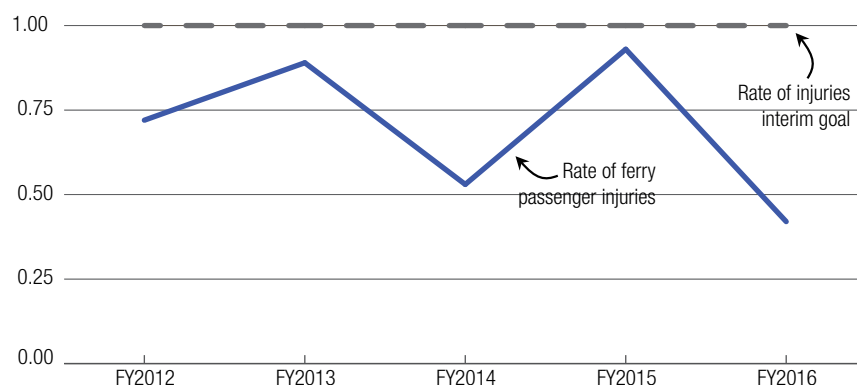
*Passenger injuries on Washington State Ferries remain low.*

#### Trend analysis

In fiscal year (FY) 2016, 24.1 million passengers rode the WSDOT Ferries system. During the same period, WSDOT Ferries had 0.42 passenger injuries per million riders. WSDOT Ferries Division has set an ultimate target goal of zero passenger injuries and an interim goal of having fewer than one injury per million passengers. With 10 passenger injuries on WSDOT ferries in FY2016, WSDOT Ferries met the goal with a rate of 0.42 injuries per million passengers. The agency has achieved its goal for all five fiscal years represented in the graph below.

#### Washington State Ferry passenger injuries decrease in fiscal year 2016

*Fiscal year 2012 through fiscal year 2016; Passenger injuries per one million passengers*



Data source: WSDOT Ferries Division.

Note: WSDOT Ferries has revised their passenger injuries measure to be injuries per one million passengers as it is more intuitive than comparing injuries to passenger miles.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- *Gray Notebook* 62, Ferries Quarterly Update: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=29>

## SAFETY

To provide for and improve the safety and security of transportation customers and the transportation system.

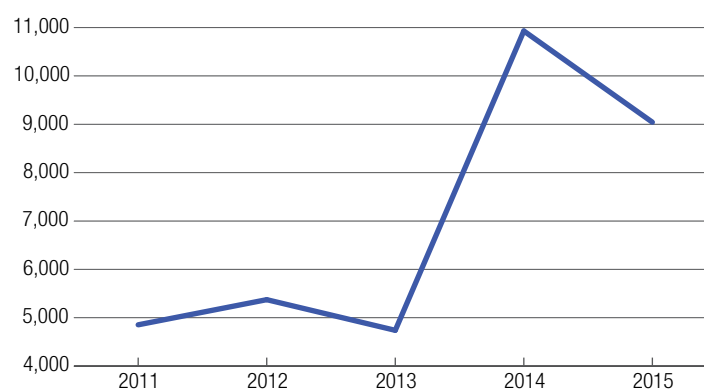
**Objective: Reduce fraudulent driver's licenses and records**

*Washington state's fraud and identity theft rates show a net increase from 2010 through 2015.*

**Trend analysis**

Washington state ranked 31st in the nation among states for fraud complaints in 2015, improving from 8th in 2011. A 1st place ranking equates to the highest amount of complaints per 100,000 population while a 50th place ranking equates to the lowest amount of complaints per 100,000 population. For every 100,000 residents in Washington state, there were 505.7 fraud complaints in 2015 as compared to 473.4 in 2011. Washington state ranked 15th among states for identity theft complaints in 2015, worsening from 18th in 2011. For every 100,000 residents there were 126.1 identity theft complaints in 2015, compared to 72.2 in 2011.

**Identity theft complaints in Washington state decrease in 2015**  
2011 through 2015



Data source: Federal Trade Commission.

Note: Does not include complaints provided by the Office of Attorney General.

State legislation passed in 2011 gave the Department of Licensing (DOL) authority to use a facial recognition system for driver's license and ID card applicants to check for multiple or fraudulent identities by comparing their photographic image to all other images in the database. The department implemented one-to-one facial matching in all offices in 2014. This one-to-one comparison helped to ensure that the person in the office applying for a license or ID card matches the last photo on file for that person's record. In 2015, the use of facial recognition by the DOL resulted in an additional 145 driver license suspensions and the cancellation of 107 fraudulent records and the associated cards.

The DOL also saw an increase in fraud and identity theft based on temporary paper documents obtained in the local offices in 2015. As a result, the temporary paper documents no longer contain the customer's photo or signature. This policy change occurred as a rolling deployment throughout the field offices beginning in January 2016 and completing in June 2016.

Washington state is compliant with 23 of the 41 federal REAL ID requirements. The REAL ID Act, passed by Congress in 2005, is for the improved security for driver's licenses and personal identification cards. The Department of Homeland Security has determined minimum document requirements and issuance standards for federal recognition. Washington state plans to become compliant with 13 additional requirements between November 2017 and June 2018 as part of business and technology modernization efforts. Of the remaining five requirements, three are not applicable to Washington state and two require enabling legislation.

**Lead agency:** Washington State Department of Licensing

**For more information, see:**

- Federal Trade Commission Consumer Sentinel Network Reports: <https://www.ftc.gov/enforcement/consumer-sentinel-network/reports>

## PRESERVATION

To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.

### Objective: Extend the useful life of pavement on the National Highway System

**Washington state consistently maintained more than 90% of its state and local highway pavement on the National Highway System in fair or better condition between 2010 and 2014.**

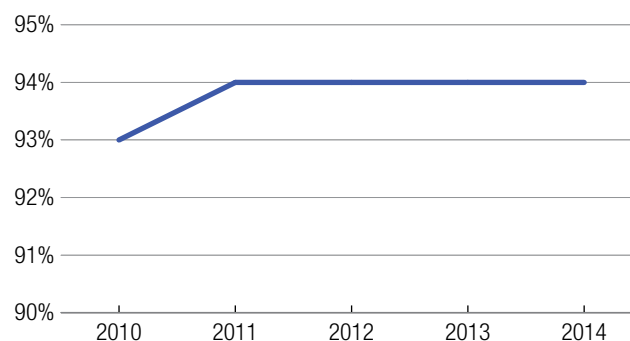
#### Trend analysis

Washington state consistently maintained more than 90% of National Highway System (NHS) state and local highway pavement in fair or better condition between 2010 and 2014. The NHS is a network of strategic highways in the U.S. that serve major airports, ports, rail and/or truck terminals and other strategic facilities. The 94% surveyed in fair or better condition in 2014 is a 1% increase from 2010 (see graph at right). County-owned road conditions were 95% fair or better condition in 2014 and have remained relatively flat. City-owned pavement conditions, on the other hand, have shown a 4% decrease in “fair or better” condition from 2010 to 2014.

According to Federal Highway Administration 2014 reports, the state owns 7,055 miles of roadway, counties own 39,168 miles, towns and municipalities own 18,084 miles, federal agencies own 8,650 miles, and other jurisdictions own 8,460 miles for a total of 81,417 miles of roadway in Washington state. These reports also show that 69% of Vehicle Miles Traveled (VMT) occur on Interstate highways, freeways and principal arterials and 73% of VMT occur in urban areas.

#### Percent of all Washington state NHS pavement in fair or better condition remains steady in 2014

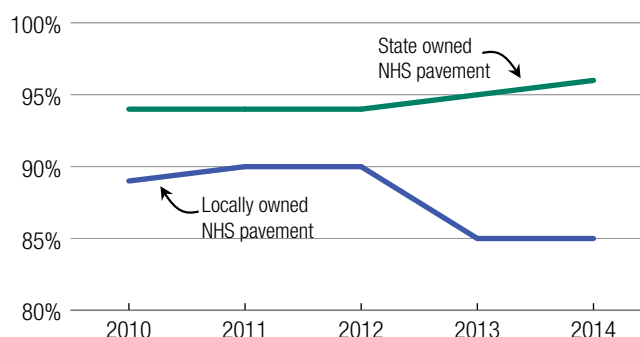
2010 through 2014



Data source: WSDOT Pavement Office.

#### Percent of Washington state owned NHS pavement in fair or better condition rises in 2013 and 2014

2010 through 2014



Data source: WSDOT Pavement Office.

**Lead agency:** Washington State Department of Transportation

#### For more information, see:

- *Gray Notebook* 60, Pavement Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Dec15.pdf#page=11>
- Results Washington Pavement Report: <https://data.results.wa.gov/reports/G2-3-1-b-Pavement-Conditions1>
- FHWA Highway Statistics 2014: <https://www.fhwa.dot.gov/policyinformation/statistics/2014/hm10.cfm>

## PRESERVATION

To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.

### Objective: Keep bridges safe and open to traffic

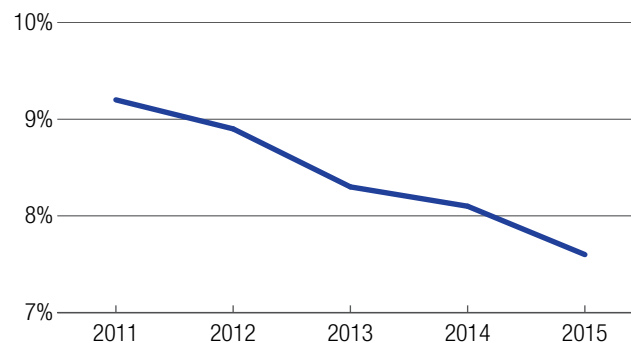
*In 2015, 92.4% of all Washington state bridges by deck area were in fair or better condition.*

#### Trend analysis

In 2015, 7.6% of all (state-owned and locally owned) bridges by deck area statewide were structurally deficient, showing a decrease from 8.1% in 2014. Measuring bridge conditions by deck area provides a more comprehensive measure than by number of bridges because the method factors in bridge size.

By number of bridges, 4.7% of bridges in Washington state were structurally deficient in 2015, according to the Federal Highway Administration's (FHWA) National Bridge Inventory. This is less than half the national average. Structurally deficient does not mean that the bridge is unsafe or needs to be replaced; it generally indicates that one or more of the bridge components requires either repair or preservation. Washington state had 385 structurally deficient bridges in 2015 as compared to 382 in 2014. Washington state also had 1,719 bridges considered functionally obsolete which means its design is not suitable for current traffic needs.

**Structurally deficient bridges by percent of deck area in Washington state are steadily decreasing since 2011**  
2011 through 2015



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

In 2015, 7,326 Washington state bridges were rated by condition for reporting to the FHWA, which sets structural condition standards. Ratings relate to the evaluation of bridge superstructure, deck, substructure, structural adequacy and waterway adequacy codes.

#### Washington state is ranked 7th in lowest percentage of structurally deficient bridges<sup>1</sup> 2015; Comparison includes the 50 states, the District of Columbia and Puerto Rico<sup>2</sup>

Rank	State	Number of Bridges	Number Structurally Deficient	Percentage
1	Nevada	1,919	35	1.8%
7	Washington	8,158	385	4.7%
52	Rhode Island	766	178	23.2%
<b>National Total</b>		<b>611,845</b>	<b>58,791</b>	<b>9.6%</b>

Data source: FHWA National Bridge Inventory.

Note: 1 Includes all bridges in the state, district or territory. 2 The Federal Highway Administration treats the District of Columbia and the Commonwealth of Puerto Rico as States for highway and bridge reporting purposes (using the Highway Performance Monitoring System or HPMS). Other United States Territories (Guam, the Commonwealth of the Northern Marianas, American Samoa and the Virgin Islands of the United States) are required to annually report limited HPMS summary data only, and are not included in many FHWA reports.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- *Gray Notebook* 58, Bridge Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun15.pdf>
- FHWA National Bridge Inventory: <https://www.fhwa.dot.gov/bridge/nbi.cfm>



## PRESERVATION

To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.

### Objective: Extend the useful life of ferry terminals and vessels

*In 2015, 87% of ferry terminal systems were in fair or better condition, compared to 89% in 2014.*

*In fiscal year 2016, 89% of ferry vessel vital systems were within life cycle.*

#### Trend Analysis

During the past five years, average ferry terminal condition rating has consistently been between 87% and 89%. In 2015, 87% of ferry vessel systems that the U.S. Coast Guard considers “vital” were within their assessed life cycle.

Terminal and vessel condition data are a composite of several ferry system elements, as shown in the table below. Each system category is composed of multiple components. For example, transfer spans include mechanical systems, electrical systems and structural parts. A “poor or worse” rating does not mean that ferry vessels or terminals are unsafe, but indicates where additional investments need to be made.

#### Ferry terminal systems in good or fair condition remains high 2011 through 2015

Year	Good or fair condition
2011	86%
2012	87%
2013	88%
2014	89%
2015	87%

Data source: WSDOT Ferries Division.

#### Washington state's average ferry terminal systems rated “Poor or Worse” increases to 13% in 2015

*2011 through 2015 inspection results*

System	2011	2012	2013	2014	2015
Landing Aids	23%	24%	23%	22%	20%
Vehicle Transfer Spans	16%	13%	11%	11%	11%
Overhead Loading Systems	9%	9%	11%	11%	20%
Trestle and Bulkheads	9%	7%	9%	7%	14%
Pavement	13%	14%	10%	10%	15%
Buildings	0%	0%	0%	0%	1%
Passenger-only Facilities	7%	13%	13%	21%	21%
<b>Total Average</b>	<b>13%</b>	<b>13%</b>	<b>12%</b>	<b>11%</b>	<b>13%</b>

Data source: WSDOT Ferries Division.

Notes: 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.

**Average percentage of ferry vessel systems within their life cycle decreases in fiscal year 2016**  
*Calendar year 2011 through fiscal year 2016; Percent of ferry vessel systems in Condition Rating 1 or 2*

Types of Ferry Vessel Systems	CY2011 <sup>1</sup>	CY2012	FY2014 <sup>2</sup>	FY2015	FY2016
Communication, navigation, lifesaving	87%	92%	93%	94%	86%
Mechanical, electrical	74%	94%	92%	91%	90%
Piping	75%	83%	79%	80%	77%
Propulsion	92%	86%	82%	79%	82%
Security	99%	100%	100%	100%	100%
Steel structures	72%	99%	99%	99%	92%
Structural preservation (paint)	69%	99%	98%	98%	98%
Passenger and crew spaces	61%	100%	100%	100%	98%
<b>Total Average</b>	<b>80%</b>	<b>93%</b>	<b>91%</b>	<b>92%</b>	<b>89%</b>

Data source: WSDOT Ferries Division.

Notes: Systems included in Condition Rating 1 do not currently need to be replaced; those in Condition Rating 2 should be monitored for replacement within the current or ensuing biennium; those in Condition Rating 3 are past due for replacement. CY = calendar year (January through December); FY = fiscal year (July through June). 1 In CY2011, vessel systems reporting was based on the Coast Guard's distinction between Category 1 (or "vital" to the protection of people) and Category 2 vessel systems; some types of systems were represented in both categories. Percentages listed here for CY2011 represent the number of vessel systems reported as "within their life cycle" (as opposed to "beyond their life cycle") for both Category 1 and 2 systems; this roughly lines up with Condition Ratings 1 and 2. Previous versions of the Attainment Report only report on the Coast Guard's Category 1 systems. 2 Reporting period changed from CY to FY at this time accounting for the absence of a distinct 2013 rating. FY2014 includes July through December of 2013.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- *Gray Notebook* 62, Ferries Terminals and Vessels Preservation Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=23>

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Reduce congestion on urban highways and arterials

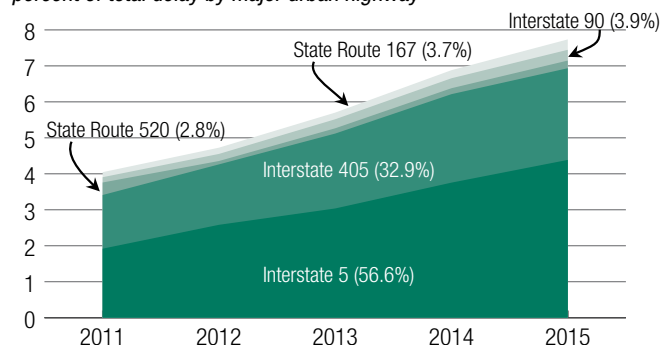
*After a period of decline, commuter delay has been increasing in the Seattle metropolitan region.*

#### Trend analysis

According to data from the 2016 *Corridor Capacity Report*, annual weekday delay on major urban highways (Interstate 5, I-405, I-90, State Route 520 and SR 167) in King and Snohomish counties grew roughly 91.2% from 4.0 million vehicle hours of delay in 2011 to 7.7 million in 2015. This growth can be attributed to growing employment during this period; 2011 was the second year of growth in delay from its low point of 3.4 million vehicle hours in 2009 during the recession.

The major urban highway with the most delay each year was I-5. In 2015, I-5 experienced 4.4 million vehicle hours of delay during weekdays or roughly 56.6% of all delay on the major urban highways. In all years except 2011, it had more delay than the other four monitored highways combined (see graph).

**Central Puget Sound region annual hours of weekday delay on major urban highways trending upward since 2011**  
2011 through 2015; Weekday delay in millions of vehicle hours and percent of total delay by major urban highway



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

Notes: Central Puget Sound includes King and Snohomish counties.

A national report on transportation system performance is the Texas A&M Transportation Institute's (TTI) *Urban Mobility Scorecard*. According to data from the scorecard, delay per commuter for the entire Seattle metropolitan region showed a 5% increase between 2011 and 2014. TTI calculates delay using free flow speed which is roughly five miles per hour above the posted speed limit, while WSDOT uses maximum throughput speed which is 85% of the posted speed. WSDOT uses maximum throughput speed as the basis for measuring travel delay in order to assess performance relative to a highway's most efficient operating conditions (roughly 51 mph in a 60 mph posted speed zone).

Statewide vehicle miles traveled (VMT) on all Washington state roads reached a new high of 59.7 billion miles in 2015, an increase of 4.7% from 2011 (57 billion). Similarly, state highway-only VMT reached a new high at 33.3 billion miles, an increase of 6.0% from 2011 (31.5 billion). In 2015, compared to 2014, the VMT on state highways-only and all roads saw one-year increases of 3.6% and 2.7%, respectively, which are the highest one-year increases observed since 2000.

WSDOT uses the maximum throughput travel time index (MT<sup>3</sup>I), which compares the average travel time at a commute's 5-minute peak to its travel time at maximum throughput speed, as a measure of

**Vehicle miles traveled on Washington state highways outpaces growth on all roads in 2015 compared to 2011**  
2011 through 2015; Population in thousands

Year (population)	Total Vehicle Miles Traveled (billions)		Vehicle Miles Traveled per person	
	State highways	All public roads	State highways	All public roads
2011 (6,768)	31.455	56.965	4,648	8,417
2012 (6,818)	31.214	56.607	4,578	8,303
2013 (6,882)	31.649	57.211	4,599	8,313
2014 (6,968)	32.177	58.060	4,618	8,332
2015 (7,061)	33.335	59.653	4,721	8,448
Δ 2015 vs. 2011	1.880	2.688	73	31
%Δ 2015 vs. 2011	6.0%	4.7%	1.6%	0.4%

Data sources: WSDOT Multimodal Planning Division and Washington State Office of Financial Management.

system efficiency. This index normalizes route length to allow performance comparisons between commutes.

Thirteen out of the 84 commutes that WSDOT monitors for the *Corridor Capacity Report* had an MT<sup>3</sup>I of two or greater in 2015. An index value of two means it took twice as long on average to drive the length of a commute than at peak efficiency speeds. The highest index was 4.1 on the I-5 southbound morning commute in Vancouver between SR 500 and the state line on the I-5 bridge. This means it took four times longer to drive the commute during the peak of the morning rush than the highway's most efficient speed (9.8 minutes average versus 2.4 minutes at maximum throughput speed).

A national report that compares commute performance is INRIX's 2015 *National Traffic Scorecard* which showed similar results for the central Puget Sound region. INRIX also uses slightly different measures and methods from WSDOT to determine delay and to rank their corridors. The following corridors in Washington state are listed in INRIX's top 100 "Most Congested Corridors" in the country during commute times:

- #29 – I-5 southbound from 130th St., exit 174 to Union St., exit 165 (p.m. hours)
- #54 – I-405 northbound from SR 181, exit 1 to 44th St., exit 7 (a.m. hours)
- #78 – I-405 southbound from 8th St., exit 13 to S.E. Coal Creek Parkway, exit 10 (p.m. hours)

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- WSDOT's *Corridor Capacity Report*: <http://www.wsdot.wa.gov/Accountability/Congestion/>
- TTI's *Urban Mobility Scorecard*: <http://mobility.tamu.edu/ums/report/>
- INRIX's *Traffic Scorecard*: <http://inrix.com/scorecard/>

**Most commutes with the highest maximum throughput travel time indexes are in central Puget Sound**  
2015; Commutes ranked by MT<sup>3</sup>I<sup>1</sup>

Rank	Commute	MT <sup>3</sup> I
1	I-5 SR 500 interchange to I-5 bridge AM	4.09
2	I-405 Tukwila to Bellevue AM	2.60
3	I-405/I-90/I-5 Bellevue to Seattle PM	2.49
4	I-405/SR 520/I-5 Bellevue to Seattle PM	2.43
5	I-5 I-205 interchange to I-5 bridge AM	2.42
6	I-405 Bellevue to Tukwila PM	2.42
7	I-405 Lynnwood to Bellevue AM	2.34
8	I-5 SeaTac to Seattle AM	2.31
9	I-5 Federal Way to Tacoma PM	2.23
10	SR 520/I-5 Redmond to Seattle PM	2.18

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

Note: 1 MT<sup>3</sup>I is the Maximum Throughput Travel Time Index, which compares the actual average travel time for each commute at its 5-minute peak to its ideal travel time at maximum throughput speed, as a measure of system efficiency.

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Reduce congestion by making systems more efficient

*Statewide public transportation prevented 860 million vehicle miles from being traveled on Washington state's roads in 2014. Between 2011 and 2015, the state's intelligent transportation system, which helps operate the transportation system efficiently, grew by 743 devices.*

#### Trend analysis

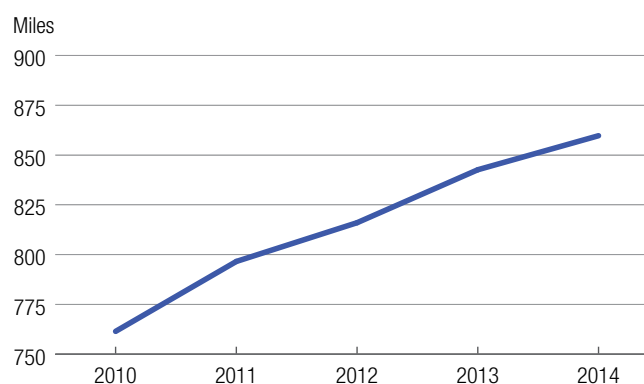
System benefits statewide from public transportation grew consistently between 2010 and 2014 (latest available data). In 2014, 859.7 million vehicle miles were avoided due to transit use, a statewide increase of 12.9% from 761.5 million vehicle miles avoided in 2010. According to data from the Office of Financial Management (OFM), during the same period the statewide population grew by 3.6% from roughly 6.7 million in 2010 to 7.0 million in 2014.

Most transit ridership occurs in the central Puget Sound region. Between 2011 and 2015 in the Seattle Metropolitan Statistical Area (MSA) which includes Snohomish, Pierce, King and Kitsap counties, vehicle miles avoided due to transit use grew by 17.1%.

According to OFM data, the population in the Seattle MSA increased 3.9% from 3.7 million in 2010 to 3.8 million in 2014.

#### Vehicle miles avoided due to the use of transit increase each year in Washington state

2010 through 2014; Vehicle miles avoided in millions



Data source: National Transit Database and WSDOT Office of Strategic Assessment and Performance Analysis.  
Note: The graph shows the most recent years for which data is available.

WSDOT's intelligent transportation system inventory, which supports operational efficiency on state highways, grew from 2,069 devices in 2011 to 2,812 devices in 2015 (see table below).

#### WSDOT increases its inventory of Intelligent Transportation Systems devices

2011 through 2015; Number of devices or sites

Device Type	2011	2012	2013	2014	2015	Approximate cost per device
Closed circuit television cameras	746	850	933	1,087	1,146	\$15,000–\$30,000
Variable message signs	258	232	279	306	319	\$100,000–\$250,000
Highway advisory radio transmitters	88	83	86	86	86	\$50,000
Road/weather information systems	106	106	109	111	113	\$25,000–\$50,000
Metered ramps	155	149	150	189	190	\$10,000–\$20,000
Traffic data stations	660	742	767	840	899	\$10,000–\$20,000
Smarter highway gantries	56	56	56	56	59	\$650,000–\$900,000
<b>Total Devices</b>	<b>2,069</b>	<b>2,218</b>	<b>2,380</b>	<b>2,675</b>	<b>2,812</b>	

Data source: WSDOT Traffic Operations Office.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- WSDOT's *Corridor Capacity Report*: <http://www.wsdot.wa.gov/Accountability/Congestion/>
- WSDOT's Traveler Information website: <http://www.wsdot.wa.gov/traffic>

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Manage traffic and fund improvement projects through tolling operations

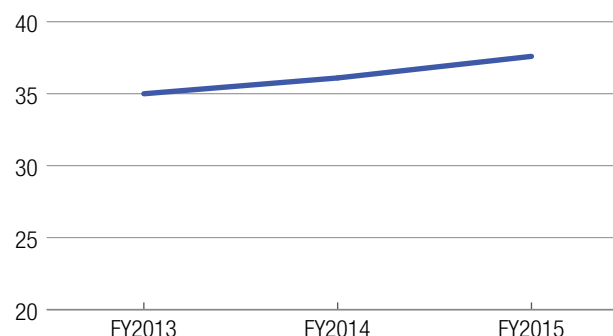
*Tolling continues to provide benefits to all road users including more reliable options to get to their destination and making single occupancy lanes less congested.*

#### Trend analysis

Tolling transactions increased 7.4% in fiscal year (FY) 2015 (July 2014 through June 2015) compared to FY2013 (the first *Toll Division Annual Report* published by WSDOT) from 35.0 million transactions to 37.6 million on the state's tolled facilities. Most of the growth during this period occurred on the State Route (SR) 520 bridge which accounted for 58.5% of all tolling transactions in FY2015.

During FY2015, WSDOT's toll facilities included the SR 520 bridge between Seattle and Bellevue, the eastbound SR 16 Tacoma Narrows Bridge between Gig Harbor and Tacoma, and the SR 167 high occupancy toll (HOT) lanes between Auburn and Renton. WSDOT opened the Interstate 405 express toll lanes (ETLs) between Lynnwood and Bellevue in September 2015 which will be reported on in the next *Transportation Attainment Report*.

#### Annual toll trips in Washington state increase each year Fiscal years 2013<sup>1</sup> through 2015; Tolled trips in millions



Data source: WSDOT Toll Division.

Note: Fiscal year is from July 1 through June 30 of the following year. Toll trips on the Interstate 405 express toll lanes are not included in this graph. <sup>1</sup> FY2013 was the first full fiscal year with tolling on SR 520; using this baseline gives a more comparable view of tolling operations across the state over the three fiscal years.

WSDOT collected \$133.8 million in toll revenues in FY2015, a 16% increase from the \$115.2 million collected in FY2013. In FY2015, 81% of tolling revenues collected on the SR 520 bridge and 86% from the Tacoma Narrows Bridge went to dedicated funds that support ongoing preservation, financial obligations, and respective corridor improvements. The rest of the revenue covers multiple costs WSDOT incurs to collect and administer tolls such as customer service, bank card fees, and toll equipment operations and maintenance.

WSDOT had approximately 540,000 active *Good To Go!* accounts in FY2015. *Good To Go!* is WSDOT's all-electronic system for administering tolls. Seventy-eight percent of toll transactions are paid by drivers using *Good To Go!*. WSDOT has been working with the Department of Licensing (DOL) to reduce the time and number of calls needed to resolve unpaid tolls and related penalties by developing an online form to streamline the resolution process. In 2015, WSDOT and DOL averaged 118 days to resolve a hold on a driver's license due to unpaid tolls, an improvement of 33% from the 177-day average between July 2013 and December 2014. The number of holds resolved increased 192% during the same time period, from 720 holds resolved per month to 2,100. *Good To Go!* customer service representatives answered more than 448,000 calls and sent more than 3.1 million emails and 2.8 million pieces of mail in FY2015.

#### State Route 520 bridge:

State Route 520 toll transactions increased on the SR 520 bridge to 22.0 million in FY2015, up 5.3% from 20.9 million in FY2013 (the first full fiscal year of tolling on SR 520). The average weekday traffic volume on the SR 520 bridge during FY2015 was 74,000 tolled trips, up from 5.7% from 70,000 in FY2013. Despite the increase in traffic, weekday volume is still lower than the pre-tolling average weekday volume of 103,000 vehicles in FY2011 by about 28%. Daily transit use on SR 520 rose to 23,000 riders in FY2015, an increase of 52% from before tolling. Some of this increase is due to



transit service added by King County Metro and Sound Transit. In addition, the number of vanpools crossing the SR 520 bridge rose 83.1% to 238, compared to the pre-tolling level of 130.

### **Tacoma Narrows Bridge:**






The number of transactions on the Tacoma Narrows Bridge increased 3.6% from approximately 13.9 million in FY2013 to 14.4 million in FY2015. On average, 42,000 vehicles crossed the eastbound Tacoma Narrows Bridge each weekday in FY2015.

### **State Route 167 high occupancy toll (HOT) lanes:**

In FY2015, the SR 167 HOT lanes continued to provide travel times savings to all road users. Weekday peak-hour drivers saved an average of 10 minutes in the northbound HOT lane and five minutes in the southbound HOT lane.

The pilot project started in May 2008. Tolloed trips in the SR 167 HOT lanes have increased by 480% since they opened in 2008. Average daily traffic on SR 167 has grown by 6% while use of the HOT Lanes (including carpools and transit) increased by 33% during the same time.

**Tolled trips on SR 167 HOT lanes reach a high of 4,800 in FY2015**  
FY2008 and FY2013 through FY2015; Annual number of tolled trips; Average toll paid; Amount of minutes saved using the HOT lanes

	Tolled Trips <sup>1</sup>	Average Toll Paid <sup>2</sup>	Travel Time Savings <sup>3</sup>	
			Northbound	Southbound
June 2008	1,000 	\$1.00	8 	4 
Minutes Saved				
June 2013	4,200     	\$1.25	9 	6 
Minutes Saved				
June 2014	4,500     	\$1.25	8 	6 
Minutes Saved				
June 2015	4,800     	\$1.75	10 	5 

Data source: WSDOT Toll Division.

Notes: 1 Average daily toll trips measured Tuesday through Thursday. 2 Average toll rates posted Tuesday through Thursday. 3 Average travel time saved by using HOT lanes instead of the SOV lanes. Minutes saved is calculated during the travel peak times (7-8 a.m. and 4-5 p.m.).

### **More than one million trips made monthly in the new I-405 express toll lanes as of December 2015**

WSDOT opened the I-405 express toll lanes (ETLs) on September 27, 2015. Solo drivers can now choose to travel faster by paying a toll, while carpools (3+), vanpools and motorcycles can use the lanes for free with a *Good To Go!* pass. WSDOT will reinvest toll revenue in the I-405 corridor. ETL users made more than one million trips per month through December 2015. According to WSDOT's *I-405 Express Toll Lanes Six Month Update*, the ETLs are moving more vehicles throughout the full corridor than the HOV lanes were the previous year. For more information go to <http://www.wsdot.wa.gov/Tolling/405/>.

**1 Million+**  
trips in express toll lanes  
each month since Oct. 2015

**600,000+**  
unique users chose  
to use the express  
toll lanes  
for a faster trip

**14 minutes average travel time savings**  
for express toll lane users

**7 minutes southbound travel time savings**  
for single occupant vehicle lane users

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- Tolling Annual Report, fiscal year 2015: <https://www.wsdot.wa.gov/Tolling/publications.htm>
- I-405 Express Toll Lanes - Library and Publications: <https://www.wsdot.wa.gov/Tolling/405/library.htm>
- *Gray Notebook* 60, Tolling Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Dec15.pdf#page=36>

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Improve performance of high occupancy vehicle lanes

*High occupancy vehicle lanes continue to provide system benefits, moving more people faster and more reliably than adjacent single occupant vehicle lanes.*

#### Trend analysis

High occupancy vehicle (HOV) lanes are reserved for carpools, vanpools, buses, motorcycles or any vehicle carrying multiple people (2+ or 3+ depending on the facility). The central Puget Sound region freeway network includes a system of HOV lanes that is designed to provide faster and more reliable travel options. It also enhances the efficient operation of the freeway network by moving more people in fewer vehicles, compared to adjacent single occupant vehicle (SOV) lanes.

About 244 out of 369 lane-miles of the Puget Sound region freeway HOV network have been completed. Roughly 6.9 million person miles were traveled on the Puget Sound region HOV network on an average weekday in 2015. That is 38.4% of all person miles traveled (PMT) on the main highway corridors in the region (Interstate 5, I-405, I-90, State Route 520 and SR 167). The corridor with the most daily PMT on HOV lanes in 2015 was I-5, at 3.7 million. PMT on Seattle area HOV lanes grew 14.6% between 2011 and 2015. The corridor with the greatest growth in PMT on its HOV facilities was I-90, which experienced 42.0% growth between 2011 and 2015.

The graph at right shows the number of people moved by HOV lanes at 10 locations around central Puget Sound in 2011 and 2015 as well as SOV lane performance for 2015. The Northgate area on I-5 north of downtown Seattle is a good example of a roadway with high person throughput, as it is in a heavily traveled freeway corridor served by a number of transit routes. In previous years, this location has consistently shown HOV lane travel time benefits and significant usage. In 2015, during the average morning peak period, the southbound I-5 HOV lane at Northgate carried more than 48% (15,700) of all travelers toward downtown Seattle in 22% (4,200) of the vehicles. Across all the monitoring locations, an average of 38% of the people used HOV lanes on freeway corridors during the peak periods. These values have been generally consistent from year to year.

#### Puget Sound region high occupancy vehicle network reaches 6.9 million person miles traveled each weekday

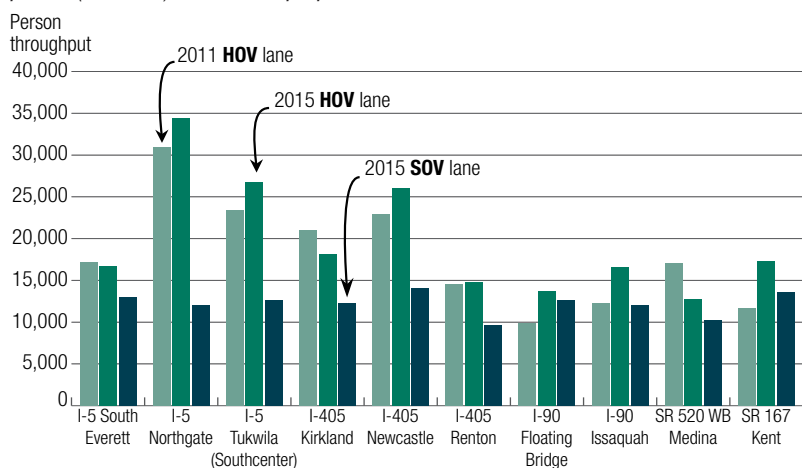
2011 and 2015; Average weekday person miles traveled in thousands

Highway	2011	2015	% change
Interstate 5	3,281	3,744	14.1%
Interstate 405	1,678	1,815	8.2%
Interstate 90	293	416	42.0%
State Route 520	412	489	16.7%
State Route 167	360	444	23.3%
<b>Total</b>	<b>6,027</b>	<b>6,908</b>	<b>14.6%</b>

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

#### Person throughput<sup>1</sup> in Washington state higher in HOV than SOV lanes

2011 and 2015; Average daily person throughput volumes for morning and evening peak periods (combined) in number of people



Data source: Washington State Transportation Center.

Note: 1 Person volume estimates are based on most recent 2013-2015 transit ridership and other data. The SOV lane volumes are the estimated person volumes for the average SOV lane at each location.



Of the 42 HOV trips WSDOT monitors in the *Corridor Capacity Report*, 31 were more than two minutes faster during times of peak congestion compared to the adjacent SOV trip in 2015, while the other 11 trips showed no significant travel time difference (less than two minutes) between the SOV and HOV route options. Overall, the 2015 HOV travel time results are similar to those seen in previous years. The reliable travel times (95th percentile) were faster by more than two minutes on 37 of the 42 HOV trips relative to their SOV counterparts in 2015. The other five trips showed little or no difference in reliable travel times. These shorter average and reliable travel times illustrate another benefit of HOV lanes.

The performance and reliability standard for freeway HOV lanes that was adopted by WSDOT and the Puget Sound Regional Council in 1991 states that travelers in the HOV lane should be able to maintain an average speed of at least 45 mph 90% of the time during the peak hour of travel. This is a very challenging standard developed prior to significant growth in regional traffic. Three of the 12 monitored HOV peak-direction corridors met the state performance standard in 2015 (one in the morning and two in the evening), compared to six corridors that met the standard in 2011. This does not include the new I-405 express toll lanes (ETLs) which have a different performance metric as mandated by the Legislature (measured for the entire peak period versus just the peak hour). See measure 3.3 on [p. 29](#) to learn more about these tolled lanes.

Even when overall system performance is reduced due to congestion, HOV lanes continue to provide better speed and reliability compared to adjacent SOV lanes. During the off-peak times of day, all HOV corridors generally meet the standard.

### High occupancy vehicle lane speed and reliability performance on major central Puget Sound corridors

2011 through 2015; Goal is to maintain 45 mph or better for 90% of peak hour; Percent of peak hour goal was met

Commute routes	2011	2012	2013	2014	2015	Commute routes	2011	2012	2013	2014	2015
<b>Morning commutes</b>						<b>Evening commutes</b>					
I-5, Everett to Seattle SB	64%	54%	42%	28%	<b>26%</b>	I-5, Seattle to Everett NB	76%	68%	66%	46%	<b>36%</b>
I-5, Federal Way to Seattle NB	72%	51%	43%	30%	<b>18%</b>	I-5, Seattle to Federal Way SB	82%	63%	53%	40%	<b>32%</b>
I-405, Tukwila to Bellevue NB	98%	93%	65%	35%	<b>26%</b>	I-405, Bellevue to Tukwila SB	60%	43%	41%	26%	<b>21%</b>
I-90, Issaquah to Seattle WB	100%	100%	100%	98%	<b>98%</b>	I-90, Seattle to Issaquah EB	99%	100%	99%	100%	<b>99%</b>
SR 520, Redmond to Bellevue WB	97%	51%	50%	44%	<b>63%</b>	SR 520, Redmond to Bellevue WB	70%	54%	52%	52%	<b>73%</b>
SR 167, Auburn to Renton NB <sup>1</sup>	99%	96%	94%	86%	<b>66%</b>	SR 167, Renton to Auburn SB <sup>1</sup>	99%	98%	98%	98%	<b>95%</b>

Data source: Washington State Transportation Center.

Notes: The above HOV reliability performance standards are based on the peak hour, when average travel time is slowest. To meet the standard, a speed of 45 mph must be maintained for 90% of the peak hour. Numbers represent the percentage of the peak hour when speeds are faster than 45 mph. The Washington State Transportation Center analyzes performance data for all complete segments of HOV lanes that have a loop detector. In some cases, like southbound SR 167, data cannot be analyzed for the very beginning and ends of the lanes because there are no detectors at these locations. I-405 commutes between Lynnwood and Bellevue are no longer listed above, as they now have different legislatively mandated speed and reliability performance measures per RCW 47.56.880. For performance information, see [www.wsdot.wa.gov/tolling/405/library.htm](http://www.wsdot.wa.gov/tolling/405/library.htm). <sup>1</sup> High occupancy toll lanes replaced regular HOV lanes May 3, 2008.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

■ WSDOT *Corridor Capacity Report*: <http://www.wsdot.wa.gov/Accountability/Congestion/>

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Reduce percentage of commuters who drive alone to work

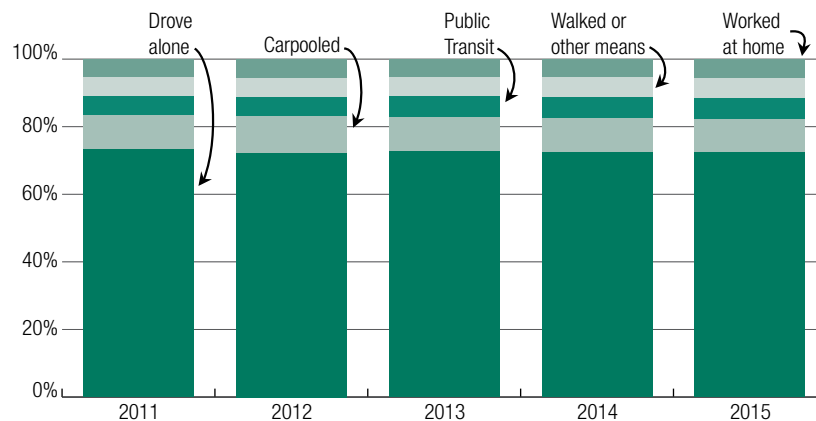
*As the number of Washington commuters has increased to an all-time high, the percent who drive alone as a primary commuting method remains fairly steady.*

#### Trend analysis

Of the approximately 3.4 million workers age 16 or older in Washington state, 72.4%, or more than 2.4 million, chose to commute by driving alone to work in 2015. This represents a net decrease in percentage of drive-alone commuters from 73.3% in 2011, but is an increase in actual commuters by approximately 170,000 since 2011. Alternative commute methods include carpooling (9.8% or about 333,000 commuters in 2015), using public transportation (6.2% or about 211,000 commuters in 2015), and walking, riding a bicycle, or using other means (5.9% or about 201,000 commuters in 2015). Working from home is also considered an alternative commute method; in 2015, 5.6% of the workforce, or about 190,000 workers, worked from home. In the five-year period from 2011 through 2015, rates for all commuting modes have held relatively steady (see graph below), while the number of workers in Washington state grew by approximately 8.8%.

#### Daily commute modes remain steady in Washington state

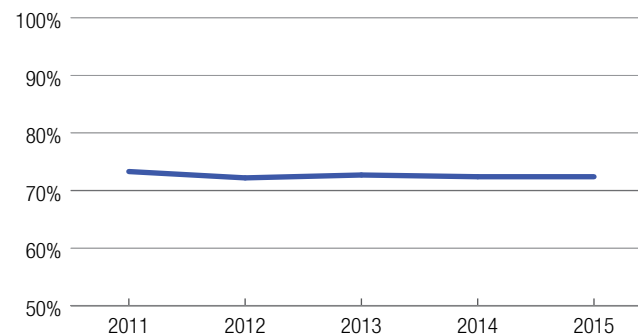
2011 through 2015; Percentage of commuting workers 16 years of age and older



Data source: American Community Survey Data, US Census Bureau.

#### Washington state's drive-alone rate shows slight decrease

2011 through 2015; Percent of daily drive-alone commuters



Data source: American Community Survey Data, US Census Bureau.

In addition, the 2014 Voice of Washington State (VOWS) Transportation Survey asked 5,673 Washington residents what their primary mode of transportation is when making trips from home.

**Washingtonians drive alone most often as a mode of transportation when making trips from home**

*2011 through 2014; Voice of Washington State Transportation Survey data*

Mode of transportation	2011	2012	2013	2014
Driving alone in your vehicle	59%	56%	55%	58%
Carpooling or driving with someone else	25%	25%	23%	23%
Riding public transit	8%	10%	12%	10%
Riding a motorcycle	1%	1%	1%	1%
Riding a bicycle or walking	6%	6%	7%	7%
Traveling some other way	2%	2%	2%	1%

Data source: Washington State Transportation Commission.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- *Gray Notebook* 60, Trip Reduction Biennial Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Dec15.pdf>
- Washington State Transportation Commission's 2014 Statewide VOWS Transportation Survey: [http://www.wstc.wa.gov/CommissionLibrary/documents/2015\\_0203\\_VOWS\\_FinalSurveyReport.pdf](http://www.wstc.wa.gov/CommissionLibrary/documents/2015_0203_VOWS_FinalSurveyReport.pdf)
- United States Census Bureau, American Community Survey: <https://www.census.gov/programs-surveys/acs/>

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Increase ridership and on-time performance of Washington State Ferries

**Washington State Ferries ridership was 24.1 million in fiscal year (FY) 2016, up 8.4% since FY2012, while 93.9% of sailings were on time in FY2016.**

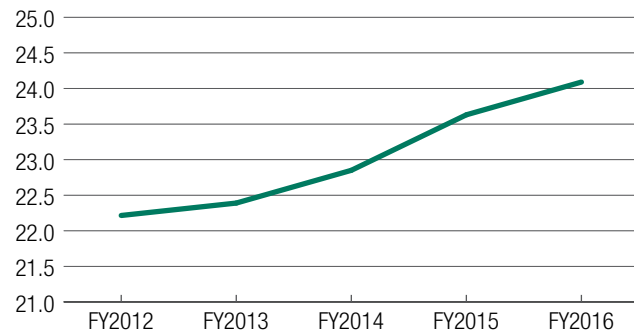
#### Trend analysis

Washington State Ferries ridership increased by 8.4% from approximately 22.2 million in FY2012 to 24.1 million in FY2016. In both FY2015 and FY2016, actual ridership for each quarter was higher than projected.

Annual on-time performance for Ferries declined from 96.0% in FY2012 to 93.9% in FY2016. WSDOT's on-time performance goal of 95% was exceeded for FY2012 through FY2014 but missed for FY2015 and FY2016. The summer quarter (July through September) has historically been the weakest on-time performing season, averaging a 92.3% rate during the last five fiscal years. This is typically due to greater numbers of trips and riders.

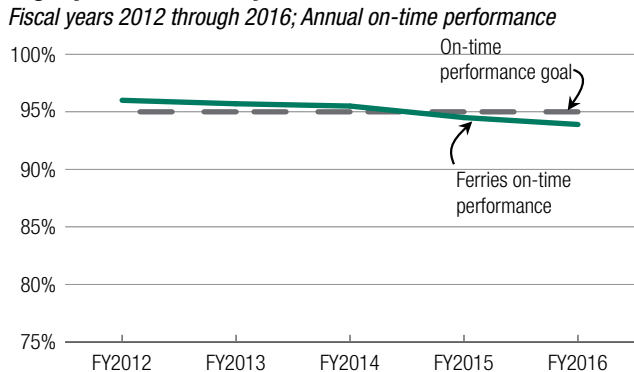
In addition to ridership levels and on-time performance, WSDOT also tracks Ferries' trip reliability, which tracks the number of net missed trips in relation to the number of scheduled trips (if a trip is canceled but then rescheduled, it is not counted in the net missed trip calculation). From FY2012 through FY2016, trip reliability was 99.5%, exceeding the agency's goal of 99%.

#### Washington State Ferries ridership increases 8.4% since 2012 Fiscal years 2012 through 2016; Ridership in millions



Data source: WSDOT Ferries Division.

#### Washington State Ferries on-time performance decreases slightly between fiscal years 2012 and 2016 Fiscal years 2012 through 2016; Annual on-time performance



Data source: WSDOT Ferries Division.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- *Gray Notebook* 58, Ferries Quarterly Update: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun15.pdf#page=29>

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Increase in ridership and on-time performance on the Amtrak Cascades line

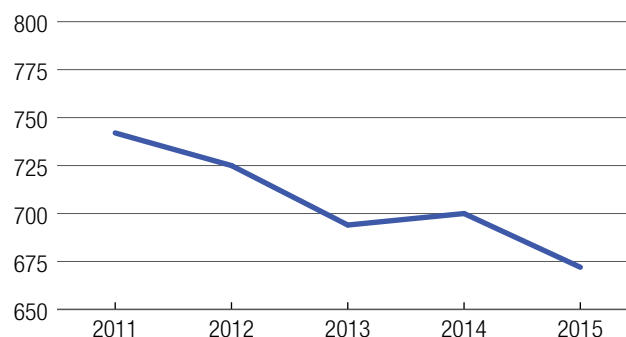
*Ridership on Washington routes has decreased 9.4% between 2011 and 2015. On-time performance has improved from 66.8% to 73.0% between 2011 and 2015.*

#### Trend analysis

Ridership on the Washington Amtrak Cascades routes has decreased by 9.4% from approximately 742,000 in 2011 to 672,000 in 2015. Amtrak Cascades operates in Washington and Oregon; the performance data presented here applies only to the portion of the routes that operates within Washington state.

Annual on-time performance for Amtrak Cascades showed a net increase from 66.8% in 2011 to 73.0% in 2015. WSDOT's on-time performance goal of 80% has not been met for any of the past five years (2011 through 2015). The winter quarter (January through March) has historically been the weakest on-time performing season, averaging a 65.2% rate during the last five years. Factors that affect on-time performance include construction on the rail system, landslides in the northern corridor during the rainy months of November through February and congestion caused by seasonal freight train volume fluctuations, such as grain movements.

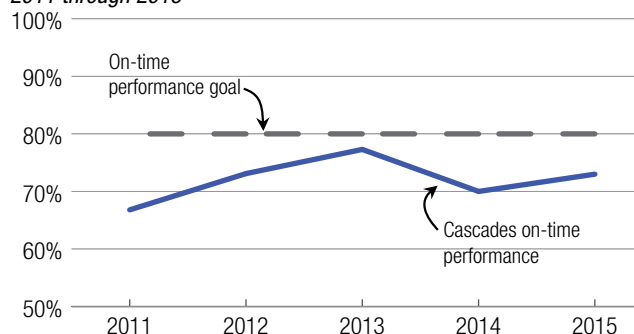
#### Washington state's Amtrak Cascades ridership in decline 2011 through 2015; Ridership in thousands



Data source: WSDOT Rail, Freight and Ports Office.

Note: Washington Amtrak Cascades routes only.

#### Washington state's Amtrak Cascades on-time performance up overall; increases between 2014 and 2015 2011 through 2015



Data source: WSDOT Rail, Freight and Ports Office.

**Lead agency:** Washington State Department of Transportation

#### For more information, see:

- *Gray Notebook* 61, Amtrak Cascades Quarterly Update: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Mar16.pdf#page=17>
- *Gray Notebook* 59, Amtrak Cascades Quarterly Update: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Sep15.pdf#page=22>

## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Increase ridership on public transit

**Statewide transit ridership increased 5.8% between 2011 and 2015. Puget Sound regional transit ridership increased 8.2% during the same period.**

#### Trend Analysis

Transit routes statewide have increased annual ridership from 205.4 million in 2011 to 217.3 million in 2015, an increase of more than 11.9 million passenger trips or approximately 5.8% (ridership dipped 0.4% between 2014 and 2015). Transit service availability, economic activity and employment are the strongest factors in determining ridership.

In the Seattle Metropolitan Statistical Area (MSA) which includes King, Pierce, Snohomish and Kitsap counties, ridership grew by 14.5 million trips per year or about 8.7%. Outside of the Seattle MSA, annual ridership decreased by roughly 2.6 million passenger trips, a 6.7% decline. Some providers did experience substantial growth such as Skagit Transit, RiverCities Transit and Link Transit. Refer to the table below for individual transit agency ridership.

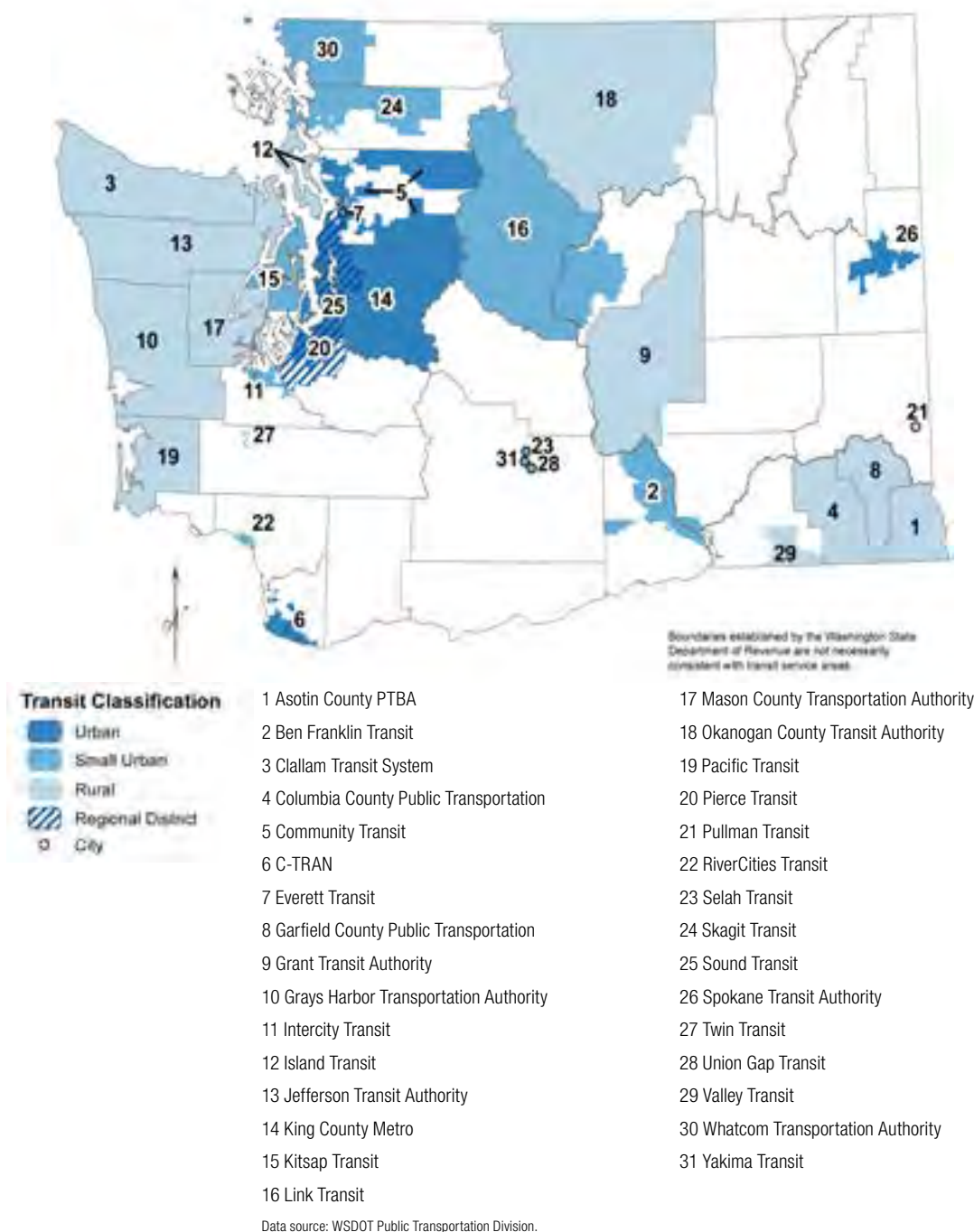
#### Annual transit ridership across Washington state increased 5.8% from 2011 through 2015 2011 through 2015; Ridership<sup>1</sup> and percent change by transit agency

Transit Agency <sup>2</sup>	City/Area Served	2011	2012	2013	2014	2015 <sup>3</sup>	Percent change 2011–2015
Ben Franklin Transit	Benton City, Kennewick, Pasco, Prosser, Richland	4,439,153	4,288,337	3,739,665	3,768,628	3,569,274	-19.6%
City of Seattle - Seattle Center Monorail	Downtown Seattle	1,890,867	2,106,846	2,092,673	2,162,624	2,292,953	21.3%
Community Transit <sup>4</sup>	Snohomish County	9,450,839	8,898,726	8,908,123	9,617,653	9,847,864	4.2%
C-TRAN	Vancouver	6,752,008	6,671,482	6,260,280	6,129,770	5,925,718	-12.2%
Everett Transit <sup>4</sup>	Everett	2,334,798	2,285,985	2,004,062	1,971,113	1,944,871	-16.7%
Intercity Transit	Lacey, Olympia, Tumwater	5,189,391	5,311,853	5,195,668	5,214,193	4,968,530	-4.3%
King Country Metro <sup>4</sup>	Seattle, King County	115,909,456	118,832,876	122,088,688	124,327,703	125,365,899	8.2%
Kitsap Transit <sup>4</sup>	Bremerton, Kitsap County	3,177,731	3,127,462	3,194,048	3,050,885	3,014,953	-5.1%
Link Transit	Wenatchee, Chelan County, Douglas County	962,314	861,913	890,632	987,371	1,010,404	5.0%
Pierce Transit <sup>4</sup>	Tacoma, Pierce County	13,007,436	11,457,120	11,275,545	11,137,927	9,953,496	-23.5%
RiverCities Transit	Kelso, Longview	388,070	381,018	359,742	392,741	428,238	10.4%
Skagit Transit	Skagit County	731,951	817,374	881,611	964,668	940,453	28.5%
Sound Transit <sup>4</sup>	Central Puget Sound	23,366,157	25,737,571	27,296,465	29,581,321	30,816,447	31.9%
Spokane Transit Authority	Spokane	11,064,803	11,281,774	11,328,306	11,570,765	11,035,314	-0.3%
Whatcom Transit Authority	Bellingham	5,180,236	5,944,191	5,741,153	5,999,498	4,999,005	-3.5%
Yakima Transit	Yakima	1,548,764	1,617,344	1,344,572	1,226,312	1,190,276	-23.1%
<b>Total Transit Ridership<sup>5</sup></b>		<b>205,393,974</b>	<b>209,621,872</b>	<b>212,601,233</b>	<b>218,103,172</b>	<b>217,303,695</b>	<b>5.8%</b>

Data source: National Transit Database.

Notes: 1 Modes of transit included in ridership levels are bus, light rail, trolley bus and vanpools. Ridership is measured in number of unlinked passenger trips, which counts the number of passenger boardings on each mode of transit. For example, if one person takes a bus to the train station and takes the train to work, it is counted as two unlinked passenger trips (one bus boarding and one train boarding). 2 Washington state has 31 transit agencies that provide public transportation services. Transit agencies receiving federal grants from the Federal Transit Administration (FTA) are required to report data to the FTA on an annual basis for all modes of transit provided, including bus, light rail, trolley bus, and vanpool. Agencies that operate 30 or fewer transit vehicles can submit a Small Systems Waiver for reduced reporting requirements. Agencies that do not receive federal grants may choose to voluntarily report data to the FTA. 3 Data for 2015 is considered preliminary. 4 Transit provider in Seattle Metropolitan Statistical Area (King, Pierce, Snohomish and Kitsap counties). 5 Agencies that are required to report or report voluntarily are represented in the table, with the exception of some rural transit agencies whose data has yet to be updated for 2015.

## Washington State's Public Transit Authorities



**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- Washington State Public Transportation Plan: [http://www.wsdot.wa.gov/NR/rdonlyres/EF00F16E-472D-43FE-AFF6-935DF809274B/0/WashingtonStatePublicTransportationPlan\\_Section50871816optimized.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/EF00F16E-472D-43FE-AFF6-935DF809274B/0/WashingtonStatePublicTransportationPlan_Section50871816optimized.pdf)



## MOBILITY

To improve the predictable movement of goods and people throughout the state, including congestion relief and improved freight mobility.

### Objective: Promote walking and biking to improve public health

#### *Rates of bicycling and walking to work remain steady.*

##### Trend analysis

While the percent of commuters walking or bicycling to work has remained relatively steady between 2011 and 2015 (4.6% and 4.7%, respectively), the actual number of commuters using these modes grew by 11.2% between 2011 and 2015 from 142,500 to 158,400 according to the American Community Survey. The total number of commuters statewide grew by 8.8% during the same period from roughly 3.1 million to 3.4 million. Commute trips (to and from work) make up between 16% and 20% of all trips.

The 2015 Washington State Bicycle and Pedestrian Documentation Report showed increases in both observed pedestrian (up 44.5%) and observed bicyclist traffic (up 37.2%) between 2011 and 2015. The count program helps WSDOT track pedestrian and bicycle traffic rates in cities across the state. WSDOT uses the collected data to make more informed decisions on roadway safety improvements.

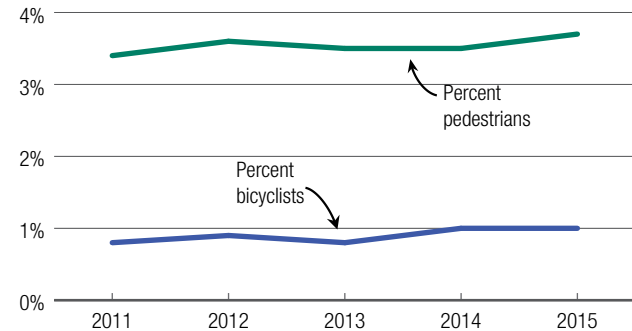
WSDOT is working with the Washington State Department of Health to collect information about how students travel to and from school on a daily basis. WSDOT uses the collected information to help plan and prioritize Safe Routes to School investments. About 10,000 adults with children in kindergarten through eighth grade participated in an initial survey conducted in 2014. Full results can be found in the Washington State Student Travel Survey Report at <http://bit.ly/STSReport>. Initial results for the 2016 survey will be available in fall 2016.

**Lead agency:** Washington State Department of Transportation

#### For more information, see:

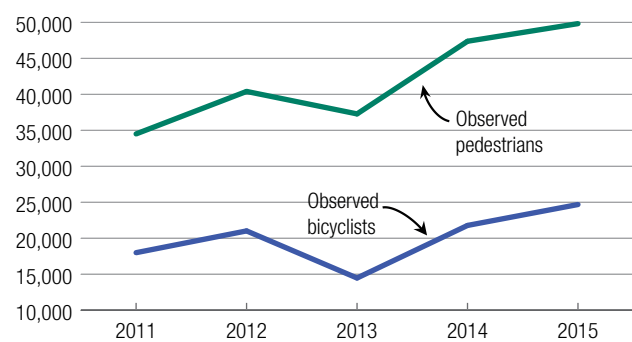
- *Gray Notebook* 60, Trip Reduction Biennial Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Dec15.pdf#page=22>
- United States Census Bureau, American Community Survey: <https://www.census.gov/programs-surveys/acs/>

**Walking and bicycling to work in Washington state remain a small percentage of total commute trips**  
2011 through 2015, Percent of pedestrian and bicyclist commuters



Data source: American Community Survey Data, US Census Bureau.

**Nearly twice as many pedestrians as bicyclists use Washington state's roadways**  
2011 through 2015, Observed pedestrians and bicyclists



Data source: WSDOT Local Programs Office.



## ENVIRONMENT

To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.

### Objective: Increase the number of culverts fixed and potential miles of habitat gained by WSDOT

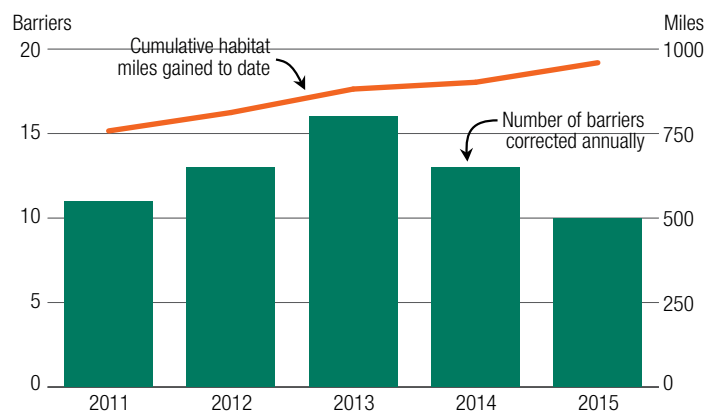
*WSDOT corrected 63 culverts from 2011 through 2015, improving access to approximately 240 miles of potential fish habitat.*

#### Trend analysis

Between 2011 and 2015, WSDOT corrected 63 barriers to fish passage occurring where highways intersect streams. This improved access to 240 miles of potential habitat. The 2016 WSDOT Fish Passage Inventory identified 1,989 fish passage barriers associated with 3,685 WSDOT highway and right of way water crossings. Of that total, 1,530 were identified as "barriers with significant habitat gain," of at least 200 linear meters of habitat without a natural barrier. WSDOT started working collaboratively with the Washington State Department of Fish and Wildlife in 1991 to systematically identify and correct fish passage barriers that occur where highways intersect streams. To date, WSDOT has corrected 301 barriers restoring access to approximately 1,000 miles of potential fish habitat.

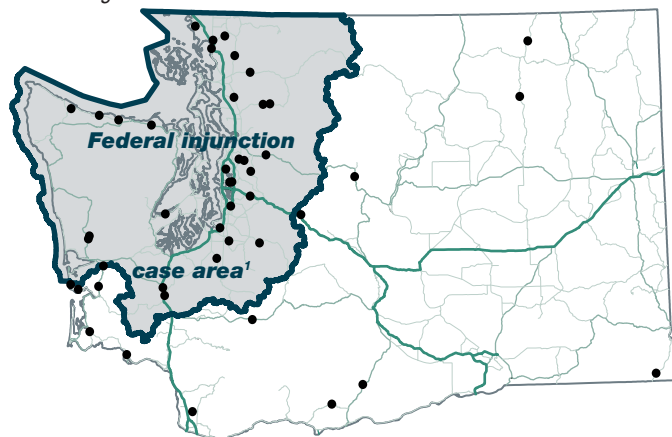
A federal court injunction, issued March 2013, requires WSDOT to remove state-owned barriers to fish passage for 90% of blocked habitat in the case area (see map at right). WSDOT has corrected 23 barriers applicable to the injunction. These corrections improved access to about 80 miles (6%) of blocked habitat in the case area. Based on approved funding, WSDOT will be able to deliver roughly 125-135 barrier corrections. WSDOT needs to correct roughly 450 barriers within the case area by 2030 to meet the injunction's requirements. This figure can change as information about culverts is updated and the agency completes corrections.

#### WSDOT has opened approximately 1,000 miles of potential habitat to fish through 301 barrier corrections to date 2011 through 2015; Barriers corrected annually; Cumulative habitat gain



Data source: WSDOT Environmental Services Office.

#### WSDOT corrected 63 fish passage barriers between 2011 and 2015, improving access to 240 miles of potential upstream habitat for fish 2011 through 2015



Data source: WSDOT Environmental Services Office.

Notes: Some fish passage project sites corrected multiple barriers. 1 Not all projects completed in the federal injunction case area were applicable to the injunction.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- *Gray Notebook* 62, Fish Passage Barriers Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=35>
- WSDOT Fish Passage Performance Report: <http://www.wsdot.wa.gov/publications/fulltext/projects/FishPassage/2016FishPassageAnnualReport.pdf>

## ENVIRONMENT

To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.

### Objective: Improve water quality by managing stormwater runoff

*WSDOT continues to maintain compliance with its stormwater permits and is mapping its entire stormwater conveyance system. The agency inspected 97% of its stormwater facilities and documented that 95% of construction site stormwater samples met clarity benchmarks in fiscal year (FY) 2015.*

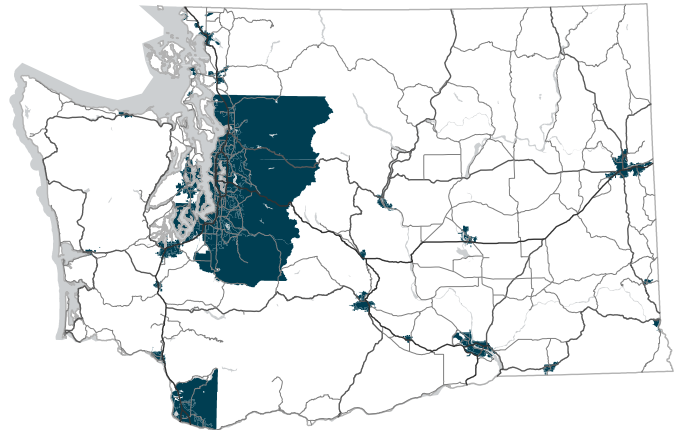
#### Trend Analysis

WSDOT inspected 97% of its stormwater facilities in FY2015 meeting the 95% requirement in the municipal stormwater permit. The agency also continued to maintain an inventory of existing and newly constructed stormwater outfalls and discharge points in FY2015. Additionally the agency began mapping the entire stormwater conveyance system along state highways within its municipal stormwater permit coverage area and constructed 130 stormwater treatment and flow facilities (109 of which were in the permit area).

WSDOT documented that 95% of construction site stormwater samples met criteria for water clarity. Site-specific conditions such as weather, soil type and topography affect stormwater runoff quality from construction sites. The National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit, issued by the Department of Ecology, defines stormwater discharge sampling procedures and sets benchmark values to evaluate sample results. When discharge samples exceed the benchmark values, actions such as adaptive management of on-site best management practices, additional sampling or notifying Ecology become required.

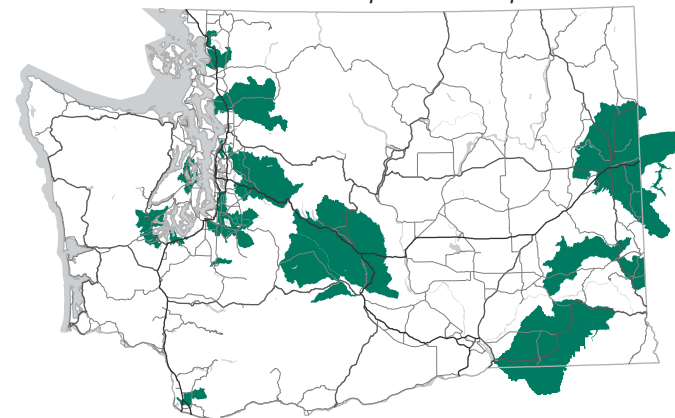
WSDOT operates and maintains more than 40,000 acres of paved surfaces statewide. Stormwater runoff from these facilities can contribute to water quality problems. To minimize the negative effects of stormwater runoff, WSDOT uses best management practices that prevent or reduce pollution in runoff and control runoff flows. WSDOT's NPDES municipal stormwater permit covers stormwater discharges from facilities owned or operated by WSDOT such as highways, ferry terminals and rest areas. Permit coverage includes the blue shaded areas shown on the map above. The permit also covers stormwater discharges to any water body in Washington state for which there is a Total Maximum Daily Load approved by the Environmental Protection Agency (shown in green on the map above) and includes specific actions for WSDOT stormwater discharges.

**Areas covered under WSDOT's municipal stormwater permit**  
2014 Municipal stormwater permit



Data source: WSDOT Environmental Services Office.

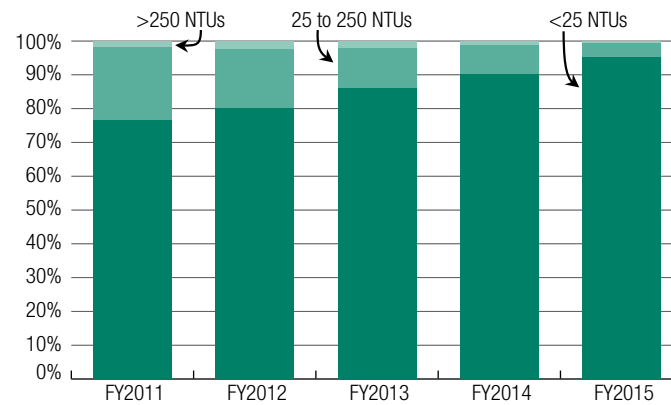
**WSDOT's 2014 municipal stormwater permit includes 28 areas with Total Maximum Daily Load requirements**  
TMDL areas<sup>1</sup> included in the 2014 municipal stormwater permit



Data source: WSDOT Environmental Services Office.

Notes: 1 Green shaded areas can include multiple TMDL areas.

**Stormwater quality improves year after year at construction sites**  
*Fiscal year 2011 through fiscal year 2015*



Data source: WSDOT Environmental Services Office.

Notes: NTUs = Nephelometric Turbidity Units; this number measures water quality. For stormwater discharges of 25 NTUs or less, no action is required. Stormwater discharges higher than the 25 NTU benchmark require adaptive management to lower the turbidity level. Discharges of 250 NTUs or higher have the potential to violate water quality standards, and the Department of Ecology must be notified within 24 hours.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- *Gray Notebook* 59, Water Quality Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Sep15.pdf#page=24>
- WSDOT Stormwater and Watersheds website: <https://www.wsdot.wa.gov/Environment/WaterQuality/>

## ENVIRONMENT

To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.

### Objective: Reduce greenhouse gas emissions caused by transportation

*Transportation-related greenhouse gas emissions declined from 2008 to 2012 but remain above 1990 levels.*

#### Trend analysis

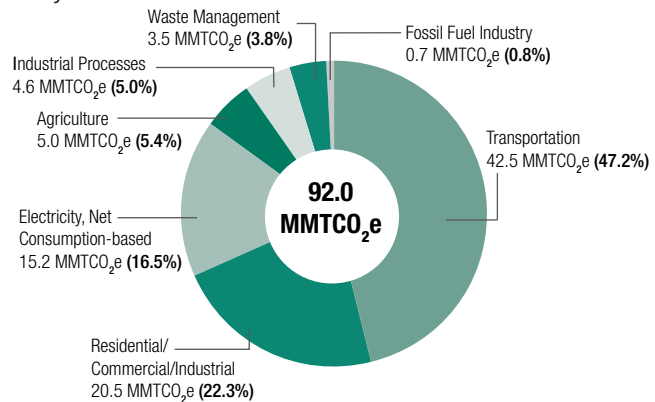
Transportation-related greenhouse gas emissions decreased by 2.7 million metric tons between 2008 and 2012 (the latest year for which data is available), according to the Greenhouse Gas Inventory Report from the Washington State Department of Ecology. Vehicle Miles Traveled (VMT) increased during that same period by 2%. In 2008, former Gov. Christine Gregoire's goal of reducing emissions to 50% below 1990 levels by 2050 was codified. This was intended, in part, to decrease the annual VMT per person statewide. In order to reach their part of the goal, annual road transportation-related greenhouse gas emissions need to decrease by 14.9 million metric tons.

Reducing VMT on a statewide basis, especially in the most populous counties, requires some combination of the following actions: shift modes from private cars to transit, walking or biking; increase vehicle occupancy; travel less through telecommuting, combining trips or reducing the number of discretionary vehicle trips; expand use of alternative work hours; use more compact land development that supports transit, walking and biking; make more services available online; and implement road usage pricing strategies.

Of the 255,800 new passenger vehicle registrations in 2015, 1.6% were electric vehicles. Electric vehicles make up 0.3% of all registered passenger vehicles in Washington state (see graph on [p. 45](#)).

#### Transportation accounts for 47.2% of all greenhouse gas emissions in Washington state in 2012

*2012; Total and percentage of Million Metric Tons of carbon dioxide equivalent by industry*

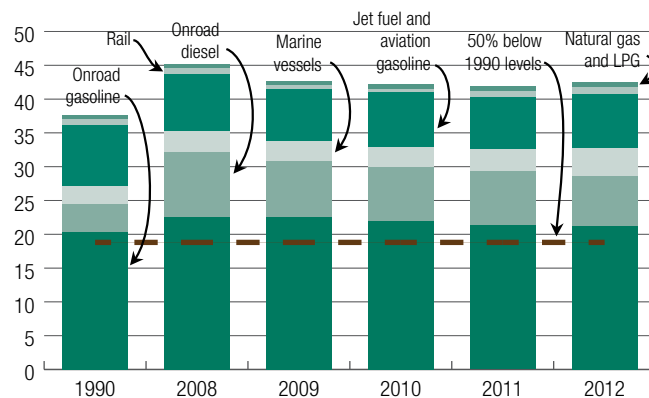


Data source: Washington State Department of Ecology.

Notes: Percentages do not add to 100 due to rounding. MMTCO<sub>2</sub>e = Million Metric Tons of carbon dioxide equivalent.

#### Washington state works to reduce transportation-related greenhouse gas emissions down to half of 1990 levels

*1990 baseline and 2008 through 2012; levels in Million Metric Tons of carbon dioxide equivalent*



Data source: Washington State Department of Ecology.

The Legislature also required state agencies to report their emissions and develop strategies to meet reductions. Since 2008, the Department of Licensing has expanded opportunities for customers to conduct business without having to travel to an office. As a result of these online options, the agency has caused the:

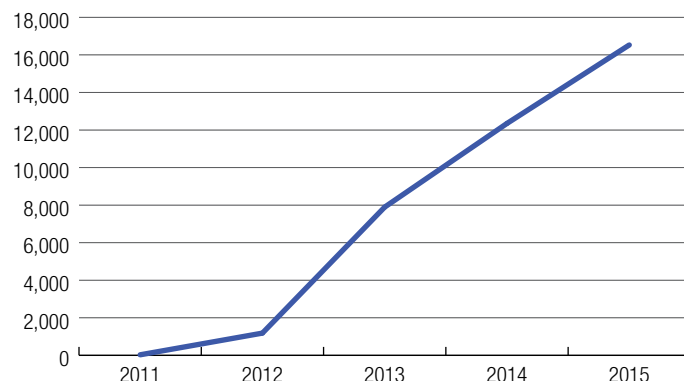
- Avoidance of more than 3 million trips in 2015, a 41% increase in trips avoided since 2011;
- Avoidance of 31 million miles of travel and saved 1.5 million gallons of gasoline;
- Reduction of 28 million pounds of carbon dioxide; and
- Savings to customers of \$5.1 million in 2015 through lower fuel costs.

**Lead agencies:** Washington State Department of Ecology and Department of Licensing

**For more information, see:**

- *Gray Notebook* 61, WSDOT Emissions/Air Quality Biennial Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Mar16.pdf#page=22>
- Washington State Greenhouse Gas Emissions Inventory: [http://www.ecy.wa.gov/climatechange/ghg\\_inventory.htm](http://www.ecy.wa.gov/climatechange/ghg_inventory.htm)
- Environmental Protection Agency, Air Quality Index Report: [https://www3.epa.gov/airquality/airdata/ad\\_rep\\_aqi.html](https://www3.epa.gov/airquality/airdata/ad_rep_aqi.html)

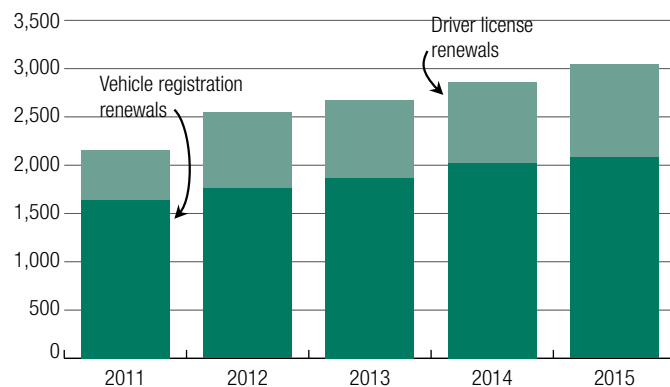
**The number of registered electric vehicles in Washington state continues to increase 2011 through 2015**



Data source: Washington State Department of Licensing.

Note: The number of electric vehicles registered in 2015 is out of 4.8 million total registered passenger vehicles.

**Online transactions for drivers license and vehicle registration renewals increases steadily in Washington state 2011 through 2015; Transactions in thousands**



Data source: Washington State Department of Licensing

## STEWARDSHIP

To continuously improve the quality, effectiveness and efficiency of the transportation system.

**Objective: Deliver 90% of Nickel and Transportation Partnership Act projects both on time and on budget**

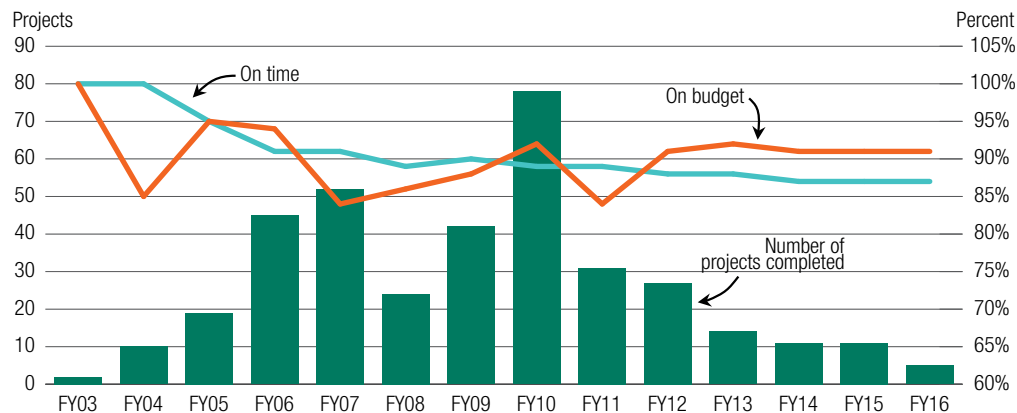
*WSDOT's delivery of the Nickel and Transportation Partnership Act (TPA) revenue package projects continues to be both on time and on budget.*

### Trend analysis

There are 421 projects on the combined Nickel and TPA construction project list. As of June 2016, 371 projects have been completed with 87% on time and 91% on budget.

#### WSDOT completes 371 Nickel and TPA projects out of 421

*Fiscal year 2003 through fiscal year 2016*



Data source: WSDOT Capital Program Development and Management Office.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- Gray Notebook 62, Capital Project Delivery Programs: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=46>

## STEWARDSHIP

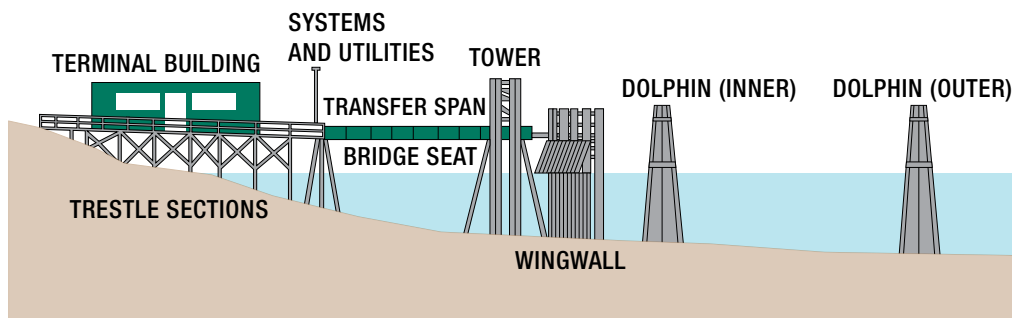
To continuously improve the quality, effectiveness and efficiency of the transportation system.

### Objective: Deliver 90% of ferry terminal projects on time

*WSDOT Ferries Division completed all of the terminal capital projects on time in fiscal year (FY) 2016.*

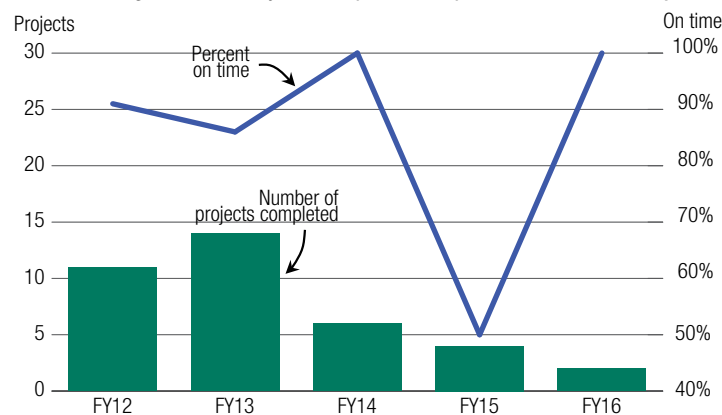
#### Trend analysis

Ferry terminal projects range from building rehabilitation for compliance with the Americans with Disabilities Act to the replacement of landing aids such as wingwalls and dolphins in the water (see graphic below). In FY2016, 100% of ferry terminal projects were completed on time, up from 50% of projects completed on time in FY2015.



#### Two ferry terminal projects in Washington state completed on time in fiscal year 2016

*FY2012 through FY2016; Projects completed and percent on time annually*



Data source: WSDOT Ferries Division.

**Lead agency:** Washington State Department of Transportation

#### For more information, see:

- *Gray Notebook* 62, Ferries Terminals and Vessels Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=23>
- WSDOT Ferries Division FY2015 Performance Report: <http://www.wsdot.wa.gov/publications/fulltext/LegReports/15-17/FY2015WSFPerformanceMeasuresReport.pdf>

## STEWARDSHIP

To continuously improve the quality, effectiveness and efficiency of the transportation system.

### Objective: Limit out-of-service time for ferry vessels

*Vessel out-of-service time correlates very closely to vessel age.*

#### Trend analysis

Ferry vessels have spent an average of 9.5 weeks per vessel in out-of-service status during fiscal year (FY) 2016.

Washington State Ferries has a goal for average out-of-service time of eight weeks per year. The four Super class vessels, which have an average age of 49 years, had the highest average at 18.2 weeks out of service in FY2016. The two Evergreen State class vessels, which have the highest average age of 57.5 years, had the lowest average at 2.6 weeks out of service in FY2016. The average age of all ferry vessels during FY2016 is 31 years.

#### Out-of-service time per Washington state ferry vessel averaged 9.5 weeks in FY2016

*Fiscal years 2012 through 2016; Average weeks out of service per vessel by class*

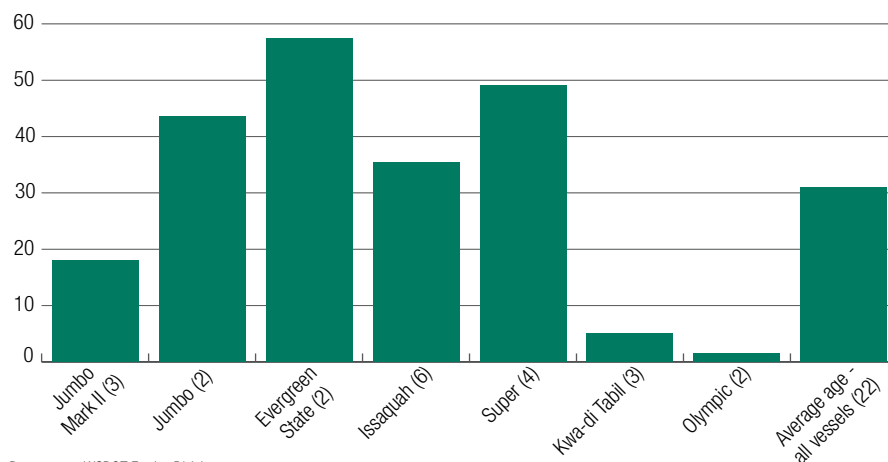
Vessel class (number of vessels) <sup>1</sup>	FY2012 <sup>2</sup>	FY2013 <sup>2</sup>	FY2014 <sup>2</sup>	FY2015 <sup>3</sup>	FY2016 <sup>3</sup>
Jumbo Mark II (3)	6.7	3.2	5.9	16.8	14.9
Jumbo (2)	7.1	21.9	4.1	3.8	5.6
Evergreen State (2)	12.6	10.0	15.1	15.3	2.6
Issaquah (6)	6.1	4.0	7.6	8.5	5.1
Super (4)	8.4	8.3	5.9	5.5	18.2
Kwa-di Tabil (3)	3.4	6.0	9.8	8.6	7.0
Olympic (2) <sup>3</sup>	0	0	0	5.1	11.4
All Vessels (22)	7.8	7.5	8.1	9.4	9.5

Data source: WSDOT Ferries Division.

Notes: WSDOT Ferries Division has a goal for average out of service time of eight weeks per year. 1 The numbers of vessels reflect the fleet at the end of FY2016. 2 These calculations are based on 21 vessels in the Ferries system at the time. 3 These calculations are based on 22 vessels in the Ferries system at the time.

#### The average age of all Washington State Ferries vessels is 31 years

*Fiscal year 2016, Average age in years per vessel by class*



Data source: WSDOT Ferries Division.

Note: The number of vessels in each ferry class is listed in parenthesis next to the class name.

**Lead agency:** Washington State Department of Transportation

#### For more information, see:

- Gray Notebook 62, Ferries Terminals and Vessels Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=23>
- WSDOT Ferries Division FY2015 Performance Report: <http://www.wsdot.wa.gov/publications/fulltext/LegReports/15-17/FY2015WSFPerformanceMeasuresReport.pdf>



## STEWARDSHIP

To continuously improve the quality, effectiveness and efficiency of the transportation system.

### Objective: Deliver 90% of rail capital projects both on time and on budget

*WSDOT's capital delivery program for rail-related projects delivers all Nickel and TPA projects both on time and on budget.*

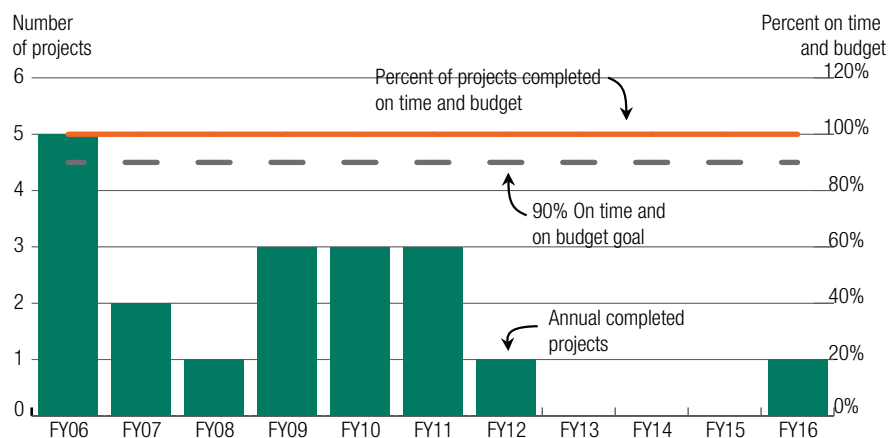
#### Trend analysis

From fiscal year (FY) 2006 through FY2016, 19 rail projects on the combined Nickel and TPA construction project list have been completed, with 100% completed on time and 100% completed on budget. A project is considered “on time” if it is operationally complete within the quarter planned in the last approved project schedule. A project is considered “on budget” if the costs are within 5% of the last approved project budget.

These projects fall within the Legislative Evaluation and Accountability Program, and WSDOT reports on the status of these projects on a quarterly basis. As of June 2016, there were three additional rail projects under construction or entering the construction phase, with 100% of these projects advertised early or on time.

#### Nineteen Nickel and TPA rail projects completed in Washington state

*Fiscal years 2006 through 2015; Annual projects completed; Percent completed on time and budget*

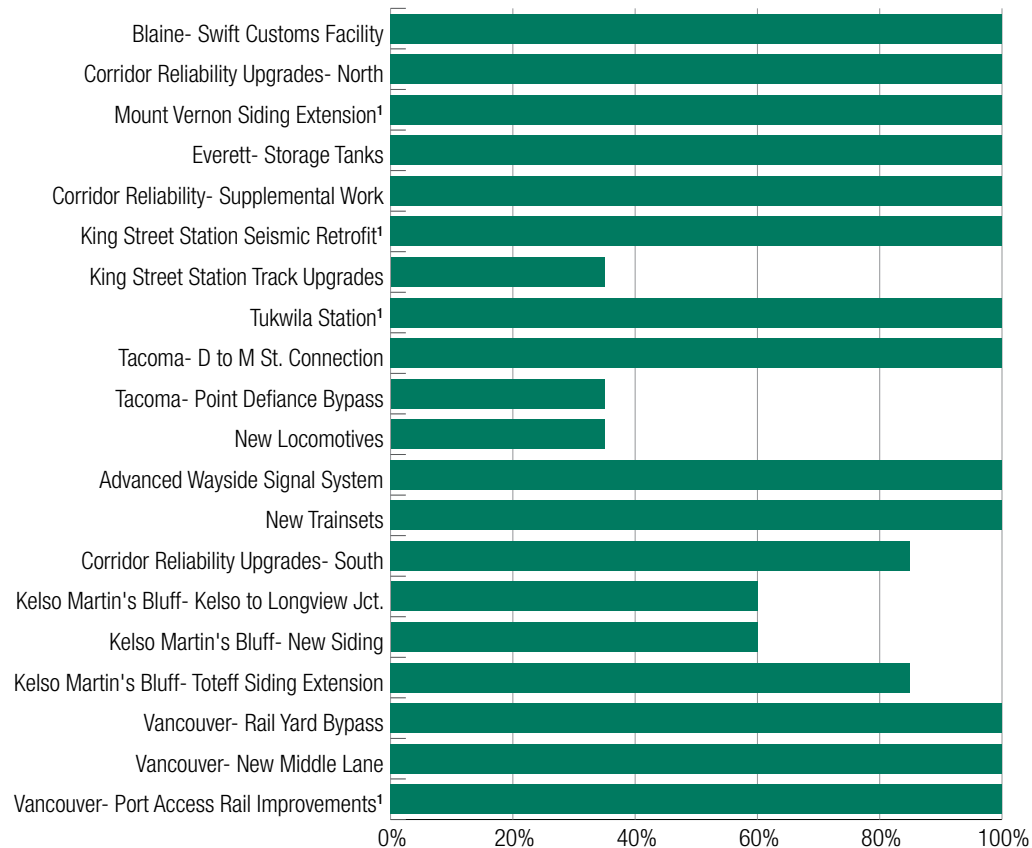


Data source: WSDOT Capital Program Development and Management Office.

In addition to the Nickel and TPA projects, WSDOT is delivering 20 rail projects that are federally funded. More than 96% of the funding for these projects comes from the American Recovery and Reinvestment Act. Of the 20 projects, 13 are completed as of June 2016, and the remaining seven are on schedule to be completed in 2017.

### More than half of WSDOT's capital improvement high-speed rail projects are complete

*As of June 2016; Percentage of construction completed*



Data source: WSDOT Rail, Freight and Ports Office.

Note: The majority of these projects are funded through the American Recovery and Reinvestment Act. 1 ARRA related projects with non-ARRA funding sources.

**Lead agency:** Washington State Department of Transportation

#### For more information, see:

- *Gray Notebook* 62, Rail Quarterly Update: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=31>
- *Gray Notebook* 62, Capital Project Delivery Programs Quarterly Update: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=46>

## STEWARDSHIP

To continuously improve the quality, effectiveness and efficiency of the transportation system.

**Objective: Measure public perception about the condition and needs of the transportation system**

***Sixty-five percent of the respondents gave statewide transportation systems a C or better grade and 57% of the respondents gave their local system a C or better in 2015.***

### Trend Analysis

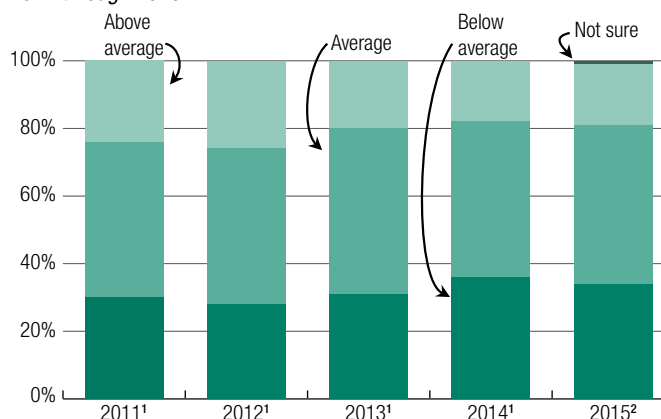
Respondents to WSDOT's Washington Transportation Plan 2035 survey, administered in June 2015, gave the statewide transportation system a C- overall grade (1.75 out of 4.0). Out of the 7,524 respondents who completed the survey, 65% gave the statewide system an "Average" grade (C) or better.

Results were tallied by regional transportation planning organization jurisdictions. Respondents in the Palouse, Vancouver, and the Benton-Franklin areas gave the statewide system the highest average rankings of "Average" (C). Respondents in the Puget Sound, northeast Washington and Thurston county areas gave the state transportation system the lowest overall grades of "Below Average" (D+).

The overall grade respondents gave for their local transportation systems was a C- (1.64 out of 4.0). Regions that ranked their local systems the highest included the Whatcom and Benton-Franklin which both gave an "Average" grade (C-). Regions that ranked their local systems the lowest included the Puget Sound, northeast Washington, southwest Washington (including Vancouver) and Spokane areas which all gave a "Below average" (D) grade.

In the 2015 survey administered by WSDOT, respondents were asked which one transportation issue most needs to be addressed in long-term planning. For both statewide and local systems, the top responses were Traffic/Congestion and Public/Mass Transportation. The next highest category for the statewide system was Rail and for the local system it was Streets/Roads. The lowest ranked categories (excluding Miscellaneous, "Nothing," and "Don't Know") were Pedestrian for the statewide system and Environmental for local systems.

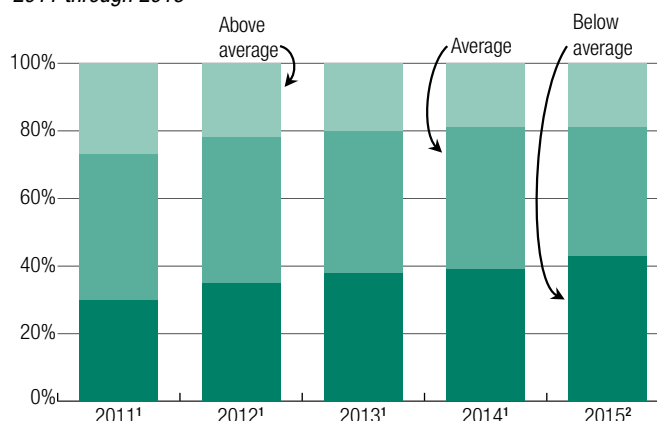
### The statewide transportation system receives a decreased "Below Average" rating in 2015 compared to 2014



Data source: Washington State Transportation Commission and WSDOT Multimodal Planning Division.

Note: 1 The data for 2011 through 2014 was collected from the Washington State Transportation Commission's Voice of Washington Transportation Survey for each year. 2 The data for 2015 was collected from a survey conducted by the WSDOT Planning Office using the VOWS web panel and similar questions to the VOWS Survey.

### Local transportation systems in Washington state rated "Above Average" by 19% of survey participants in 2014 and 2015



Data source: Washington State Transportation Commission and WSDOT Multimodal Planning Division.

Note: 1 The data for 2011 through 2014 was collected from the Washington State Transportation Commission's Voice of Washington Transportation Survey for each year. 2 The data for 2015 was collected from a survey conducted by the WSDOT Planning Office using the VOWS web panel and similar questions to the VOWS Survey.

The results of the 2015 WSDOT survey aligned with those from previous Voice of Washington State surveys (VOWS) which asked respondents to give various investment categories a score from 1-5 with 5 being very important. In the 2013 VOWS survey, the most recent survey year that administered this question, 84% of respondents selected 'maintaining and repairing existing roads, highways and bridges' as the most important statewide investment. This was 35 percentage points higher than the second-ranked activity, 'expanding public transit services like buses, vanpools, and dial-a-ride.' 'Improving regional airports' was the lowest ranked activity with 13% of respondents thinking of it as important, and 'building bike lanes' showed the biggest drop in interest, going from 40% thinking it was important in 2011 to 23% thinking it was important in 2013.

#### Percent of Washington state respondents ranking investment highlights as important

2011 and 2013; Voice of Washington State Transportation Survey; Percent of respondents ranking investment as important<sup>1</sup>

Investment	2011	2013
Maintaining and repairing existing roads, highways, and bridges	85%	84%
Expanding public transit services like buses, vanpools, and dial-a-ride	51%	49%
Adding or increasing intercity passenger rail service	55%	46%
Operating and maintaining Washington state's ferry system	46%	40%
Widening and building more roads and highways	51%	40%
Making sure rural roads and mountain remain passes open year round	44%	34%
Minimizing weather closures of roads and highways from snow and flooding	n/a	33%
Improving roads and infrastructure at shipping ports to move freight and goods	38%	31%
Increasing law enforcement and public safety efforts on our state highways	37%	29%
Building or improving sidewalks	30%	27%
Building bike lanes	40%	23%
Improving regional airports	23%	13%

Data source: Washington State Transportation Commission.

Note: This question was not asked in the 2015 Washington Transportation Plan 2035 survey. Data for all years that this question was asked in a Voice of Washington Survey are represented in the table. 1 Respondents were asked to rank categories 1-5 or "not sure". A score of 4-5 was considered "important."

**Lead agency:** Washington State Transportation Commission

#### For more information, see:

- Washington State Transportation Commission's 2014 Statewide VOWS Transportation Survey: [http://www.wstc.wa.gov/CommissionLibrary/documents/2015\\_0203\\_VOWS\\_FinalSurveyReport.pdf](http://www.wstc.wa.gov/CommissionLibrary/documents/2015_0203_VOWS_FinalSurveyReport.pdf)
- WSDOT Planning Office's WTP 2035 Survey: <http://www.wsdot.wa.gov/NR/rdonlyres/BAED6B85-D53B-4197-9702-E0F8165959E2/0/WTPVOWSFinalJuly2015.pdf>
- Information on regional transportation planning organizations: <http://www.wsdot.wa.gov/planning/Regional/Default.htm>

## STEWARDSHIP

To continuously improve the quality, effectiveness and efficiency of the transportation system.

### Objective: Measure passenger satisfaction with the Washington state ferry system

*In 2016, ferry riders were satisfied or very satisfied with the service provided by Washington State Ferries 73% of the time.*

#### Washington State Ferries continues to receive a high overall satisfaction rating system-wide 2008, 2010, 2012, 2014, 2015 and 2016

Year	Very Satisfied	Satisfied	Dissatisfied	Don't Know/No Opinion/Neutral
2016	36%	37%	17%	10%
2015	33%	40%	17%	10%
2014	35%	39%	17%	9%
2012	29%	38%	17%	16%
2010	25%	47%	17%	11%
2008	20%	44%	23%	13%

Data source: Washington State Transportation Commission.

Notes: The Washington State Ferry Winter Performance Survey is not conducted each year. All years for which a survey was conducted are represented on this table.

#### Trend Analysis

Since 2008, the Transportation Commission has been conducting a survey of ferry riders to help inform policy and financing decisions. In 2010, a targeted effort was made to assess the opinions of frequent ferry riders, and the Ferry Riders' Opinion Group (FROG) was created. FROG is an online community where ferry users weigh in on ferry issues through surveys and quick polls. Overall, ferry riders were satisfied or very satisfied with Washington State Ferries' service 73% of the time in 2016, a 9% improvement from 2008 and on par with 2015.

#### Satisfaction Factors

The following aspects of WSDOT ferries services had the highest satisfaction rates among ferry riders in the 2015 winter riders survey:

- Ferry riders are most satisfied with the friendliness and helpfulness of unloading crews and vessel crews. In general, ferry vessel crew members are seen as polite, helpful and competent by ferry riders. Unloading crews provide clear directions.
- Passengers find toll booth staff friendly and generally find purchasing tickets easy.
- Passenger seating areas are clean.

#### Dissatisfaction Factors

- Adequate parking near terminals is lacking and needs improvement.
- Vehicles need to be processed more efficiently.
- Creating and maintaining comfortable terminals needs improvement.

Passengers using the Seattle, Mukilteo and Bainbridge terminals showed the most dissatisfaction with adequate parking in 2016. Vehicle processing efficiency had high the most unsatisfactory rates at the Fauntleroy, Seattle and Bainbridge terminals. Passengers found the Seattle, Bainbridge and Fauntleroy terminals to be the most uncomfortable.

**Ferry riders on the Fauntleroy/Vashon and San Juan—Interislands routes express the highest levels of overall dissatisfaction of all Washington State Ferries routes in 2016**  
*2008, 2010, 2012, 2014, 2015 and 2016*

Ferry Route	2008	2010	2012	2014	2015	2016
Seattle/Bainbridge	16%	16%	13%	12%	13%	16%
Seattle/Bremerton	24%	20%	19%	13%	15%	15%
Edmonds/Kingston	16%	17%	16%	13%	19%	14%
Fauntleroy/Vashon	36%	22%	17%	27%	29%	39%
Fauntleroy/Southworth	22%	23%	32%	22%	19%	25%
Southworth/Vashon	N/A	24%	12%	23%	0%	22%
Point Defiance/Tahlequah	44%	24%	18%	15%	14%	25%
Mukilteo/Clinton	15%	14%	16%	15%	16%	10%
Port Townsend/Coupeville	19%	17%	28%	20%	16%	17%
Anacortes/San Juan Islands	13%	21%	33%	48%	29%	23%
San Juan—Interisland	N/A	25%	N/A	48%	27%	35%

Data source: Washington State Transportation Commission.

Notes: The Washington State Ferry Winter Performance Survey is not conducted each year. All years for which a survey was conducted are represented on this table.

**Lead agency:** Washington State Transportation Commission

**For more information, see:**

- *Gray Notebook* 62, Ferries Quarterly Update: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=29>
- *Gray Notebook* 62, Ferries Vessel and Terminal Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=23>
- Washington State Transportation Commission, WSF Winter Ferry Performance FROG Survey Reports: <http://wstc.wa.gov/StudiesSurveys/FROGSurvey/2014.htm>

## ECONOMIC VITALITY

To promote and develop transportation systems that stimulate, support and enhance the movement of people and goods to ensure a prosperous economy.

### Objective: Create and sustain jobs through investments in transportation

*Jobs created or sustained through investments in transportation are declining slower as a result of the 2015 Connecting Washington package.*

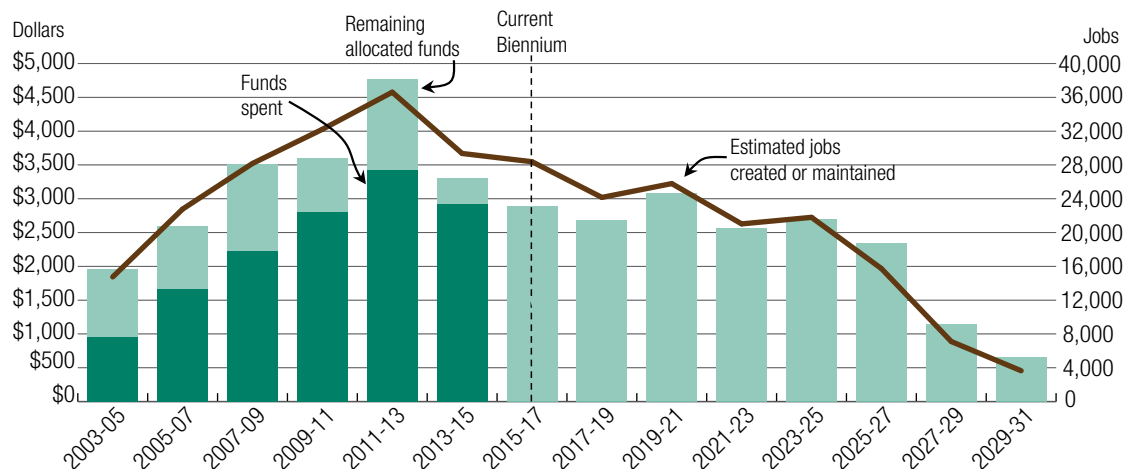
#### Trend analysis

WSDOT's highway construction program is estimated to create or sustain 28,400 jobs in the 2015-2017 biennium (July 2015 through July 2017). In the 2013-2015 biennium, based on actual spending, the highway construction program is estimated to have created or sustained an estimated 29,400 jobs. These job estimates represent the declining biennial employment levels for Nickel and Transportation Partnership Account gas tax funded projects. The 2015 Connecting Washington funding package is estimated to reduce the rate of decline for biennial employment levels. With the current transportation funding packages, WSDOT estimates that the number of jobs will decrease to approximately 3,600 by the 2029-2031 biennium.

These estimates were generated using the Office of Financial Management's (OFM) economic model. WSDOT is moving toward using the Regional Economic Models, Inc. (REMI) TranSight tool for future transportation economic benefit analysis. In the future, the numbers generated by this tool are likely to be much higher than those produced by the OFM model (discussed above and shown in the graph below).

#### Jobs created or sustained<sup>1</sup> in Washington state are relative to highway construction program expenditures<sup>2</sup>

2003-2005 biennium through 2029-2031 biennium; Includes 2003 Nickel, 2005 Transportation Partnership Account, 2009 American Recovery and Reinvestment Act, 2015 Connecting Washington and Pre-Existing Funds; Dollars in millions



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

Notes: These estimates were generated using the Office of Financial Management's economic model. 1 Includes direct and indirect jobs. Jobs created or sustained in prior biennia are based on actual spending, jobs in current and future biennia are based on authorized funding level.

2 Excludes expenditures for the improvement program reimbursed by Sound Transit.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

- Gray Notebook 61, Transportation Economic Update Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Mar16.pdf#page=30>

## ECONOMIC VITALITY

To promote and develop transportation systems that stimulate, support and enhance the movement of people and goods to ensure a prosperous economy.

### Objective: Enhance transportation systems to facilitate movement of freight

*Freight volumes increased on all modes monitored in 2014. Washington state was the third most freight-dependent state in the U.S. with total imports and exports valued at \$142.7 billion.*

#### Trend analysis

On a per capita basis, Washington state was the third most trade-dependent state in the nation after Texas and Louisiana with total imports and exports valued at \$142.7 billion and gross business income for freight-dependent industry sectors valued at \$547.6 billion in 2014, the latest year for which data is available. Trade dependency is based on the portion of the state's economy that relies on importing and exporting activities. According to the Federal Highway Administration's Freight Analysis Framework (FAF) dataset, the majority of freight in Washington state is moved by truck when measured by value (this is also true by weight). Trucks moved 59.2% of freight into, out of, within and through Washington state in 2014.

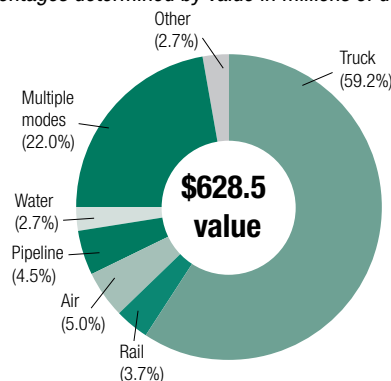
In 2014, all modes of freight WSDOT reports on including truck, rail, marine and air increased. The largest increase was in marine freight which increased by 14.6% since 2010. Rail and air cargo increased 5.2% and 1.9% from 2010, respectively. Truck freight increased 4.6% from 2012 (the furthest back data was available from the FAF dataset).

**Truck freight:** In 2014, trucks moved approximately 281 million tons, up 3.3% from approximately 272 million tons in 2012. All categories of truck freight (domestic, imports and exports) increased between 2012 and 2014. The largest increase was in exports which rose 12.7% from 2012. Domestic and import freight increased 0.2% and 10.3%, respectively.

Truck traffic volumes were highest on I-5 near Tacoma (milepost 131), averaging 15,793 trucks daily in 2014. Other high volume locations in 2014 included I-5 near Kelso (milepost 36) with an averaged 11,040 trucks daily, I-5 near Arlington (milepost 208) with an averaged 10,015 trucks daily, I-90 at Snoqualmie Pass (milepost 33) with an averaged 6,548 trucks daily, and U.S. 395 near the Tri-Cities (milepost 27) with an averaged 3,646 trucks daily.

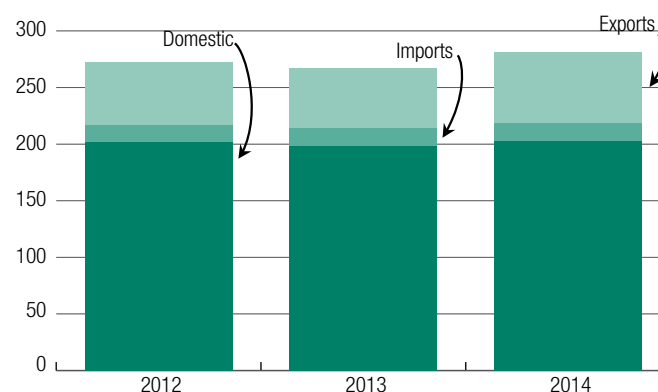
**Rail freight:** Rail carried 121.8 million tons of cargo, up 5.2% from 115.8 million tons in 2012. The majority of freight tonnage moved by rail – 48.6% (59.2 million tons) out of the total – terminate in Washington state. This category of rail movements increased the sharpest – up 13.3% between 2010 and 2014. Rail freight originating and terminating in the

#### Most freight by value is moved by truck in Washington state 2014; Percentages determined by value in millions of dollars



Data source: Freight Analysis Framework Data, Federal Highway Administration.  
Notes: Percentages may not add to 100 due to rounding.

#### More than two-thirds of truck freight in Washington state are shipments of domestic goods 2012 through 2014<sup>1</sup>, tons in millions



Data source: Freight Analysis Framework Data, Federal Highway Administration.  
Note: 1 Data shown is latest available.



state was the only category to decrease. Farm products such as soybean, corn, and wheat were the largest commodities transported in 2014. There was a net increase of 8.9 million tons of farm products (34.3%) between 2013 and 2014, mostly due to an increase in soybean and corn shipments. Hazardous materials increased more than three million tons (23.3%) due to increased crude oil shipments by rail in the state. Coal traffic also increased two million tons (11.9%), rising to 19.3 million tons during 2014.

**Water freight:** Washington state's waterborne freight activity, measured in total tonnage, was 119.3 million tons in 2014, up 14.6% from 2010. While foreign marine freight was the largest portion of marine freight in the state, the fastest growing market during the five year period was domestic, which grew 29.8%. Intrastate freight, the smallest category of marine freight, was down slightly by less than 1%.

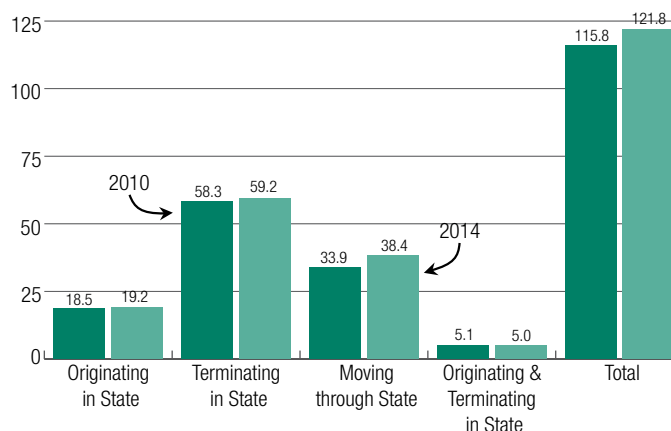
**Air freight:** Washington state airports handled 1.53 million tons of cargo in 2014, measured in plane plus cargo weight as reported by the Federal Aviation Administration. This represents a 1.9% increase from 2010 air cargo levels of 1.37 million tons, and is the highest annual tonnage reported since 2009. This is primarily due to a 57.5% increase in total air cargo tonnage at Paine Field airport in Snohomish County from 84,000 tons in 2013 to 132,000 tons in 2014. However, Sea-Tac International Airport handled 51.5% of all air freight in Washington state in 2014. Sea-Tac Airport ranked 19th in terms of air cargo volume in North America for 2015, providing daily non-stop service to 77 domestic and 19 international destinations and accounting for \$13.6 billion in international commodity trade.

**Lead agency:** Washington State Department of Transportation

**For more information, see:**

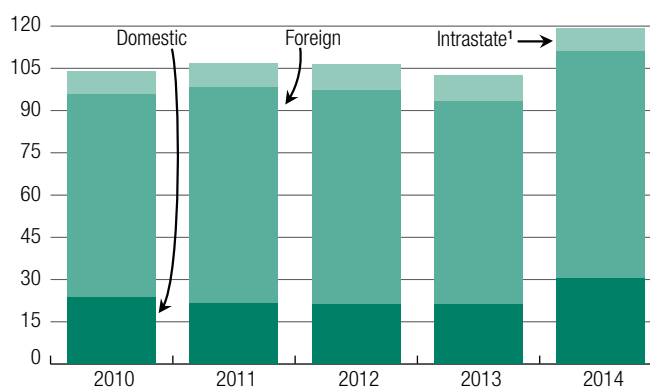
- *Gray Notebook* 62, Freight Semi-Annual Report: <http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun16.pdf#page=39>

**Rail freight tonnage increases by 5.1% in Washington state 2010 and 2014; Tons in millions**



Data source: WSDOT Rail, Freight and Ports Office.

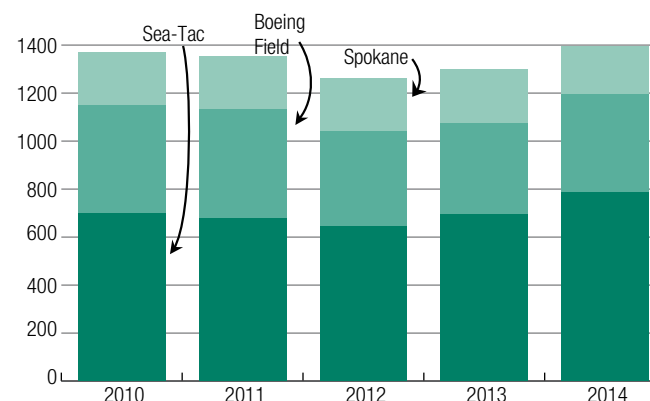
**Waterborne freight tonnage increase in 2014 in Washington state 2010 through 2014, tons in millions**



Data source: US Army Corps of Engineering - Navigation Data Center, and WSDOT Rail, Freight and Ports Office.

Note: 1 Intrastate freight is a subset of domestic freight, but is shown separately for clarity. The 2014 edition of the *Attainment Report* counted intrastate freight twice (first as part of the total domestic freight and as its own category), and the data for all years has been corrected in this graph.

**Total landed air cargo tonnage on the rise in Washington state 2010 through 2014, tons in thousands**



Data source: Federal Aviation Administration