



**Washington State  
Department of Transportation**

TESTIMONY OF

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REGARDING

**Examining the Role of Ferries in Improving  
Mobility**

BEFORE THE

Subcommittee on Highways and Transit of  
the Committee on Transportation and Infrastructure  
of the United State House of Representatives

ON

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## INTRODUCTION

Chairman Norton, Ranking Member Davis, and distinguished members of the subcommittee, thank you for the opportunity to testify today to share information about the Washington State Ferries system. My name is Patty Rubstello, and I serve as Assistant Secretary of the Washington State Department of Transportation (WSDOT) leading the Ferries Division.

WSDOT operates Washington State Ferries (WSF), the nation's largest ferry system, which is a transit system, a part of the Washington State highway system and a vessel and terminal operator. This affords us the opportunity to work with many federal agencies including the Federal Highway Administration, Federal Transit Administration, U.S. Maritime Administration, and the U.S. Coast Guard. We value our federal partnerships and want to thank the committee for the critical funding support we receive.

We transport 23.9 million customers per year on 10 routes served by a fleet of 21 vessels. We operate and maintain 20 terminals. Ours is the second largest ferry system in the world for vehicles carried, transporting nearly 10.5 million vehicles in 2019. We provide service to both rural and urban areas, and we are a critical lifeline service to our San Juan Islands and Vashon Island communities, for which driving around is not an option. We also operate a popular international route to Vancouver Island in British Columbia. Our Eagle Harbor Maintenance Facility is the largest state-owned shipyard in the United States. Currently celebrating 70 years of service, Washington's ferries have become as iconic as the majestic waterways and

landscapes they sail through. In addition, WSF has an impeccable safety record that makes the system a model for ferry operators around the globe.

My remarks today will center around the following key points:

- An overview of the critical services we provide and the role we have in improving mobility.
- The continued need for strong federal support for public ferry systems.
- Our initiative to electrify our fleet to ensure system reliability.
- Current challenges including the effects of the COVID-19 pandemic and workforce shortages.

## **WASHINGTON STATE FERRIES OVERVIEW AND ROLE IN IMPROVING MOBILITY**

More than just a transportation system, the ferries mean many things to many people: a link in their multimodal journey connecting regional transit systems; a connection to work or school; a popular attraction for visitors and connection to recreation; a mainland connection for island communities; and a fundamental link for freight mobility and economic prosperity. The ferry system is both a critical component of the state highway system and the third largest transit system in Washington state. In 2019, WSF published its Long-Range Plan reflecting the extensive and robust engagement of more than 7,000 ferry riders, community members, tribes, government agencies and officials, businesses, transit partners and others. It serves as a blueprint to guide our investments and service for the next 20 years while considering the changing needs of ferry system users and associated funding opportunities and challenges.

Ridership on WSF is expected to grow more than 30 percent by 2040, climbing to nearly 32 million passengers a year. Our traditional weekday commute patterns and demographics are changing (even before the COVID-19 pandemic dramatically shifted ridership patterns and volumes), recreational and other discretionary trips are increasing, and an aging population requires more special transportation services. The heart of our service lies in and around Puget Sound connecting communities to each other and to the city of Seattle, one of the fastest growing metropolitan areas in the nation.

For Western Washington, ferries play an important role in reducing congestion, connecting urban communities on the east side of Puget Sound with the Olympic and Kitsap Peninsulas and island communities. The Central Puget Sound area, including Seattle, experiences some of the worst congestion in the United States. As the Seattle area grows and real estate prices soar, ferries play an essential role in connecting jobs in urban cores with more affordable housing outside the metro area without adding to cars on the road. Often, the “drive-around” option for many travelers means several hours on highways and local roads compared to a relatively brief ferry trip. The cost to drivers of a single missed sailing ranges from \$36-137 for each of WSF’s routes based on distance and the amount of time it takes to drive around. In addition, we have agreements with two counties who provide passenger only ferry service utilizing our facilities. We partner with local passenger-only ferry operators and transit systems to adjust service when needed or to work together to provide mobility options for our customers.

One of our busiest commuter routes, the ferry between Bainbridge Island and downtown Seattle, transports nearly 3.3 million walk-on passengers a year. During busy commute times, we routinely see thousands of walk-on customers on each sailing. Many of these customers connect to other forms of transit on each side of the water, connecting to their destinations without the use of single occupancy vehicles.

WSF is also working to incorporate new technologies that will allow customers to access more up-to-date information about the ferry system and connect with the rest of the region's transportation network in innovative new ways. For example, many ferry customers already plan trips and pay for tickets via smartphone apps, regional fare programs and other tools, which allows them to make a more seamless door-to-door trip.

### **THE CONTINUED NEED FOR STRONG FEDERAL SUPPORT OF PUBLIC FERRY SYSTEMS**

We greatly appreciate the federal support we receive for our ferry system. Approximately 25 percent of our capital and operating budget comes from federal sources. We depend on the FHWA Ferry Boat Program to support vessel preservation and terminal facilities and the FTA Passenger Ferry Grant Program for preserve our vessels. As the third largest transit provider in the state, we receive urban transit funding to support ferries operations. These funds are suballocated through the Puget Sound Regional Council, our state's largest Metropolitan Planning Organization.

Federal formula and discretionary grant funds were critical for two major terminal projects. In 2020, WSF completed construction of a new replacement terminal at Mukilteo – our first new

Testimony of **Patty Rubstello**

Assistant Secretary, Washington State Department of Transportation, Ferries Division

terminal in over 40 years. Approximately 38 percent of funding for this \$187 million project came from federal sources. The project embodies our commitment to addressing climate change and equity. WSF consulted with 11 federally recognized tribes to design and construct the project in a way that was consistent with treaty reserved fishing rights and sensitive cultural resources in the project area. It was designed and built to LEED Gold standards, and removed an abandoned U.S. Air Force fueling pier comprised of over 4,000 creosote-soaked timber piles from Puget Sound. This project also improved multimodal connections to an adjacent transit center and commuter rail station.

Our Seattle Multimodal Terminal at Colman Dock Project on the Seattle waterfront is replacing an aging and seismically-vulnerable dock in order to maintain its critical role as a regional multimodal transportation hub. Serving freight customers and passengers for 140 years, the routes serving this terminal carry 10 million passengers and over 2.4 million vehicles annually. Approximately 52 percent of funding for this \$438 million project comes from federal sources. Construction on this project is expected to be completed in 2023.

While federal funding has been critical to maintaining and operating our services and facilities, we need additional resources to preserve and modernize our aging fleet and infrastructure.

Over the next 20 years, WSF needs a coordinated set of investments in its fleet, terminal infrastructure, workforce and technology. In addition, WSF's retiring vessels should be replaced with those that are strategically designed to more easily accommodate growing ridership, with flexible passenger and car-deck space to better serve the particular demands of a route. A more efficient fleet needs to be supported by resilient terminals that support vessel charging

infrastructure, enhanced technology for efficient fare collection, and better access to transit and other modes of transportation. The WSF workforce must be further strengthened with more active recruitment, development, and retention.

Our needs are great. Over the next 20 years, 13 of Washington's ferries will need to be replaced. Additionally, an increased number of relief or "standby" vessels are required to ensure reliable service and adequate time for vessel maintenance and preservation to keep ferries operating for up to 50 and 60 years, depending on the condition of the vessel. In addition to the need for more relief vessels to ensure the fleet receives the maintenance time it needs, over half of the fleet will be retired over the next 20 years.

The estimated cost of all of this over the next 20 years is \$14.6 billion. Dedicated state tax revenue and fare collection, which is projected to provide nearly 80 percent of WSF's operating costs in 2040, would cover \$7.7 billion of these costs. Our farebox recovery is remarkable when compared to the 20 to 30 percent recovery experienced by most transit operators. These investments are necessary to ensure system reliability and resilience, with the added benefit of increased operating efficiency.

## **ELECTRIFICATION OF THE WASHINGTON STATE FERRIES SYSTEM**

WSF's diesel fuel consumption makes it the largest generator of carbon and other greenhouse gas emissions from Washington state government sources. According to the Puget Sound Clean Air Agency, diesel exhaust represents 78 percent of the potential cancer risk from all air toxics

in Puget Sound. Diesel exhaust has also been linked to respiratory problems, cardiovascular problems, and premature death. We are working on several projects to meet the goals of Governor Jay Inslee's Executive Order 20-01, which directs WSF to move toward a zero emissions fleet.

WSF is undertaking this ambitious initiative to electrify the system with plug-in hybrid-electric vessels and terminal enhancements to achieve reduced environmental impact and energy costs. We are focused on building a reliable fleet that has a lighter footprint on the environment and outperforms CO<sub>2</sub> reduction targets. We estimate that a hybrid fleet would reduce our energy consumption by 30 percent, saving us \$19 million per year in operations cost.

In general, nearly every route within the WSF system can be served by a hybrid-electric vessel. The extent to which each vessel can maximize the advantage of its electric propulsion technology depends on a variety of elements, such as route length, vessel size and weight, amount of time spent at the dock to charge the vessel, and power availability at the terminal. Converting to a hybrid-electric propulsion fleet also takes advantage of Puget Sound's clean power sources including hydroelectric, wind and solar. When fully realized, we estimate reductions of 53 percent greenhouse gas emissions (CO<sub>2</sub>e) by 2030, and 76 percent by 2040, from baseline 2005 emissions levels.



This initiative comes at an opportune time given that many of our older diesel vessels are due for replacement in the near future. While the complete conversion to a hybrid-electric fleet will take some time, the benefits will be seen almost immediately with the planned retrofit and upgrade of WSF's three Jumbo Mark II Class vessels. These ferries, which each carry 202-vehicles, are the largest source of emissions in the fleet. Their hybridization will reduce fleet-wide emissions by 27 percent once shore charging is available and will reduce carbon emissions by 48,565 metric tons/year – the equivalent of taking more than 10,000 cars off the road. In addition, we are beginning construction early in 2022 on our first new build hybrid-electric Olympic Class ferry and it's expected to enter service in 2025.

To fully realize and meet emission reduction targets, terminal charging infrastructure must be in place. This improvement is required at nearly every one of WSF's 20 terminals, representing \$280 million of total capital investment over the next 20 years. We have a near-term plan for terminal electrification capital improvements at three priority terminals at an estimated cost of \$50.2 million.

I want to acknowledge and thank Congressman Larsen for his longstanding support for Washington State Ferries and in particular his commitment to ferry electrification. We were pleased to see Electric Ferry Programs in both the INVEST Act and the Infrastructure Investments and Jobs Act. The electrification of Washington's ferry system is an ambitious plan with the opportunity for dramatic emissions reductions and the potential to exercise leadership within the greater maritime industry.

## CHALLENGES RESULTING FROM COVID 19 PANDEMIC AND WORKFORCE SHORTAGES

The impacts of the COVID-19 pandemic and a global shortage of mariners has led to extraordinary service challenges at Washington State Ferries. At the lowest point in the pandemic, in March 2020, total ridership had fallen 75 percent compared to the last week of February 2020. Vehicle ridership fell by 63 percent, with walk-on passenger ridership falling by 90 percent. Given that nearly 75 percent of our operating budget is derived from fares, our budget was significantly impacted. For example, total farebox revenue in March and April 2020 was approximately \$14M, just half of what was forecast to be collected. (Farebox revenue for the same time period in 2019 was \$29M.) WSF tried to mitigate the budget impacts by offering reduced service. I want to thank Congress for the federal relief funding we received, via the FTA transit programs, to help cover some of our operating losses. This funding ensured that we could maintain our essential services – including getting essential workers to their jobs and lifeline access to island communities. We are slowly seeing ridership increase. While some routes over the summer returned to pre-pandemic levels, others are still lagging.

As businesses and operators across the country are experiencing, COVID-19 safety restrictions impacted WSF's ability to conduct vessel maintenance and preservation work. At the beginning of the pandemic, all work was suspended as state and private shipyard employees were directed to work from home. We continue to experience supply chain interruptions affecting vessel parts and equipment. As guidelines changed and supply lines improved, WSF reorganized its state-owned Eagle Harbor Maintenance Facility to allow it to reopen in April 2020 and worked with shipyard contractors to allow work to resume on vessels in their yards.

Testimony of **Patty Rubstello**

Assistant Secretary, Washington State Department of Transportation, Ferries Division

The pandemic also exacerbated workforce shortages. All WSF vessels are crewed by maritime professionals credentialed by the U.S. Coast Guard. The WSF workforce is experiencing the same pressures felt by other employers nationwide, as a wave of people born during the post-World War II population boom start to retire. As of January 2019, slightly more than 30 percent of the vessel workforce, 37 percent of the terminal workforce, and 24 percent of the Eagle Harbor maintenance facility staff were eligible for retirement within the next five years. Hiring enough qualified deck officers presents a challenge. Earning a Master's license requires many years of training, testing and preparation, including piloting 16 round trips on each of WSF's 10 routes and successfully drawing pilotage maps from memory during testing. Most of this work must be accomplished on an employee's own time. Approximately 75 percent of WSF's Masters and Staff Masters will be retirement-eligible in the next five years. Retirements due to the pandemic, limited training class sizes due to COVID social distancing requirements, and a global shortage of mariners has made hiring enough qualified staff even more difficult.

The continued spread of COVID-19 in Washington state results in ongoing staff absences due to positive COVID-19 cases and quarantine requirements. For example, on a recent weekend, we had dozens of staff out with COVID-19 related issues—whether active cases, in quarantine, or receiving vaccinations. Over two days, we had 85 cancelled sailings systemwide due to 41 employees calling out sick. Canceled sailings have far-reaching impacts for customers that rely on ferry service to reach island communities and connect to parts of Washington state where

the detour option often means hours of highway driving, added road miles and delays to freight mobility.

We have increased our recruitment and workforce development efforts and are embarking on a systemwide service reset to determine what levels of service we're able to provide with the resources available. Sailing schedules continue to be reduced and our messaging to customers about cancellations and disruptions has significantly increased in recent months.

## **CONCLUSION**

As the nation's largest ferry system, we strive to be a leader for sustainable growth, reducing congestion on roads and embracing new, greener technologies while providing safe and reliable service. But, like much of America's aging infrastructure, the preservation and maintenance needs are significant to address aging vessels and terminals and to maintain reliable ferry service for those that depend upon it. We appreciate and depend on Congress' support as we continue our systemwide electrification efforts to reduce carbon emissions, preserve our fleet and terminals, and increase workforce recruitment and development to become an employer of choice. We hope we can serve as a leader for ferry systems across the U.S. and around the world, providing an example for other jurisdictions to use as they consider ferries as an alternative to land-side congestion.

Thank you again for the honor and opportunity to testify today, and I am happy to answer any questions.