

# Washington State Ferries COVID-19 Service Restoration Plan

## Executive Summary

This COVID-19 Service Restoration Plan describes the process by which Washington State Ferries will increase its service to meet increasing demand as the ferry system continues to recover from the pandemic. The goals of this plan are to maintain reliability of service, ensure that service restoration can be maintained, prioritize routes based on ridership needs, and facilitate transparency and customer communications.

A return to full capacity of the system will be dependent on several variables, including:

- The trajectory of the pandemic and ongoing impacts of COVID-19 on the workforce.
- Ridership levels and accommodating the seasonal increase in summer peak season ridership.
- The ability of WSF to recruit, hire and train new employees to fill key positions.
- The rate of retirements and other separations that contribute to overall staffing levels.
- Lack of vessels due to unanticipated breakdowns and an aging fleet.

Because these variables are continuously shifting as the pandemic evolves, it is exceedingly difficult to pinpoint an exact date when ferry service will return to “normal.” WSF is currently operating on an “Alternate Service Plan,” a reduced level of service that is sustainable and provides predictability while WSF works to replenish and realign its resources. As crew and vessel resources become available over time, WSF plans to restore ferry service on a route-by-route basis in four stages:

### Stage 1: Route Prioritization

To better focus its resources and efforts, WSF has prioritized ferry routes based on ridership, service performance, availability and directness of travel alternatives, and vessel and crew availability. This is the order in which routes will be restored to full capacity:

- Anacortes/San Juan Islands
- Seattle/Bainbridge Island
- Mukilteo/Clinton
- Edmonds/Kingston
- Fautleroy/Vashon Island/Southworth

- Seattle/Bremerton
- Port Townsend/Coupeville
- Anacortes/Sidney BC

### **Stage 2: Alternate Service**

While a route is operating on its alternate, reduced schedule, WSF will assess crewing and vessel resources to determine when to increase service levels on the prioritized route.

### **Stage 3: Trial Service**

The prioritized route will operate on its regular seasonal schedule on a trial basis. A route will be considered “restored” if it can operate at a 95% reliability rate for three weeks, which gives WSF enough time to measure the sustainability of the restored service.

### **Stage 4: Route Restoration**

Route restoration is the point in which service schedules are restored to seasonally appropriate levels that meet ridership demand, and service meets reliability targets. Service restoration will take time, as WSF intends to ensure that each route is successfully restored and the system is stable before moving on to restoration of the next route. Once a route is restored, the process begins again until all routes are restored to full capacity.

In addition to providing a framework for service restoration, the Service Restoration Plan details the necessary crewing and vessel levels needed to restore service, and outlines additional challenges related to service reliability.

## Introduction and Overview

Since the start of the COVID-19 pandemic, Washington State Ferries (WSF) has been continually adjusting its service to provide reliability and predictability for customers while facing a shortage of crewing and vessel resources required to fully operate the system. This COVID-19 Service Restoration Plan (Plan) describes the process by which WSF will increase its service to meet increasing demand as the ferry system continues to recover from the pandemic.

While WSF understands the need for increased service and the ongoing impacts of reduced service on riders, a full recovery will take time and is dependent on several variables, including:

- The trajectory of the pandemic and ongoing impacts of COVID-19 on the workforce.
- Ridership levels and accommodating the seasonal increase in summer peak season ridership.
- The ability of WSF to recruit, hire and train new employees to fill key positions.
- The rate of retirements and other separations that contribute to overall staffing levels.
- Lack of vessels due to unanticipated breakdowns and an aging fleet where one vessel needs to be retired next year.

On top of the current COVID-19-related issues, WSF must also continue to address other systemic challenges to system reliability identified by previous planning efforts, including the 2040 Long Range Plan, and to implement recommendations resulting from these efforts once it emerges from the ongoing pandemic response.

The Plan outlines the process WSF will use to restore full service on each of its routes; the order in which ferry routes will be prioritized for service restoration; and the many variables that impact WSF's ability to restore service as quickly as it would like to. The first part of the Plan explains the service restoration framework and analysis, while the second part goes into greater depth about the factors affecting system reliability and what WSF is doing to increase capacity and resources.

## Service Restoration Plan Goals

The system restoration process has several goals:

1. Maintain reliability of service
2. Ensure that once service levels are restored on a route, they can be maintained
3. Prioritize routes based on ridership needs and provide predictability across the system on the order routes will return to full service
4. Provide transparency in how WSF makes service decisions
5. Facilitate streamlined customer communications

## Background: WSF’s COVID-19 Response

Like other transit providers and organizations across the globe, WSF has been responding and adapting to changing conditions and challenges since the start of the COVID-19 pandemic. With ridership dropping to historic lows early in the pandemic, ferry service has fluctuated to meet demand and manage resources, as shown in Figure 1 which shows ridership levels and key milestones since the start of the pandemic in Feb. 2020.

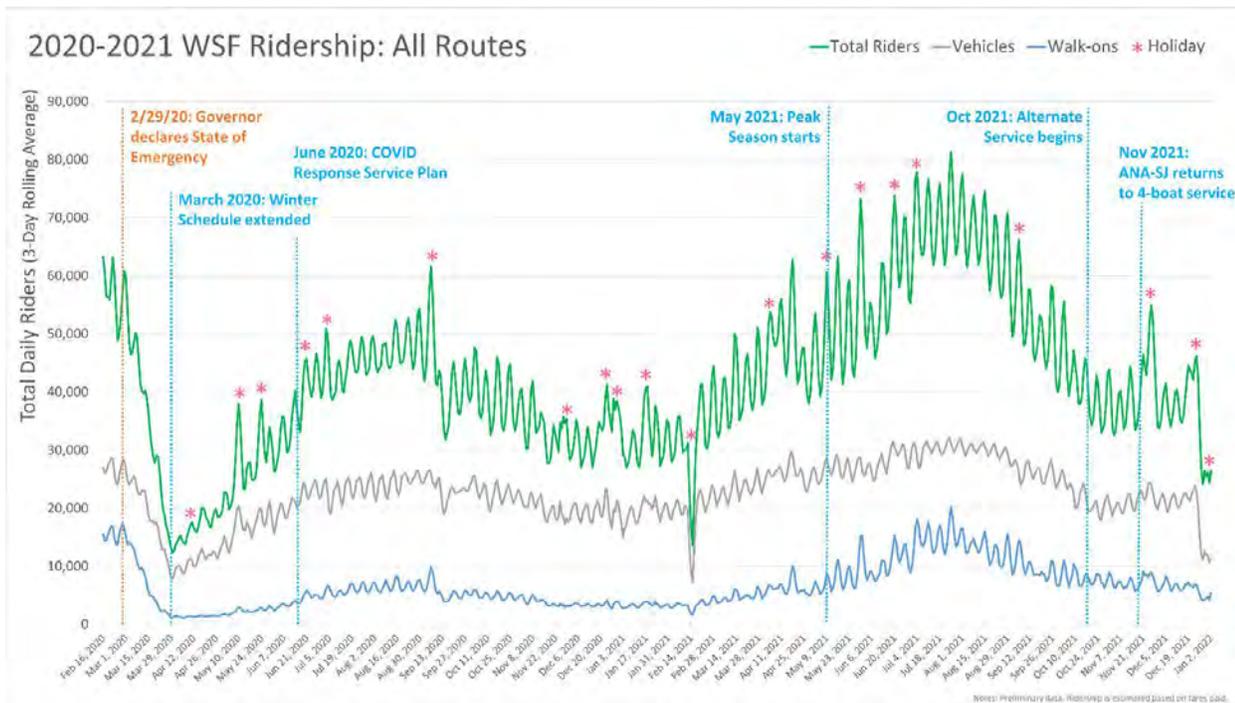


Figure 1: WSF Ridership and COVID-19 Response Milestones

As conditions have evolved since the beginning of the COVID-19 pandemic, WSF has updated service levels at several key points:

- **March 2020:** The winter sailing schedule was extended due to crew and vessel shortages and ridership levels not seen since the 1960s.
- **June 2020:** The COVID-19 Response Service Plan outlined how WSF adapted service early in the pandemic from historically low levels on the “Winter Baseline” season to progressive increases in service as ridership returned and resources became available. The plan also included potential supplemental service that could be added to the baseline schedule when feasible.
- **May 2021:** WSF transitioned to “Summer Peak” season as crewing levels improved slightly, but some routes remained on lower than typical levels of service.
- **October 2021:** In response to a spike in cancelled sailings due to lack of qualified crew, WSF started operating a temporary Alternate Service Plan to provide customers with more predictable and reliable travel in the face of severe crew shortages.
- **November 2021:** WSF restored the Anacortes/San Juan Islands route to its regular four-boat winter sailing schedule on a trial basis and started working on a plan to incrementally restore service to other routes as crewing levels allow.

## The Four Pillars of Service

WSF’s COVID-19 Response Service Plan, published in June 2020, outlined four necessary elements that must all be present for WSF to be able to provide sufficient ferry service. These “four pillars of service” are depicted in Figure 2 and include ridership, crewing, vessels, and funding. Each of WSF’s four pillars of service has been affected by COVID, specifically with: 1) a steep drop in ridership; 2) a lack of vessel availability; 3) a shortage of qualified crewmembers; and 4) significant decreases in revenue.

WSF has been continuously monitoring the health of the four pillars in order to assess its ability to provide and restore service where possible. Currently, however, the ongoing pandemic and long-term, systemic challenges have persisted—causing the vessels and crewing pillars to remain unstable. While WSF is funded to provide pre-pandemic levels of service, in every other respect the ferry system has shrunk.



Figure 2: The Four Pillars of Service

## Ridership

Early in the pandemic, ridership fell dramatically. In late March 2020, total ridership had fallen 78% compared to the same week in 2019. Vehicle ridership fell by 67%, with walk-on passenger ridership falling by 93%. While current ridership has rebounded since the peak of the pandemic, it remains depressed. Total system ridership in 2021 rose to roughly 72% of 2019 pre-COVID-19 numbers, with vehicles climbing to 85% and walk-on customers up to 42% of pre-pandemic levels. January 2022 saw a slight decrease in ridership compared to January 2021 as increasing COVID-19 cases again impacted the region.

## Vessels

Vessel availability has recovered from the maintenance backlog brought about by the onset of the pandemic and the stay-at-home order that limited construction activity; however, the vessel pillar remains at high risk because of an aging, diminishing fleet. WSF had 24 vessels five years ago, but due to vessel retirements there are now only 21 active vessels in the fleet—an insufficient number for reliable service even without the pandemic. Another vessel, the Tillikum, is due to be retired in 2023. In addition, the fleet is aging, with more than half of the vessels over 30 years old, including three over 50 years old. With vessels in service more than 20 hours each day, finding time for required maintenance is difficult. To restore service reliably, WSF must be able to schedule planned maintenance for all vessels over the next several seasons by rotating vessels in and out of service, made more difficult by the lack of spare vessels and limited drydock space in the region. It takes multiple years to build new vessels, and WSF will not be able to add to the fleet quickly enough to address the loss of vessels due to recent and planned retirements.

## Crewing

Currently, WSF is facing severe staff shortages that are unprecedented in its 70-year history. The effects of an international shortage of mariners, the COVID-19 pandemic, and the aging demographics of the workforce have combined to reduce staffing below levels necessary to reliably operate the system. This shortage has resulted in unplanned service reductions and a decrease in system reliability, especially as ferry ridership increases from the early part of the pandemic.

## Funding

WSF's operating budget is based on legislatively-approved service levels and is appropriated to the service level WSF was operating before the COVID-19 pandemic. With the biennial budget already established, funding is adequate to support current and restored service levels at this time. However, the pandemic-induced loss of ridership—and the loss of other business, such as advertising and galley service—has led to a corresponding loss in revenue. For the last 40 years, WSF's fare recovery rate (the percentage of operating costs covered by direct fares and miscellaneous revenue) has averaged about 75%. With the reductions in ridership, the fare recovery rate is now about 57%. For the current biennium (21/23) and the next (23/25), the gap in revenue is being filled with federal COVID relief funds. So, for now, the federal relief funding is providing a stop-gap, however, this funding source is not sustainable beyond the next biennium.

## Current Service Levels

### Alternate Service Plan

Since October 2021, WSF has been operating on an “Alternate Service Plan,” which is a reduced level of service that better aligns with available resources. The purpose of the Alternate Service Plan is to provide customers with more predictable and reliable travel by minimizing unexpected cancellations while still providing critical links to island communities and travelers who depend on the ferry system.

### Gaps to Service Restoration

WSF’s Alternate Service Schedule includes 30% fewer sailings than the regular winter schedule. As crew availability allows, WSF adds back supplemental service to individual routes on a daily basis. Table 1 summarizes the gaps between the service that is currently provided and the budgeted, traditional service levels based on the number of vessels assigned to each route. These “gaps” in service are what WSF needs to fill and what this Plan serves to address.

ROUTE	Current Alternate Service	Traditional Winter Service	Traditional Spring Service	Traditional Summer Service
Anacortes/ San Juan Islands	4 vessels, including 1 interisland-only vessel	4 vessels with 1 interisland-only on weekdays; 3 vessels without interisland-only on weekends	4 vessels, including 1 interisland-only vessel	5 vessels, including 1 interisland-only vessel
Seattle/ Bainbridge	1 vessel, late-night sailings suspended	2 vessels w/ late-night sailings		
Mukilteo/ Clinton	1 vessel, late-night sailings suspended	2 vessels w/ late-night sailings	2 vessels w/ late-night sailings	2 vessels with additional late-night sailings
Edmonds/ Kingston	1 vessel, late-night sailings suspended	2 vessels w/ late-night sailings	2 vessels w/ late-night sailings	
Fauntleroy/ Vashon/ Southworth	2 vessels on weekdays, 2 vessels on weekends, late-night sailings suspended	3 vessels on weekdays, 2 vessels on weekends	3 vessels on weekdays, 3 on weekends with #3 boat at 8 hrs/day	3 vessels on weekdays, 3 on weekends with #3 boat at 16 hrs/day
Seattle/ Bremerton	1 vessel	2 vessels	2 vessels	
Anacortes/ Sidney	No sailings to Sidney		1 sailing to Sidney	2 sailings to Sidney
Port Townsend/ Coupeville	1 vessel		2 vessels in “shoulder” season (begins early May); 1 for early spring	2 vessels
Point Defiance/ Tahlequah	1 vessel			

Table 1: Alternate Service Plan Compared to Traditional Service Levels

## Service Restoration Approach

The legislature has established a series of performance metrics and goals that WSF continually strives to meet. One of those metrics is service reliability; the goal is for WSF to complete 99% of its scheduled sailings. From 2018 through 2020, WSF exceeded this goal systemwide, though some individual routes experienced less than 99% reliability. In 2021, WSF fell short of this service reliability goal at 98.3% systemwide. This drop in reliability can be directly correlated with COVID impacts on crewing and vessel resources.



Figure 3: Service Reliability: Jan. 2019-Jan. 2022

WSF’s approach to service restoration is grounded in this metric. WSF has prioritized the order of route restoration based on a number of factors, including ridership, crew and vessel availability, alternate access and others (described below). As the agency continues to recover from the pandemic and rebuild its human and capital resources, it will restore service route by route. Once full service can be maintained on a route for a three week period at 95% reliability, WSF will consider that route “restored” and focus on restoring the next route. When service has been restored across the system, WSF will then work to bring all routes up to 99% reliability.

The process monitors both systemwide trends and route-level performance metrics to ensure that once service levels are restored on a route, they can be maintained without affecting systemwide reliability. The system trends WSF will monitor include positive hiring numbers with steady employee retention, decreasing COVID-19 related relief requests and steady system reliability. WSF will consider route-level resources such as the availability of a vessel of the right size for the route and the number of unfilled (“open”) positions for both licensed and unlicensed deck and engine crew to determine when to restore service to an individual route.

## Service Restoration Process

When considering the restoration of a route, WSF will analyze information and make service decisions in four phases. Figure 4 illustrates the service restoration process that will be repeated for each route.

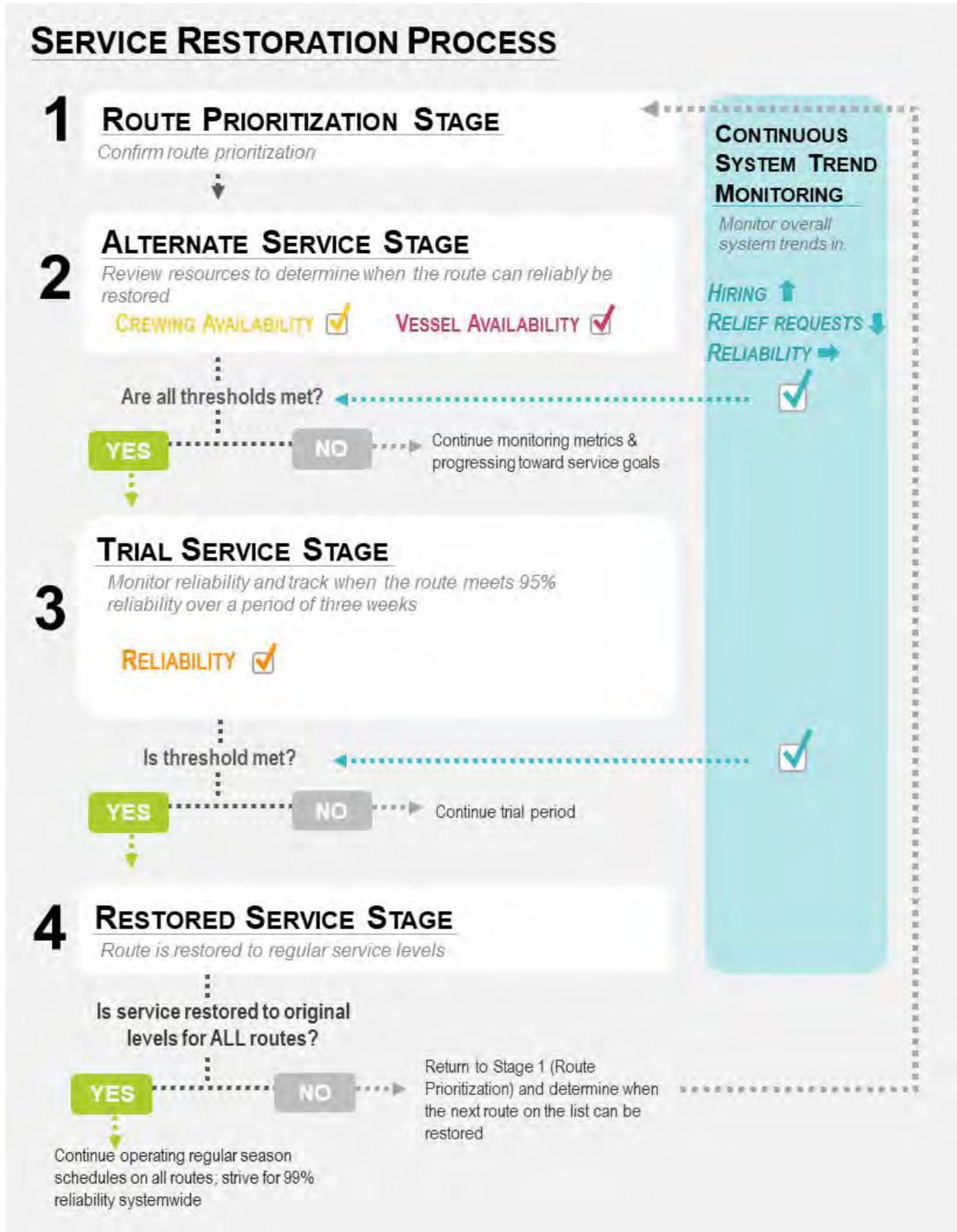


Figure 4: COVID-19 Service Restoration Plan Process

The pandemic and its impacts are constantly evolving—situational circumstances and the status of resources sometimes change with very little notice, and it is difficult to predict trends and travel patterns. However, should resources become available, it is possible for more than one route to move through the restoration process at one time. WSF will make decisions at each step in the process with the best data available at the time, using existing tools and data sources.

### **Stage 1: Route Prioritization**

WSF will restore service on a route-by-route basis. To do so effectively, WSF prioritized the routes to guide where to focus resources as they become available. The prioritized list of routes (the order in which service restoration will occur) is:

- Anacortes/San Juan Islands
- Seattle/Bainbridge Island
- Mukilteo/Clinton
- Edmonds/Kingston
- Fautleroy/Vashon Island/Southworth
- Seattle/Bremerton
- Port Townsend/Coupeville
- Anacortes/Sidney BC

This prioritization is based on key factors that WSF continuously monitors, as outlined below. While every aspect of these factors cannot be quantified, together they provide the basis used for route prioritization.

#### **Ridership**

To assess how service levels are aligned with travel demand, WSF reviewed 2021 total ridership and compared it to 2019 ridership as an indicator of how much ridership the route has recovered relative to pre-pandemic levels. It is worth noting that some ridership may have been permanently disrupted from the pandemic due to increased telework and other pandemic-related changes, causing a permanent shift in rider demand on some routes.

#### **Service Performance**

Routes were reviewed for trends in on-time performance and occurrences of vehicle overloading to provide insight into where limited service capacity may be struggling to meet ridership demand.

#### **Availability and Directness of Travel Alternatives**

Route prioritization considers the travel corridor served, availability of other travel options for each route, and the time required to travel using alternatives, including alternate WSF routes, passenger-only ferry services, and driving around.

#### **Crew and Vessel Availability**

The route prioritization list takes a service focus in ordering the routes, and WSF will continually review throughout the service restoration process to ensure alignment with any changes to resource availability that may be route-specific, including crewing and vessels.

## Stage 2: Alternate Service

While a route is operating on an alternate schedule—which is less than the typical, budgeted service level—WSF is assessing crewing and vessel resources, as well as system metrics of overall vessel availability and hiring and call-out trends. WSF will consider the following metrics to determine when to increase service levels on a given route:

### Vessel Availability

With a 21-vessel fleet, 19 boats needed for full summer service and 18 for spring and fall, vessel availability is a key component of service restoration. There is not enough time in the year nor enough drydock space to conduct necessary maintenance and preservation work solely during slower seasons, so some must be done in summer. WSF will look at planned vessel maintenance and what vessels are available over the next two seasons to determine if a vessel, or combination of vessels of an appropriate class, is available to operate on the route without interruption.

### Crew Availability

WSF will review positions needed for service (deck and engine) for the next route on the prioritization list and will use deck route lists and engine crew lists to confirm all positions can be filled reliably, with enough available on-call positions able to support that route. Crew availability is especially constrained—not only because of a worldwide mariner shortage and an increased turnover rate because of COVID and a retiring workforce—but also because deployment of crew is highly regulated by the U.S. Coast Guard, detailed labor agreements and other legal requirements.

## Stage 3: Trial Service

When a route moved to the Trial Service stage it operates on its regular seasonal schedule on a trial basis. The trial service stage is focused on monitoring the reliability of a route to ensure stability of labor and vessel resources and potential impacts to the system as a whole. Before service is considered permanently “restored,” a route must operate with 95% reliability for three weeks.

### Reliability

This stage will include monitoring for a minimum of three weeks to capture trends from crew scheduling which occurs in two-week scheduling increments. Planning for the implementation of restored service can commence after the third week of Stage 3 monitoring if crew and vessel resources remain stable. Reliability will be reviewed at both the route and system level and compared with seasonal 2019 levels.

## Stage 4: Route Restoration

Route restoration is the point in which service schedules are restored to seasonally appropriate levels that meet ridership demand, and service meets reliability targets. Service restoration will take time, as WSF intends to ensure that each route is successfully restored and the system is stable before moving on to restoration of the next route. Once a route is restored, the process begins again until all routes are restored to full capacity. Once service returns to traditional levels, a route is still subject to cancelled sailings due to weather, unplanned vessel repairs, law enforcement activity and many other operational impacts that contribute to lower service reliability.

## Timeline for Service Restoration

The timeframe for restoration is a delicate balance of providing needed service with reliability for customers. As service restoration progresses, WSF anticipates the system will face increased risk to reliability as crewing and vessel resources become more strained, especially as ridership increases in the late spring and summer months. The unpredictable nature of the pandemic and other constraints on resources—such as vessel scarcity and permanent changes in ridership—also impact how quickly service can return to “normal.” At this time, it is virtually impossible to predict with certainty if and when the ferry system will return to pre-pandemic operations.

### ANACORTES/SAN JUAN ISLANDS ROUTE SERVICE RESTORATION

WSF restored the Anacortes/San Juan Islands route to its regular winter schedule on Nov. 19, 2021 on a trial basis. The route was in the Trial Service stage for longer than the three-week monitoring period as the December snowstorm, omicron case counts and other factors prevented it from meeting the 95% threshold for service reliability to be considered fully restored. The route completed 99.38% of its scheduled trips from Jan 15-Feb 9, 2022. During this time, only 9 sailings were cancelled due to lack of crew. Based on these metrics, WSF considers the route fully restored and it will continue to operate on its regular seasonal schedule.

## Crewing Challenges and Staffing Levels Needed to Restore Service

The rest of this Plan describes in detail the challenges and considerations that WSF is facing as it implements the service restoration plan described above.

WSF employs nearly 1,900 people on vessels, in terminals, at the Eagle Harbor Maintenance Facility, and at the headquarters facility in Seattle. The management, maintenance, and operation of the ferry system depend on many specialized positions responsible for transporting people and goods in a marine environment 24 hours a day, 365 days a year. These specialized employees, such as deck officers and engineers, undergo years of training, certifications and sailing time before they are qualified to serve in these positions.

As shown in Figure 5, the number of WSF vessel employees, deck and engine, is below July 2019 staffing levels, which is when WSF last operated a full summer sailing schedule. Staffing levels for July 2019 were higher for every category, licensed and unlicensed deck and licensed and unlicensed engine, than the number of employees WSF had as of the end of January 2022.

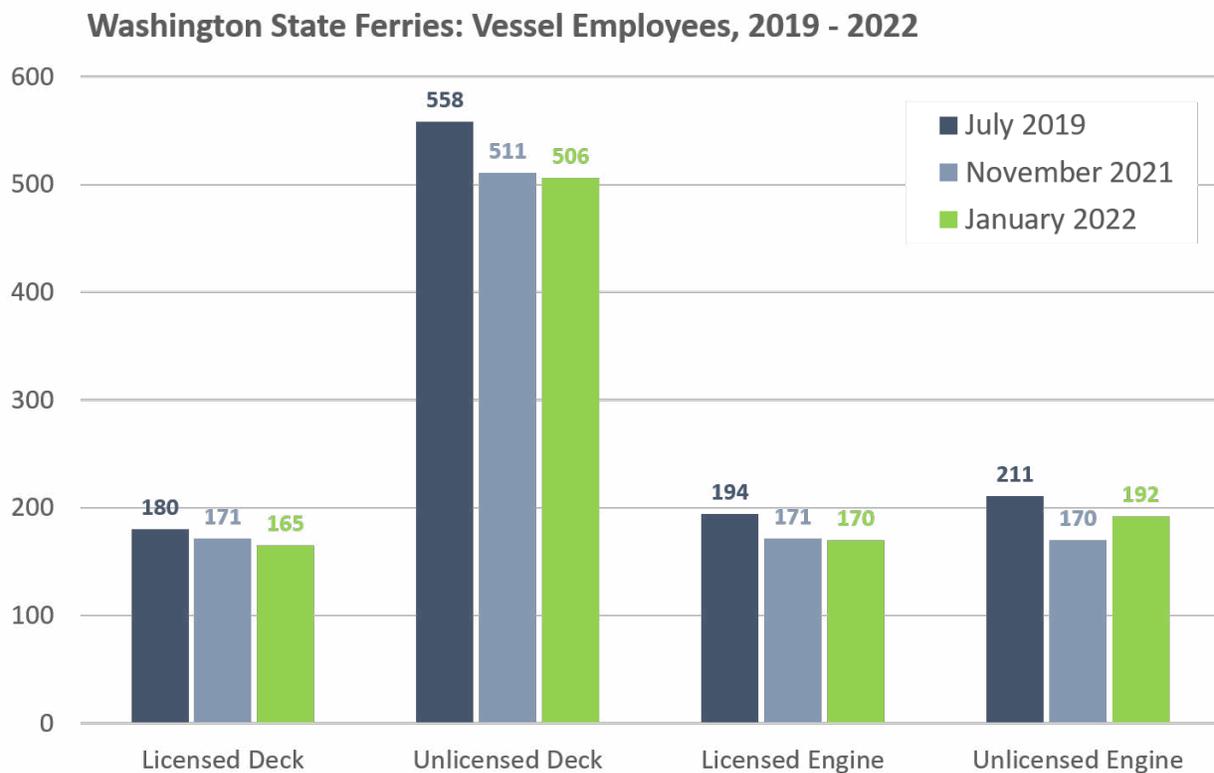


Figure 5: Comparison of Vessel Employees in July 2019 vs. January 2022

Because ferries are crewed at the minimum levels required by the U.S. Coast Guard, the loss of a single crewmember means a vessel cannot sail, and a trip or multiple trips must be cancelled. Cancellations are only made after WSF’s dispatchers make hundreds of calls to on-call and other staff trying to fill vacancies. Figure 6 illustrates the licensed and unlicensed positions required for each sailing, including the range in number of positions across each vessel class. The four types of positions—licensed and unlicensed deck, and licensed and unlicensed engine room—each have different considerations and constraints on scheduling and dispatch based on labor contracts such as the distance an employee can travel to each terminal, restrictions on work hours, licenses required for different routes and vessel classes and seniority considerations.

## Staffing Levels

The number of positions needed to provide scheduled service on a given route is based on the U.S. Coast Guard-mandated crew required to sail each assigned vessel, and the number of watches (crew shifts) to provide the scheduled service. However, WSF must maintain more than the minimum levels of crewing needed to operate the system on a daily basis, to replace crewmembers who are out for long-term and short-term reasons, such as vacation, sick and other protected leave, and employees who are in required training.

### Increasing Rates of Relief Requests

The total number of employees in each category needed to staff all watches daily depends on the amount of relief requests submitted by scheduled employees, and the availability of on-call and relief crew to backfill positions. Relief requests can come in at the last minute, directly influencing WSF’s ability to operate scheduled service. There have been several spikes in relief requests during the COVID-19 pandemic, and requests have not followed historic patterns (i.e., employees typically take more vacation leave during summer months and holidays). As shown in Figure 6, the surge in cases caused by the omicron variant led to 7,419 relief requests (or an average of 239.3/day) in January 2022, which is considerably higher than any January in the last several years. Because the patterns in relief requests have not matched typical years, there is a strain on the relief pool, which makes it challenging to predict patterns and to ensure adequate crewing levels for all watches.

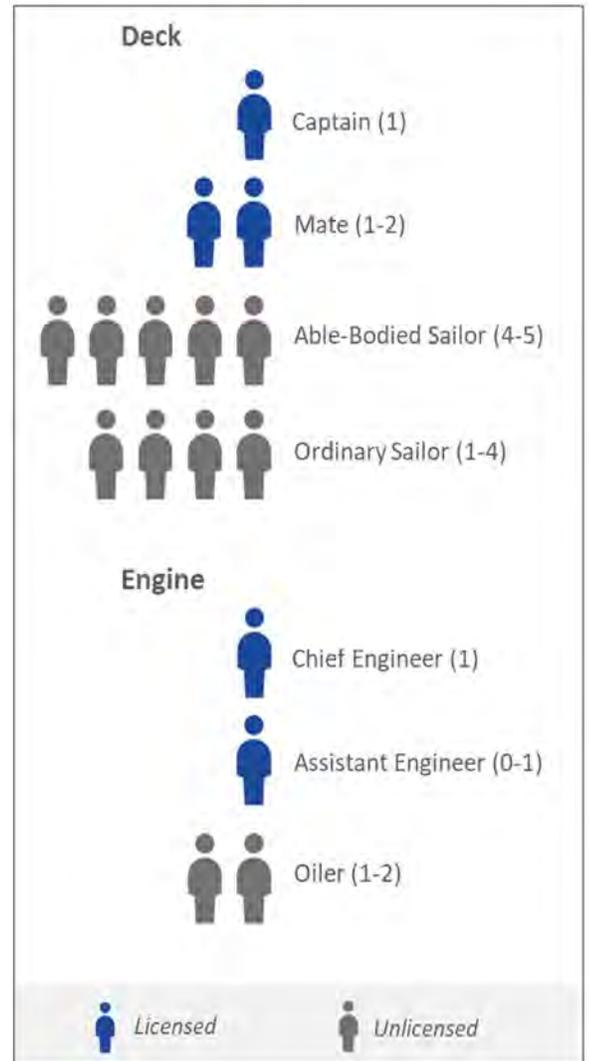


Figure 6: Vessel Crew Composition

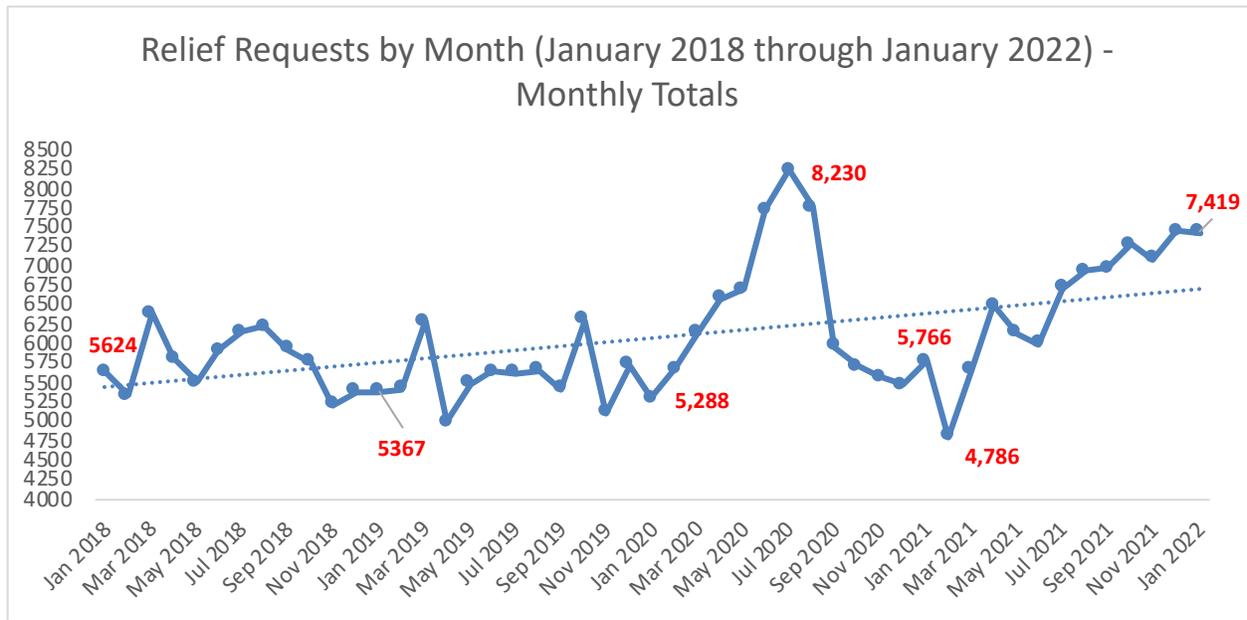


Figure 7: Number of Relief Requests by Month, Jan. 2018-Jan. 2022

The spike in relief requests mean that WSF needs an even higher ratio of relief crew to fill scheduled positions than it has needed in the past. The high level of relief requests is expected to continue due to an aging workforce and the amount of leave time available to more senior, long-term employees.

Figure 8 shows the number of staff WSF needs to hire to meet target staffing levels across all vessel crew positions.

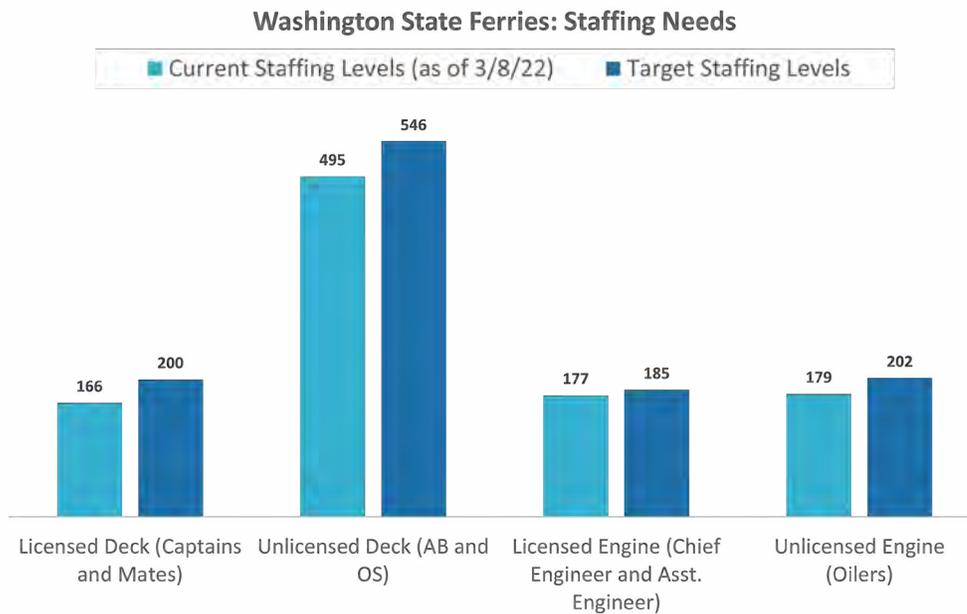


Figure 8: Staffing Needs Compared to Current Staffing Levels

## Additional Crewing Challenges

WSF is currently tracking two additional challenges directly related to filling all watches and restoring service. The challenges highlight the difficulty of providing reliable service with fewer employees.

### Positive COVID-19 Cases

During the first two weeks of January 2022, WSF saw a high number of employees out on quarantine each day—an average of 51 COVID-related call-outs per day. This number does not include other pandemic-related reasons employees called out, such as lack of childcare or caring for a sick family member, that are reflected in the total number of relief requests. With COVID-19 numbers currently declining, WSF is seeing a downward trend of COVID-19 relief requests, as shown in Figure 9.

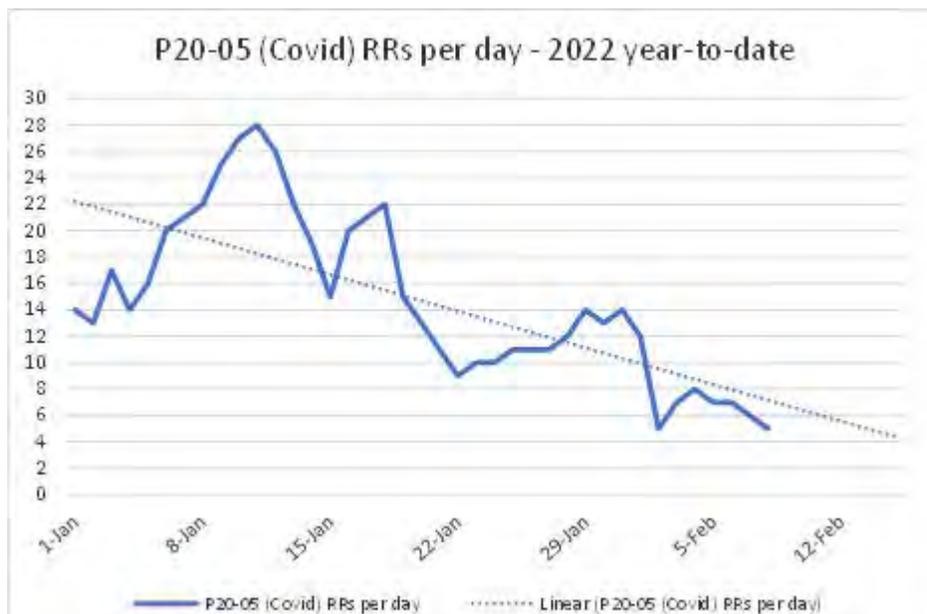


Figure 9: COVID-19-related Relief Requests, 2022 year-to-date

### Shortage of Licensed Deck Officers

The number of licensed deck officers is the biggest crewing challenge facing WSF. Ideally, WSF would have approximately 190 licensed deck officers in the system. As of January 2022, WSF has 165 licensed deck officers. These highly skilled and highly credentialed positions are challenging to fill. To sail as a licensed deck officer at WSF, a crew member must not only possess the required U.S. Coast Guard license, but they must also acquire the necessary pilotage and working knowledge of the vessels. Historically, while obtaining this training, they were also expected to work in an unlicensed position in the fleet, which can be undesirable for those coming in with hard-earned maritime experience and credentials they could not use until the training element was completed. WSF has recently entered an MOU with labor partners to eliminate some of these barriers.

Fifteen crewmembers are enrolled in the Spring 2022 New Mate Orientation; this is required training for new licensed deck officers. Once these new officers are eligible to work in the system, it will help alleviate some of the crewing constraints that are contributing to reduced service.

## Hiring Progress and Success: Engine Crew

A lack of engine room crew has posed a large threat to WSF’s ability to fully crew vessels and maintain service reliability, though the situation is improving. Unlike deck crew, which are assigned to a specific route, engine room crew are assigned to a vessel. This means that all vessels must be staffed at all times, even if not in service. Finding and retaining qualified engine room crew at all levels has proven to be extremely challenging: A nationwide shortage of vessel engineers and oilers predates the pandemic but has become critical since the outbreak. Training programs for oilers and licensed engineers last approximately one and four years, respectively, and there are a limited number of training resources. In addition, WSF must compete in the national labor market to attract and retain these employees.

Month	Oilers Hired
October 2020	10
April 2021	4
July 2021	7
September 2021	3
November 2021	4
December 2021	9
January 2022	17
March 2022	8 (projected)

A persistent recruitment and hiring effort over the last several months will result in the engine workforce numbers being restored to pre-pandemic numbers by Spring 2022. The situation is improving due to the recent hiring and training of new oilers who will begin working in the system soon.

This influx of new oilers supports WSF’s ability to replace vacated licensed engine room positions with promotions and new hires. Recent new employee training for engine room employees have averaged 12 people per class compared to classes of 3-5 people during the height of the pandemic.

Licensed engine crew vacancies are filled by seniority bidding, so any licensed vacancy creates a cascading series of vacancies that must be filled both in the licensed and unlicensed ranks. Contractual timelines for reassigning employees to vacancies and subsequent vessel-specific training timelines make this a protracted process. As a result, the simple number of total engine room employees does not directly affect WSF’s ability to provide service, and there are additional complexities in ensuring the fleet has the right type of employee to staff each individual vessel on each route.

WSF will need to continue hiring to support needed training and upcoming retirements and separations.

## Additional Challenges Related to Service Reliability

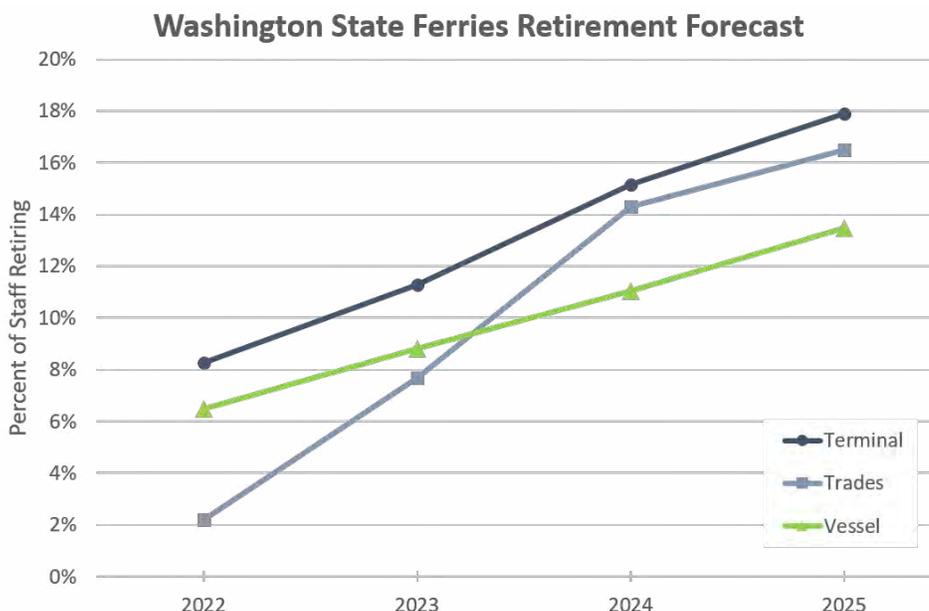
In addition to the profound effects of the COVID-19 pandemic, WSF faces numerous ongoing challenges that compound the immediate crew and vessel shortages. Many of these challenges were identified in the WSF 2040 Long Range Plan (LRP), submitted to the Legislature in January 2019. The LRP provides a proposal for investments and policy recommendations that support reliable, sustainable, and resilient ferry service through 2040 and beyond. The LRP identified investment in WSF’s workforce as one of the top priorities to ensure continued system reliability. It also places particular attention on stabilizing the ferry fleet by building 16 new vessels and providing adequate time for vessel maintenance. Noting how intertwined the issues are, the LRP notes that new infrastructure is only valuable if WSF has the skilled workforce to operate and maintain it, calling for significant investment in attracting, retaining and strengthening the workforce.

To stabilize the system and improve the long-term sustainability of service, WSF has been addressing these challenges well before the pandemic.

### Crewing

WSF has completed several efforts in recent years to evaluate the current practices in recruiting, hiring, training and retaining the skilled workforce needed to ensure long-term sustainability of service.

- Global shortage of maritime workers:** Ferry systems and maritime industries around the world have experienced a decreasing number of available workers. WSF has identified several strategies to support recruiting efforts over the coming years, including hiring a recruiting consultant and increasing focus on employee retention. The agency has also partnered with external partners such as labor unions and other maritime industry organizations to address the shortage from a regional perspective.
- Aging workforce:** WSF 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. Currently, as shown in Figure 9, nearly 14% of the vessel workforce, 18% of the terminal workforce, and more than 16% of Eagle Harbor maintenance facility staff are eligible for retirement within the next three years.



There are other impacts on reliable service created by an aging workforce, such as an increase in sick and other forms of protected leave. Many of the retirements are in positions that are harder to fill due to the amount of training, sea time and level of credentials required.

Figure 10: Percentage of Vessel Employees Eligible for Retirement by 2025

- **Deferred training:** With the crew shortages experienced during the COVID-19 pandemic, WSF has deferred training time for some eligible employees to augment vessel crews and provide scheduled service. Because of the significant training time required for licensed positions, the effects of deferring training during this period may be felt in licensed crew shortages in the future.
- **Overtime use:** WSF's reliance on overtime use has increased between fiscal year 2013 and fiscal year 2021. The positions with the largest overtime use are engine room and licensed deck, indicating that levels of full-time crew have not been adequate to fill required positions. There were 448 shifts filled on overtime for the month of January 2022 (a 14.5/day average).
- **Shifting workforce trends:** The maritime industry has observed cultural shifts in the workforce as employees are increasing their focus on work-life balance and are less interested in working overtime and undesirable shifts.

## Vessels

WSF's current fleet size of 21 vessels is substantially shy of the 26 vessels recommended in the Long Range Plan as necessary to support critical maintenance across the fleet and provide reliable service by 2040.

- **Deferred vessel maintenance and preservation:** To maintain service schedules with a smaller fleet, WSF has had to prioritize keeping vessels in service over performing all scheduled maintenance. Over time, deferring non-critical maintenance and preservation creates a maintenance backlog and can ultimately shorten the lifecycle of a vessel.
- **Fleet size and risk to reliability:** The budgeted pre-COVID-19 summer service schedule requires 19 vessels in service and lacks a service relief vessel. This fleet size does not allow enough time for all vessels to rotate out of service to receive scheduled maintenance. WSF must increase its fleet size by constructing new vessels that will allow sufficient out-of-service time for each vessel to receive required regular maintenance. The small fleet size also leaves the system at risk to service disruptions due to unplanned maintenance needs. This problem will get worse when the *Tillikum* is removed from service in June 2023 when it reaches the end of its useful life and WSF does not yet have a new vessel to replace it. At that time, the fleet size will shrink to 20 vessels.
- **Long timeline for construction of new ferries:** The next new vessel in the WSF fleet, the first hybrid-electric Olympic-class ferry, is not estimated to enter service until 2025.

## Next Steps

As service restoration progresses through the route prioritization list, WSF will continue to assess route and system service reliability and review the metrics used to decide when service can be restored on the next route. The COVID-19 Service Restoration Plan will be reviewed and adjusted as needed ahead of the summer season, which starts on June 19.

Concurrent to service restoration, WSF will continue planning and implementation of strategies to address workforce shortages, depending on guidance received from the legislative session.

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