



Washington State Ferries Workforce Planning Report

Report to the Washington State Joint Transportation Committee

12/22/22

EXECUTIVE SUMMARY

In 2021, the Joint Transportation Committee of the Washington State Legislature contracted with Seattle Jobs Initiative and two project partners, Segal, and Emsi Burning Glass, now Lightcast, to develop a workforce plan for Washington State Ferries (WSF). This is the project's second report, an overview of the long-term workforce plan, and focuses on vessels and terminal staffing. This phase of the project has three primary components:

- Analysis of the Current Workforce Conditions
- Workforce Planning Analysis
- Recommendations
- Implementation Plan

Context

WSF has had an accelerating use of overtime since 2013, indicating a growing imbalance between staffing levels and operational needs. This imbalance reached crisis levels in 2021 when WSF could not restore and maintain full operations due to staffing shortages. WSF staffing issues are decades in the making.

Summary of Findings

The project team interviewed WSF leadership, labor partners, and vessel crew, reviewed WSF policies and practices, and analyzed current staffing levels and overtime and leave data. The analysis revealed five core themes:

Staffing Model: WSF staffing model is too lean and cannot cover mundane unplanned absences and maintain service or support the career pipelines WSF depends on to fill highly skilled senior positions.

Staffing Shortage: The too-lean staffing model, combined with changes in its workforce, has forced WSF to use an increasing amount of overtime pay and, more recently, required them to cut service.

Career Advancement and Retention: There are limited near-term solutions because WSF depends on its internal career pipeline to fill skilled senior positions. However, career advancement is slow, and the process is opaque with little institutional support. This makes it difficult for people new to the sector to transition from entry- and low-ranking positions to more senior and skilled positions.

Recruitment and Hiring: WSF's recruitment and hiring practices have also not kept up with changes in the WSF workforce or Washington state's labor force. As a result, they are not generating large enough pools of qualified candidates. In addition, WSF does not reliably recruit or hire BIPOC workers despite the state's increasingly diverse labor force.

Cultural Issues: Finally, WSF staff and crew described an outdated working culture that is not inclusive. Because they also feel disconnected from leadership, there is limited potential for cultural change under current conditions.

Recommendations

To address these themes, the project team developed recommendations that fall under six categories:

Expand Staffing: In the near term, WSF should expand staffing in the positions with the shortages more directly impacting operations. This is not without challenges, as more senior positions have complex licensure and experience requirements, and unemployment rates remain at historic lows.

Modernize Staffing Model: WSF must build on this project's workforce modeling, determining optimal overtime and accounting for operational demands like fleet age and service demand. To do this, WSF will need additional investment in technology resources and administrative capacity to build and maintain a workforce model so that it can be done on an ongoing basis.

Career Advancement and Retention: Because WSF, by necessity, depends on its internal career pipeline, WSF needs investment in structures and programs that identify and support crew and staff members so they can move from entry-level to senior positions. Investing in both technical and soft skills training will improve retention, which, in turn, will support operations.

Recruitment and Hiring: WSF must commit additional resources and develop expertise in recruiting from communities historically excluded from maritime careers in Washington. Additional investment in recruiting and hiring capacity will speed time-to-hire, easing the staffing shortages.

Cultural Issues: WSF should invest in and build formal and informal mentoring and supervisory roles to improve the connection between leadership and operational workers. Mentors, managers, and supervisors should have training in providing support and feedback to a diversifying workforce and have expectations for doing so built into their roles.

Succession Planning: WSF's operational leadership is quickly aging out of the workforce. WSF faces losing substantial operational capacity and institutional knowledge without adequate succession and knowledge transfer planning. It must invest in identifying the critical knowledge and plan to capture and pass on that knowledge while also planning for how to fill critical positions as they are vacated.

WSF has begun laying the groundwork and taking action on some of these recommendations starting at the end of 2021. The Legislature and Governor funded some initial steps in 2022.

Implementation Plan

Finally, a detailed implementation plan was developed. It has three phases:

Phase 1: Building a Foundation for the Plan. During this phase, WSF must create a short-term staffing plan to address staffing shortages, add talent acquisition staff, specify operational staffing demands, review data management practices, and establish a data governance approach.

Phase 2: Evolve the Plan. In Phase 2, WSF will start putting into place the structural elements of the plan, including procuring technology, hiring necessary administrative personnel, developing an employee value proposition, and implementing succession planning for leadership.

Phase 3: Implement Sustainable Workforce Strategies. The final phase of this implementation plan is to integrate it organization-wide. Central to this phase is deploying the knowledge transfer plan and creating a change management strategy and communications plan to support the staffing model and technology implementation.

ACKNOWLEDGMENTS

Many thanks to the WSF leadership and Human Resources, Budget, and Operations staff for supplying the necessary administrative data and supporting human resources and payroll data analysis. Thank you to the dispatch staff and vessel crew for sharing their insights. Finally, thank you to the Working Group (see Appendix G) for their feedback and insights.

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INTRODUCTION

The Joint Transportation Committee (JTC) of the Washington State Legislature contracted with Seattle Jobs Initiative and two project partners, Segal, and Emsi Burning Glass, now Lightcast, to develop a workforce plan for Washington State Ferries (WSF). This project has two phases: initial short-term strategies and a long-term workforce plan. To guide the recommendations and strategies, the project team adopted the following definitions of these timeframes:

- **Short-term:** strategies to improve existing workforce capacity to be implemented in 2022 before completing the workforce plan. WSF can implement these strategies with limited legislation changes and little or no changes to collective bargaining agreements (CBAs).
- **Long-term:** strategies that are not constrained by existing workforce capacity. These strategies may require legislation and changes to CBAs.

The following report is phase two and contains strategies to place WSF on a path to a sustainable workforce that allows it to provide reliable, timely service and fulfill its role as critical transportation infrastructure. The impetus for this project was the rapid growth of WSF overtime use. However, as the project got underway, staffing issues that were years in the making collided with the Covid-19 pandemic, nationwide labor shortage, and a global maritime sector-specific labor shortage. As a result, WSF could not maintain its regular service schedule.

This report builds on the work in phase one but expands it significantly. The project team worked with a working group (Appendix B) that included WSF leadership, labor representatives, and Washington State legislature staff. The team interviewed crew members, dispatch, and leadership and worked with WSF staff to collect and interpret payroll, human resources, and crewing data. Using this data, the team identified the causes of WSF's current workforce issues to develop recommendations for addressing them, a staffing model, and an implementation plan. This report contains the following sections:

- Background and Context
- Methodology and Approach
- Analysis of Current Workforce Condition
- Workforce Planning Analysis
- Recommendations
- Prioritized Implementation Roadmap

Supporting materials can be found in the appendices.

BACKGROUND AND CONTEXT

Pre-Pandemic Workforce Trends

Before the tremendous disruptions of the pandemic, emerging workforce trends across the US were already beginning to shape a new world of work that challenged business leaders to think differently about how work is defined, organized, and performed. The workforce is evolving. Three trends are driving this evolution:

1. Aging Workforce
2. Millennials and Generation Z changing workplace expectations
3. Low unemployment

AN AGING WORKFORCE

Since 2011, Baby Boomers have been retiring in record numbers, leaving with years of institutional knowledge, skills, and experience. Organizations need to fill these critical gaps, particularly in leadership roles. Ten thousand people turn 65 every day in the United States; a rate that will continue until 2030.¹

MILLENNIALS AND GENERATION Z

As the Boomers leave the workforce, Millennials are assuming these newly vacating positions, and Generation Z is entering the workforce. As the demographics change, so do the workforce characteristics, preferences, and demands. These changes challenge organizations to reimagine their business strategies, including the need for more innovative HR strategies, programs, and practices. Millennials and Gen Z workers will represent 75% of the US workforce by 2025².

LOW UNEMPLOYMENT AND INTENSE COMPETITION FOR TALENT

Finally, before the pandemic, the US experienced the lowest unemployment rates in over 50 years, significantly increasing competition for talent and requiring employers to provide a compelling employee value proposition and improved employee experience. For many years, the employer held a more powerful position in the relationship with employees, but this dynamic started to shift. Competitive total rewards became critical factors in recruiting and retaining high-quality talent.

There are several other factors at play within these trends. Baby Boomers are beginning to transfer wealth to younger generations. The roles of women in the workforce are changing. Millennial men have the lowest workforce participation rate of any prior generation. The US birth rate is declining. Finally, the impact of the opioid crisis on the workforce across generations.

The Post-Pandemic Workforce Trends

The pandemic amplified and accelerated many of these pre-existing trends, making what was already a challenging generational transition much more disruptive.

NATIONWIDE LABOR SHORTAGE

Coming out of the pandemic, employers across nearly every industry are experiencing an incredible labor shortage, with a deficit in talent relative to their business needs. In addition to the pandemic causing employees to rethink their personal and professional needs and preferences, several workforce gaps are emerging that are likely to have lasting implications:

First and foremost, more than 1 million people have died of COVID since the pandemic began; more than 250,000 of those deaths were working-age people.³ An additional estimated 10 to 33 million working-age adults have some symptoms of long Covid that affect their ability to return to work.⁴

Secondly, many Baby Boomers exited the workforce. While it is uncertain if their exit is permanent, the number of workers aged 55 years or more dropped by six percent in 2020 and hasn't fully recovered.⁵

Third, many workers, particularly women, had to leave the labor force because they did not have child or elder care. While childcare facilities and schools have long since reopened, the labor shortage is particularly acute in the early childhood education sector, meaning there are fewer spots for young children.⁶ Covid restrictions mean children with spots have frequently been excluded for days or weeks when they experience symptoms common to many childhood illnesses. As a result, parents still incur the cost of daycare and miss work, and hourly workers miss wages.

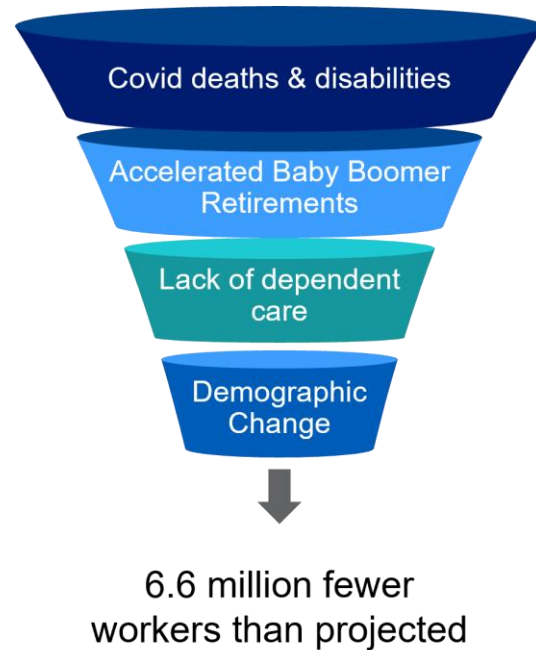


Figure 1. Pandemic Conditions Leading to Fewer Workers

METHODOLOGY AND APPROACH

In this context, the project team undertook a three-part project:

- Comprehensive analysis of WSF's current structure, strategies, processes, policies, roles, and culture, focusing on the vessel and terminal workforce
- Strategic Staffing Model for the vessels and terminals (Appendix C)
- Prioritized Implementation Roadmap (Appendix D)

To conduct the comprehensive gap analysis, the project team interviewed WSF leadership, labor leaders, and crew aboard vessels (Appendix E). They also collected and reviewed the organization structure, career advancement processes, and collective bargaining agreements.

The strategic model was built using the full-service schedule from 2019, employee census from June 2022, payroll data from Fiscal Year 2019 to Fiscal Year 2022, sick leave data for vessel crew from Fiscal Year 2020 to Fiscal Year 2022, separation data from Fiscal Year 2017 to Fiscal Year 2022. The WSF Fiscal Department provided wages, training costs, and per position. A complete list of data used to construct the model can be found in Appendix F. Based on the analysis of WSF's current workforce condition and staffing model, the project team developed a list of recommendations and an implementation plan to put WSF on the path to a sustainable workforce.

During phase one of this project, the overtime analysis indicated that vessel and terminal operations were the source of most of the overtime. Thus, the team focused their subsequent work on these units. In addition, it was challenging and time-consuming to collect and harmonize the data across multiple divisions and systems. As a result, the staffing model does not include Eagle Harbor, and the administrative workforce was not in the scope of this work.

However, many of the same patterns are at play in these units. The Eagle Harbor and administrative workforce are understaffed and are experiencing difficulty retaining and recruiting staff, and Eagle Harbor has similar career advancement to the vessel crew detailed below. Both units' staffing shortages and high turnover directly impact operations, even if their first-order impact on the budget and overtime levels is negligible. For example, understaffing at Eagle Harbor has the knock-on effect of leading to vessel crew overtime when a vessel must wait for Eagle Harbor workers to get to them to perform repairs. Low staffing at Eagle Harbor has more indirect impacts on performance because the aging fleet demands more involved scheduled maintenance, though the data was not available to quantify these impacts.

ANALYSIS OF CURRENT WORKFORCE CONDITION

The project team conducted sixteen interviews with WSF and labor leaders and conducted a series of interviews with vessel crews on two routes over two days. The focus of these interviews was to identify what challenges WSF is facing. Five key themes emerged:

- The staffing model is outdated and inadequate
- There is a shortage of staff even within this model
- Recruiting and hiring practices are not generating a sufficient pool of candidates
- The process of career advancement is slow, complicated, and opaque, which negatively impacts retention
- There are cultural issues negatively impacting recruitment and retention

The current conditions of WSF's workforce are not sustainable and resulted in an acceleration of overtime use and disrupted and reduced services. The root causes of the conditions are decades in the making, born out of systems and processes developed over many years colliding with changes in the workforce, increased demand for ferry services, and an aging fleet. At the core, WSF's staffing model is too lean for critical infrastructure. It has no buffer to cover unscheduled absences. As a result, there is an increasing use of overtime to maintain

service. In addition, because of the lean staffing model, WSF does not have the capacity to adjust and adapt its staffing model to changing conditions.

At the same time, the model of hiring all new employees as on-call entry-level positions that have volatile hours and pay, limited guidance, and long waiting periods at entry-level pay to reach a permanent position. This model contributes to high turnover and an inadequate internal pipeline of workers to internal positions, further exacerbating the staffing shortage and overuse of overtime.

The complex licensure and training requirements further constrict the pipeline to more senior positions (Mates and Captain, Assistant and Chief Engineers). Crew members can languish in lower-ranking positions despite the need within the organization and the crew members' desire because they do not have the time or resources to pursue advancement, and there is no institutional support available.

Further analysis of processes, policies, and procedures supported these themes. They are detailed below.



Figure 1. Analysis Themes

Staffing Model*

Since 2013, WSF has been crewing vessels according to the US Coast Guard (USCG) minimum crewing requirements. These requirements are based on vessel type and passenger and vehicle volume. If not fully staffed, vessels either cannot sail or must sail with reduced capacity (i.e., some vessels may sail at "winter" capacity in the high season if they have enough deckhands for the lower capacity). The USCG sets minimums to ensure the crews can perform an evacuation or adequately respond to other onboard emergencies. It does

* This section only addresses operational staff. It is important to note that it is crucial that operational staff are supported by adequate administrative and maintenance staff. However, administrative and maintenance staff is outside of the scope of this work.

not consider other operational demands such as sailing on schedule, vessel maintenance, particularly on older vessels, or customer experience.

Currently, WSF is budgeted to employ a permanent workforce roughly equivalent to the number of full-time equivalent positions (FTEs) required to maintain minimum requirements and a contingent on-call workforce. However, this was not always the case. Before 2012, WSF's standard crewing was one deckhand more than the USCG minimum. To reduce costs, WSF asked USCG to review crewing minimums. Rather than reducing the minimums, USCG increased the minimums on some vessels, and WSF left the crewing level as it was, no longer crewing above the minimum. This change was the beginning of an increase in overtime, as previously, vessels could sail if a single deckhand called in sick, got caught in traffic, or was otherwise delayed.

However, when crewing only to USCG minimums, a single delayed crew member results in delayed or canceled sailings and can have cascading effects throughout the shift or day. In addition to the disruption to critical transportation infrastructure that can leave passengers delayed or stranded, it can result in significant overtime. Not only do other deckhands stay over or work extra shifts so vessels can sail, but all the crew members also earn overtime pay if the delayed sailing keeps them past the end of their shift.

SCHEDULING

The lean staffing level complicates scheduling. Permanent employees bid on schedules based on seniority. Engine Room and Licensed Deck (mates and captains) also bid on vacation time slots[†] based on seniority. These and other scheduled absences among permanent employees are covered primarily by permanent relief employees. Unlicensed deck (Ordinary Sailors, OS, and Able Sailors, AB) does not have a cap on the number of crew members who can take vacation at any given time. The number of relief and on-call employees are primarily based on this demand, with limited capacity allocated to covering unplanned absences. This is partly due to relying on historical allocations rather than ongoing modeling that would account for changing levels of planned and unplanned absences as the workforce demographics and tenure change.

When there are unscheduled absences among permanent employees, dispatchers go through the following list to cover those positions, exhausting each option before moving on to the next:

1. Relief crew members
2. On-call employee
3. Overtime offered in order of seniority

Because each vessel is only crewed to the USCG minimum, any time there is an unscheduled absence, dispatch must go through this list to fill the position for the vessel to sail at all or at full capacity. This is often time-consuming and becomes more so as the rate of absences increases with illness, injury, and burnout and as relief and on-call employees' capacity is exhausted. Dispatch must draw more on overtime to ensure vessels

[†]These crew members earn vacation time based on their seniority but there is a limit on the number of each position who can take vacation at any given time. The order in which the crew members get to request specific dates off is also based on seniority.

can sail. It also creates a vicious cycle as workers are more likely to suffer injury and burnout as they work more overtime, leading to more absences and requiring more overtime to backfill.

BUDGETING AND PLANNING

WSF is challenged to improve its model and planning because it lacks the necessary human resources management tools. It is challenging to extract accurate and consistent information because of its data management conventions and multiple data repositories.

Different job title naming conventions across multiple systems (HRIS, payroll, dispatch, etc.) make tracking and analyzing data difficult. There is insufficient data on staffing needs for the terminal and deck. Additionally, workforce data is very siloed, with individual departments operating under different interpretations of the workforce data.

There is a lack of administrative or technical resources dedicated to data collection, tracking, and analysis, and antiquated systems require reports to be pulled and validated manually. This places a heavy burden on the budget, human resources, dispatch, and operational teams when a need arises to make data-informed decisions. The knowledge of how this is done is frequently lost with turnover in WSF administrative staff. This reliance on manual processes and siloed systems results in fragmented and disconnected data and limited options for analyzing the workforce. As a result, accurately forecasting operational staffing needs is outside WSF's current capacity.

Consequently, the current staffing model is based on historical budget data rather than operation needs. Resources are allocated according to the available budget rather than forecasting what is required to fully operate ferry services, conduct training and workforce development, and account for planned and unplanned absences. Further, the lack of an integrated and coordinated approach makes WSF vulnerable to fiscal and personnel gaps and unable to adapt to or plan for changes in the workforce, labor market, and an aging fleet, let alone absorb or recover from major disruptions.

Staffing Shortage

Further compounding these problems, WSF is also experiencing a staffing shortage within the current staffing model. This shortage is decades in the making, as WSF's recruiting, hiring, and advancement processes have not been updated to reflect the changes in the state's labor force.

RECRUITMENT AND HIRING

The team identified four critical gaps in WSF's recruitment and hiring practices that limit the pool of new applicants. Then, once WSF hires candidates, several elements of the new employee experience contribute to high attrition and the staffing shortage.

Recruitment Strategies and Methods

WSF has conventionally hired in the spring to prepare for the busy summer season. They target regional job fairs, the maritime industry, maritime academies, and word of mouth. WSF and labor unions, particularly

Marine Engineers Benefit Association (MEBA), conduct recruiting, and WSF is responsible for hiring. However, it is limited in scope, relying primarily on existing relationships and avenues. There are currently no diversity, equity, and inclusion strategies or goals to ensure a diverse workforce, and there is currently no hiring or labor strategy to address the upcoming retirements and high levels of turnover. In addition, online job postings are hard to locate.

When potential applicants do find WSF job opportunities, they face additional barriers. To apply, vessel crew and terminal staff must obtain their Transportation Workers Information Card (TWIC),[‡] a federal identification that costs \$125, and their Merchant Mariner Credential (MMC)[§], which costs \$140 to \$208, depending on the position. The total cost of obtaining these credentials is \$405, and applicants must also spend time finding this information, gathering documentation, and sending their applications with little to no guidance.

As a result, hiring practices are not generating sufficient pools of qualified maritime candidates. WSF is also not reliably reaching communities historically excluded from working in Washington's maritime sector or are newer arrivals to the region. WSF recruits and hires few Black, Indigenous, and other People of Color (BIPOC) candidates to work on the ferries. This lack of diversity in WSF and Washington state's maritime industry contrasts with the diverse national maritime industry.**

New Employee Experience

WSF's hiring policy as of Fall 2021 started all new crew members in on-call positions. Even experienced and licensed applicants start in on-call entry-level positions. These employees are considered probationary for the first 1,040 hours (6 months) and remain on-call until a permanent position becomes available. This model has several underlying factors that make starting at WSF unattractive and lead to low to marginal retention among on-call employees (particularly unlicensed deck crew).

Second, WSF has traditionally done most of the hiring in the spring to gear up for the summer schedule. On-call workers are reliably assigned 40 hours per week during the spring and summer and can frequently work more if they want. However, their working hours fall to well below 40 hours during the winter.^{††} The sharp decline in work hours during the winter surprises many new workers. This model is a critical barrier to new employees who do not have other sources of support and employees who come to WSF from other parts of the maritime industry (e.g., tugboats, fishing boats, deep sea vessels, US Navy). Experienced mariners from

[‡] Created by The Transportation Security Administration in 2007 following the Maritime Transportation Security Act of 2002, this card is required of workers to help maintain security conditions at maritime facilities and aboard vessels. The Department of Homeland Security issues the card following a security threat assessment in which the applicant undergoes drug tests and a comprehensive background check that includes terrorist watch lists, immigration status, criminal history, and outstanding warrants. This credential must be renewed every five years.

[§] This credential is issued by USCG that sanctions their aptitude for relevant job duties. Complete applications include an application form, relevant training course certificates, periodic drug tests.

** Washington state's maritime industry is far less diverse than the national maritime industry and the rest of the Pacific Coast region (Oregon, California, Hawaii, and Alaska).

†† This finding was highlighted during phase one of the project, and the Legislature allocated additional funding to employ new on-call employees full-time through the winter in 2022.

other parts of the industry often spend weeks or months at sea, and the ability to go home every day appeals to them. However, the erratic pay is a deterrent, particularly if they have credentials and experience for higher ranking and higher paying positions elsewhere in the industry.

Third, on-call workers do not have predictable schedules or consistent ports^{††} from which they sail. Workers may have to drive long distances, pay for mileage to reach their work destination, and incur penalties for declining assignments. Traveling to different ports with little to no notice is challenging for all workers. Still, it is particularly challenging for those with caregiving responsibilities and workers without reliable transportation.

Fourth, because on-call workers are frequently assigned different vessels and shifts, it is challenging to build working relationships with senior crew and supervisors that help them navigate the organization and sharpen their skills.^{§§} First-year staff often feel lonely and isolated while completing their probationary period. In some instances, terminal staff often do not have a supervisor on-site to receive calls and make critical decisions like holding a vessel for an emergency vehicle.

Finally, crew members access permanent positions by bidding on them. The bid is based on seniority. So, it can take as long as two to three years to get a permanent position out of one's home port.

As a result, many on-call workers leave WSF before they are guaranteed work, despite several years of training. This high turnover in entry-level positions means there are not enough crew members in the pipeline^{***} to become mates, captains, and engineers. The shortage is particularly acute in the engine room. The near-term consequence of this restriction is increasing rates of overtime. The medium and long-term consequences are canceled sailings and disrupted service.

ADVANCEMENT AND PROMOTION

In addition to an inadequate supply of entry-level crew members gaining the necessary experience and skills, there are challenges in the current advancement and promotion process. The lack of institutional support, the cost of licensure, and low pay for key positions prevent many crew members from advancing to fill those more senior positions.

Knowledge and Guidance

The advancement process is unusually opaque, built around a history of maritime families where the knowledge was shared through social connections. Second, as noted above, employees don't have a single point of contact or supervisor that they can go to for mentorship, leadership, career path and progression, and performance reviews. As a result, it is difficult for employees to move up through the ranks quickly if they do not have those social connections to guide them through accumulating and documenting sea time and

^{††} All crew members have a home port from which they sail; however, they can be assigned a sailing within 35 miles of their home port.

^{§§} WSF is exploring ways to mitigate this within the constraints of the CBAs.

^{***} The informal term in the maritime industry for the pathway from unlicensed sailor to captain or chief engineer without attending a maritime college or academy is the Hawsepipe.

preparing for licensure exams. The lack of institutional support for crew member advancement creates social disadvantages for those new to the maritime industry.

Licensure

Advancement from entry-level to experienced roles requires that crew members accumulate adequate sea time, often on specific routes, prepare for and take exams, and submit and maintain documentation to the USCG. WSF has minimal resources to support crew members obtaining USCG licenses, so they must pursue them independently. They must plan and document their sea time and often must ride routes on their own time when they cannot get assigned shifts on all the routes. They then navigate the USCG MMC licensure exam and application process, without institutional support, including paying for these licensures. Advancement from OS to AB requires the employee to complete various training, which can cost more than \$1,500 to complete.

Engine Room Career Progression and Pay

Finally, the engine room has some specific challenges. First, for several years WSF did not employ wipers, which is the entry-level position in the engine room, requiring no credentials beyond the TWIC and basic MMC required of all crew members. The lowest-ranking position in the engine room was the oiler, which is a position that typically requires at least two years of training and a Qualified Member of the Engine Department (QMED) credential. As a result, there was no entry-level pathway in the engine room.

Consequently, WSF competes against the maritime industry for credentialed engine crew while there is a global shortage of these workers. WSF is not well-positioned to compete for these engine room crew. Despite being experienced and skilled workers, oilers make only slightly above entry level-pay, making only \$4 to \$6 per hour more than the entry-level OS.

WSF has reintroduced this position in the last year. The new wipers should alleviate some of the shortage of oilers. However, in the near term, these positions also require additional oversight and training on-the-job.

Cultural Issues

In addition to the structural issue of attracting and retaining new employees, WSF employees at all levels cited culture as a factor negatively impacting retention. Interviews with crew members and leadership revealed five core cultural elements contributing to the attrition of younger and newer crew members.

The first is that the seniority-based system brings a culture of looking down upon newer employees until they have gained the requisite experience. As opposed to a culture of mentoring and supporting new crew members, they have limited resources to coach and develop new employees. This attitude is particularly acute about BIPOC and women crew members. Because of the low levels of staff diversity, there is not a sense that BIPOC and women vessel crew members are welcome or valued.

Another side effect of the seniority system is a lack of a culture of accountability. It is challenging for supervisors to act when an indiscretion occurs due to the seniority-based system. The result is lower morale and dissatisfaction amongst hardworking and dedicated employees.

There are also no processes in operation for performance and rewards. Employees reported not feeling appreciated or rewarded for their efforts even while working far more overtime than what they want to keep the ferries running. They receive little feedback from leadership on their performance because annual performance reviews are no longer being conducted.

Lack of feedback, accountability, and appreciation contributes to the low organizational trust. Employees feel disconnected and that operational leadership is out of touch with day-to-day operations. Employees reported a greater need for communication and expressed a desire for greater visibility from leadership.

WORKFORCE PLANNING ANALYSIS

In conjunction with the qualitative analysis of workforce conditions, the project team analyzed WSF human resource data to inform workforce planning. This analysis primarily focuses on age to assess the urgency of succession planning. While increasing the diversity of WSF crew is critical to improving the organization's long-term performance, the human resource demographic data is limited to age and gender. Thus, an analysis of racial and ethnic diversity was outside our ability to conduct with existing data.

Demographics

As Figure 2 indicates, more than three-quarters of the WSF vessel crew and terminal staff are men. And women are concentrated in terminal staff. While this does not give direct evidence of the distribution of race and ethnicity among operational staff, there is reason to believe that underrepresentation of BIPOC crew and staff is even more pronounced than gender. Advancing women and BIPOC crew members to leadership positions on vessels is essential because diverse leadership is critical to creating environments that support diversity throughout the ranks.

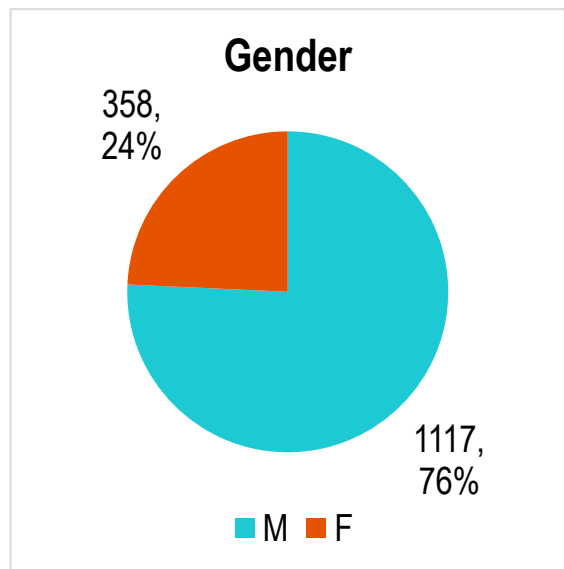


Figure 2. Distribution of Gender in Operational Staff

Tenure and Retirement Risk

Twenty-three percent of WSF's vessel crew and terminal staff has been with WSF for four years or less (

Figure 3). At the same time, 28% of the workforce is currently within five years of or already at or above the average retirement age (

Figure 4). By 2027, the percentage of current workers within five years or above average retirement age will increase to 41% (Figure 5). The large percentage of short-tenure employees combined with the very large number of WSF employees at or near retirement places WSF at significant risk of losing a great deal of institutional knowledge even if WSF can successfully backfill positions.

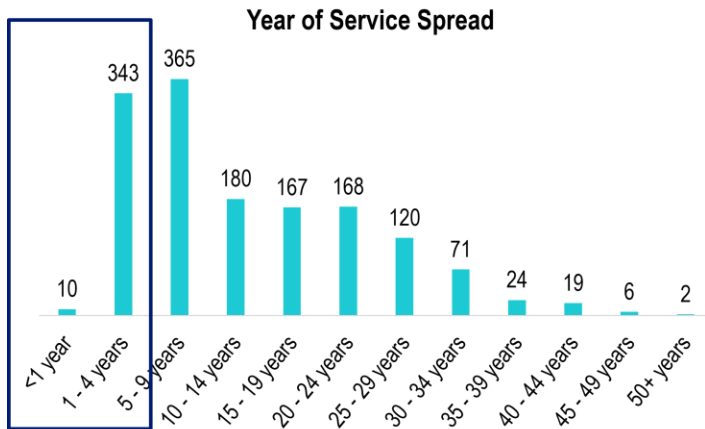


Figure 3. Years of Service^{***,***}

^{***} Does not include Eagle Harbor, Administrative, or Temporary roles

^{***} Data is effective as of June 30, 2022

Age Spread 2022

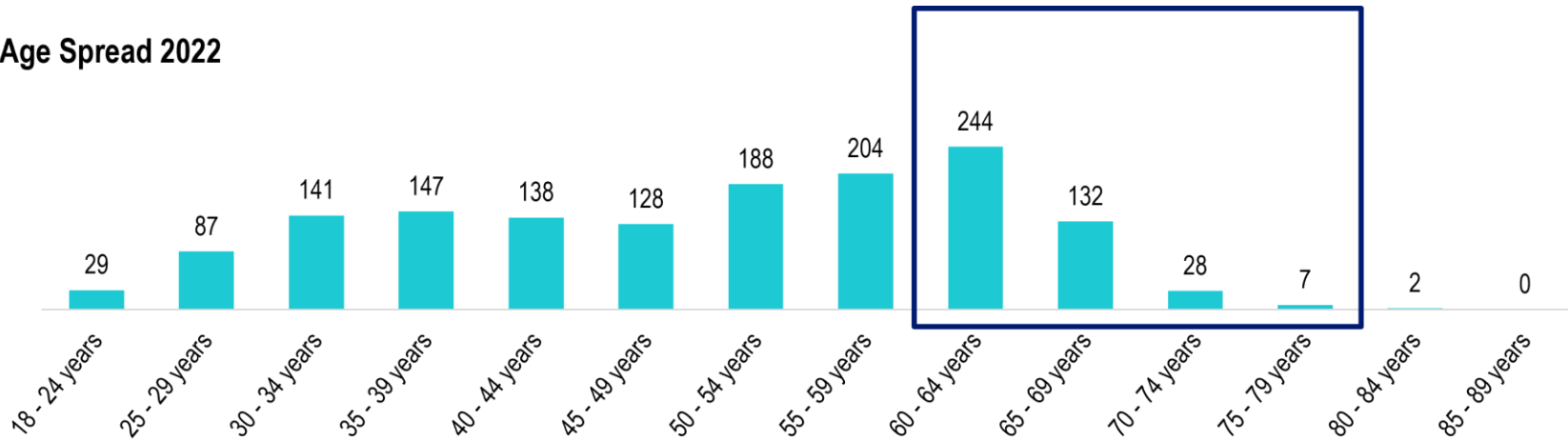


Figure 4. Crew at Eligible for Retirement in 2022^{§§§,****}

Age Spread 2027

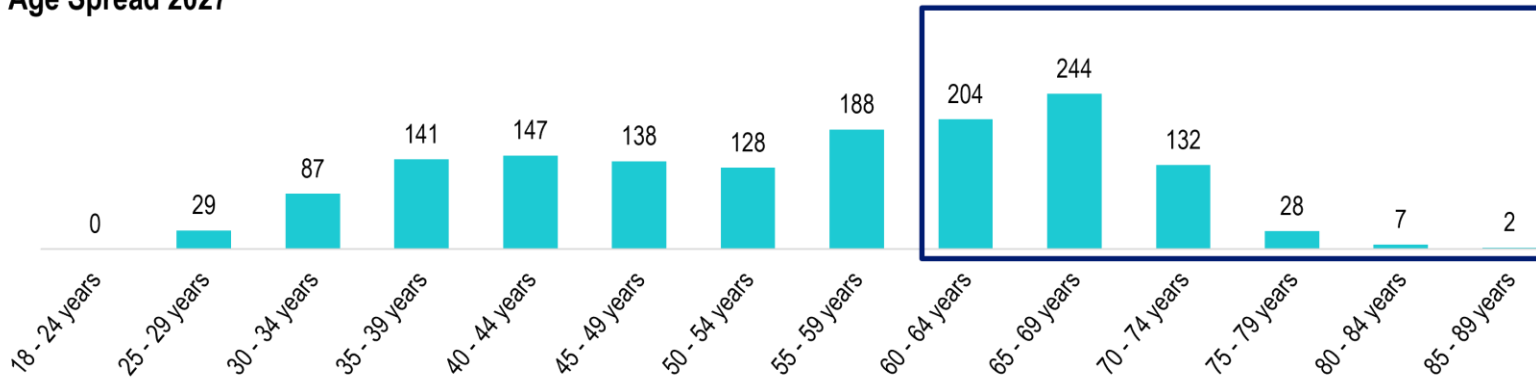


Figure 5. Crew Eligible for Retirement in 2027^{§§§,****}

^{§§§} Does not include Eagle Harbor, Administrative, or Temporary roles

^{****} Data is effective as of June 30, 2022

A more detailed analysis of retirement risk by positions (Table 1) indicates that Captains are at the highest risk of retirement, with more than half currently within five years of or above average retirement age, and more than three quarters will be in 2027. This is a huge operational risk. Not only do these captains represent a great deal of institutional knowledge and operational capacity, but they are also hard to replace. It takes years to accumulate the sea time and credentials to move from mate to captain.

More than one-third of chief engineers are within five years of or above average retirement age, and more than half will be in 2027. Though chief engineers skew younger than captains, moving from assistant engineer to chief engineer requires a similar amount of time and credentialing. The global shortage of licensed marine engineers makes backfilling these positions more difficult.

Terminal supervisors and janitors are similarly positioned to captains; however, these positions do not have the experience or credentialing requirement and thus do not pose the operational risk that the share of captains and chief engineers nearing or eligible for retirement does.

Table 1. Crew Eligible for Retirement by Position

Job Category	Total Count	Below Retirement Risk Range and Age				Within Retirement Risk Range + At or Above Avg. Retirement Age			
		2022		2027		2022		2027	
		N	%	N	%	N	%	N	%
Captain	74	35	47%	16	22%	39	53%	58	78%
Mate	75	61	81%	52	69%	14	19%	23	31%
2nd Mate	28	26	93%	23	82%	2	7%	5	18%
Ablebodied Sailor	234	164	70%	134	57%	70	30%	100	43%
Junior Deckhand	245	203	83%	176	72%	42	17%	69	28%
Chief Engineer	110	73	66%	51	46%	37	34%	59	54%
Assistant Engineer	74	60	81%	53	72%	14	19%	21	28%
Oiler	186	159	85%	142	76%	27	15%	44	24%
Terminal Supervisor	39	16	41%	12	31%	23	59%	27	69%
Ticket Seller	134	77	57%	47	35%	57	43%	87	65%
Ticket Taker	33	25	76%	22	67%	8	24%	11	33%
Terminal Attendant	179	120	67%	100	56%	59	33%	79	44%
Janitor	6	3	50%	2	33%	3	50%	4	67%
Total:	1417	1022	72%	830	59%	395	28%	587	41%

Impact of Turnover

As the WSF leadership and crew interviews indicated, turnover is also an issue. However, in line with the interviews, the positions with the highest turnover are junior deckhands (OS), terminal attendants, and janitors, the entry-level positions in WSF. This is particularly problematic for junior deckhands because these are the positions all unlicensed crew members are hired into and the positions in which employees accrue the necessary sea time to be eligible to advance to mate and then captain. High turnover in this position creates

potential gaps in the number of crew eligible to advance to fill vacancies created by retirement and turnover in more senior positions.

Table 2. Turnover Rate by Position

Job Category	Total Population	4-Year Average Involuntary Turnover		4-Year Average Voluntary Turnover		4-Year Average Retirement	
		N	%	N	%	N	%
Captain	287	4	1.4%	1	0.3%	37	12.9%
Mate	279	5	1.8%	3	1.1%	9	3.2%
2nd Mate	96	0	0.0%	1	1.0%	1	1.0%
Ablebodied Sailor	1121	17	1.5%	8	0.7%	55	4.9%
Junior Deckhand	967	39	4.0%	53	5.5%	19	2.0%
Chief Engineer	391	10	2.6%	0	0.0%	34	8.7%
Assistant Engineer	302	5	1.7%	2	0.7%	4	1.3%
Oiler	783	30	3.8%	27	3.4%	18	2.3%
Terminal Supervisor	141	1	0.7%	1	0.7%	11	7.8%
Ticket Seller	489	4	0.8%	4	0.8%	36	7.4%
Ticket Taker	67	0	0.0%	0	0.0%	4	6.0%
Terminal Attendant	613	45	7.3%	44	7.2%	16	2.6%
Janitor	22	1	4.5%	2	9.1%	0	0.0%

RECOMMENDATIONS



Figure 6. Recommendation Themes

Expand Staffing

The first recommendation is to expand staffing in areas where severe understaffing exists. Expanding staffing will lower costs and re-establish full vessel operations. To do this, WSF must create a short-term staffing plan. The staffing plan will add full-time positions to the deck, terminal, and engine crews in the areas where the workforce staffing model demonstrates severe understaffing and a high level of overtime being used. An adequate budget to support the short-term staffing plan must be allocated.

RECOMMENDED HEADCOUNT

Table 3 provides proposed headcounts for the deck and engine room based on the workforce modeling. This model is a starting point for assessing the needed staffing levels. This table is the proposed additional crew members needed to meet the USCG minimum required for the 2019 sailing schedule with no overtime (this is

not a reasonable assumption but is a useful starting point). **It is a starting point for determining how many crew members WSF should hire to restore full service with minimum USCG crewing.** WSF must make two key decisions to arrive at the number of each position that should be hired:

- Determine the amount or percentage of overtime WSF is willing to offer employees. Some overtime is built into WSF operations because engine room crew work 12-hour shifts (84 hours per 2-week period) and the nature of water-based travel (e.g., tides, weather, delay for emergency vehicles). In addition, some overtime is cost-effective.
- Account for needed relief staff to provide coverage for additional staffing for vacation and sick time as indicated in the respective bargaining agreements.

Overall, WSF needs to increase the number of crew members by 17% to 20%. Based on the collective bargaining agreements, higher-ranking positions (e.g., AB, Mate, Captain, Chief Engineer) will largely be filled by promoting existing employees. The new hires will be concentrated in entry-level and lower-ranking positions (e.g., Junior Deckhand/OS, Second Mate, Oiler, and Assistant Engineer). While some employees have or are eligible to test for the licensure necessary for a promotion, others will need support to become eligible as quickly as possible.

Table 3. Proposed Vessel Crew Headcount

Position	Current Headcount ⁺⁺⁺	Proposed Additional Headcount				
		Low ⁺⁺⁺		High		
Captain	70	3	4%	4	6%	
Mate	79	14	18%	16	20%	
Deck	2nd Mate	23	21	91%	24	104%
	Able-bodied Sailor	277	40	14%	45	16%
	Junior Deckhand	255	62	24%	69	27%
Engine	Chief Engineer	105	15	14%	17	16%
	Assistant Engineer	72	16	22%	18	25%
	Oiler	188	14	7%	16	9%
Total:	1,069	185	17%	209	20%	

Unsurprisingly, the position with the largest number of new crew members needed is Junior Deckhand (OS), with 62 to 69 additional crew members. The position with the largest growth rate is Second Mate, with WSF needing 91% to 104% additional Second Mates. Maritime academy graduates have the appropriate licensure

+++ Staffing analysis uses historical FY 2022 data and current headcounts are effective as of June 30, 2022.

+++ The “low” end of the proposed staffing range is currently modeled as taking the “high” proposed range and subtracting 10%.

but are required to obtain the pilotage necessary to use that license in the Sound. However, ABs who have not attended a maritime academy can also advance via the Hawsepipe career path (Appendix). WSF has designed a program^{§§§§} to support these ABs as they prepare for the exam and to ensure they are assigned shifts on each route to get all the required pilotage on the clock. However, this program is not fully funded. Funding should be provided to extend this program upon the successful completion of the pilot program.

In addition to adding crew members, since the first report in 2021, WSF implemented a policy guaranteeing on-call employees 40 hours per week through the winter season, using the additional time these employees are working for training. This policy will reduce turnover, improve the pipeline from OS to AB and mate, and give WSF more capacity to support the AB to mate program. This policy should be permanent, with adequate employee pay and training resources allocated.

MODELING

To ensure this new staffing level is sustainable and provides regular, dependable service, WSF should continue to model data annually so they can anticipate staffing needed, considering turnover and unplanned absences. This will require administrative and operational support resources to collect data and update the model on an ongoing basis, particularly as this will continue to be a manual process until WSF procures and implements the necessary technology infrastructure.

COLLECTIVE BARGAINING IMPACT

The recommendation to expand staffing has no significant impact on the collective bargaining agreements. WSF has the right to change the staffing level, and there is no guaranteed overtime beyond the four hours per two weeks for the engine room due to their 12-hour shifts. Some bargaining units may not be happy about reduced overtime for members. However, it is more likely that existing crew members would welcome the reduction in overtime as they expressed how overextended they were in interviews.

Staffing Model

For WSF to have sustainable staffing in the medium and long term, they must reimagine the staffing model for deck and terminal staff and allocate support resources to account for more accurate staffing needs. The project team recommends leveraging the staffing model created, implementing a sophisticated staffing methodology and an operational model that is more accurate for operational staffing for the deck and terminal employees.

A more sophisticated staffing model will require an analysis of staffing needs for deck crews beyond the USCG minimums. This model will account for crewing needed to fully operate and maintain the vessels, conduct training and workforce development, and provide a margin for unplanned absences. Such a model will not be

^{§§§§} WSF leadership planned on reserving 70% of the program’s positions for current employees and 30% for external hires. However, in the pilot phase, they fill all of the spots with ABs who wanted to advance to mate but have not been able to because they had not been able to accrue all of the required pilotage or prepare for the exams.

static and will change to account for things like vessel age (e.g., engine room crew and deckhand need to perform more ongoing, routine maintenance on older vessels).

This model should also identify staffing needs for terminal staff beyond what has been allocated based on historical budget calculations. This is to ensure there is adequate staffing to provide supervisory support and takes into consideration customer demand.

DATA MANAGEMENT

To build and maintain such a model, WSF must conduct a comprehensive review of data management practices and establish a data governance approach that includes the following:

- Establishing a data governance council and data integrity team
- Aligning data collection with institutional reporting needs
- Integrating data sources where appropriate
- Identifying and rectifying data inconsistencies
- Identifying and training data stewards from varying parts of the organization

TECHNOLOGY

To effectively model on an ongoing basis, WSF will require the appropriate technology to move it from manually pulling and validating reports from multiple disconnected and incompatible systems. To procure the best-fit technology, WSF should stand up a cross-functional task force to oversee the documentation of business and system requirements and research of technology vendors. WSF should consider utilizing outsourced resources or Washington State Department of Transportation (WSDOT) technology resources if internal resources don't have the capacity or the competencies to do this work.

In the past, funds were allocated before technology was selected, and the funding was inadequate for the appropriate solution. To ensure this effort is successful, gather business requirements and explore technology solutions before allocating budgetary funds. An adequate budget must be earmarked to procure technology that will fully meet WSF's operational needs, which are more complex than the WSDOT at large.

Collective Bargaining Impact

WSF has experience consulting and including labor partners in decisions when needed for technology procurement. There is the potential that this may complicate contracts and require some changes to existing CBAs for full implementation.

ADMINISTRATIVE CAPACITY

WSF will also need to identify, develop, or hire administrative staff with the requisite skills and competencies to support the new staffing model and technology. In the near term, WSF will need staff dedicated to implementing the technology and modeling, such as IT project management and change management support. A data analyst, data modeler, or similar position may help manage and operationalize the new staffing model

across the organization. A long-term staffing plan must include positions with the necessary skills and dedicated time to use and maintain the technology, such as systems analysts.

Collective Bargaining Impact

Building skills competencies to support new staffing modeling has no identified impact on CBAs.

IMPLEMENTATION

Implementing the systems necessary to model workforce needs on an ongoing basis will require a change management strategy and communications plan. The strategy and plan will ensure that the systems are effectively integrated into the organization and do not exacerbate the current cultural issues in WSF.

First, WSF must conduct an audience and impact analysis to understand the impacts throughout the organization. Based on this analysis, WSF can develop a change management strategy to ensure readiness and adoption for all changes.

Alongside the strategy, WSF must create a communications plan to keep all interested parties informed of changes throughout the implementation. Keeping labor partners, crew members, and administrative staff fully informed and maintaining open communication channels so these parties can inform leadership of potential challenges is essential to change management. Informing ferry patrons and the public is crucial for restoring confidence in the organization that has been damaged in recent years.

Finally, WSF must determine a learning strategy and plan for ensuring all staff is trained on new systems and processes. This final step is critical to ensure that the WSF effectively uses the new technology and bases the staffing model on accurate data. Without accurate data, the model will become obsolete and ineffective and may lead to an overreliance on overtime and inadequate succession planning.

Collective Bargaining Impact

The training required to implement the new staff modeling effectively, such as learning new technology, will need to be considered and integrated into the CBAs.

Career Advancement & Retention

To ensure an adequate number of crew members at each stage of the career pipeline, WSF must implement structural supports to improve culture, retain staff, and move crew along WSF career pathways. This will require a multifaceted employee engagement and retention strategy and plan. This strategy and plan will include the following:

- Performance management and career development programs
- Compensation analysis for the engine room
- Diversity and inclusion plan

CAREER DEVELOPMENT

Employees indicated that they do not have reliable relationships with supervisors and are not given feedback when they do well or how to improve. This contributes to high entry-level turnover and limits tenured employees' career progression. We recommend that WSF create a more structured career development process, including a performance management process compatible with CBAs for all roles within the deck, engine, and terminal aimed at developing employees and advancing their career goals. This process should not supplant the seniority system but augment it and ensure that WSF is developing its workforce.

Performance Management

This process should include a single point of contact for all deck and engine crew. This point of contact will serve as a mentor and supervisor beyond the leadership on the vessel.

The process must ensure that leaders are accountable for performance management consistent with the newly outlined process. For example, it must include training for managers on how to effectively conduct the performance management process and provide feedback on performance throughout the year. It may also incorporate more informal check-in and feedback sessions.

Career Development

The performance management processes facilitate WSF creating a more robust career ladder and employee growth opportunities. Relationships with supervisors and managers through which employees receive regular and actionable feedback and can access information about opportunities help build the pipeline. These relationships can also ensure that WSF training and WSF-supported training is aligned with staff needs and ambitions, USCG requirements, and WSF operational needs. An example is WSF's pilot AB to Mate program that aims to provide an effective route to move from unlicensed deck to captain.

Collective Bargaining Impact

This recommendation has the most potential impact on CBAs. WSF does not currently have a performance management process for these positions, and all career advancement is based on seniority and rank. A core question for labor partners is how a new performance management process would evaluate performance while prioritizing seniority and rank. Additionally, a formalized performance management process will create additional responsibilities that need to be accounted for in compensation.

However, there are key opportunities to implement its use. As mentioned above, performance management can help identify and support ABs who are interested and strong candidates for the AB to Mate program. It can also improve transparency when mates are eligible to move into a captain position. Currently, the International Organization of Masters, Mates, and Pilots (MMP) union reviews mates eligible for this promotion to ensure the candidate is prepared to take on the role of captain.

Finally, focusing performance management on development offers a mechanism to identify and remedy skill gaps. For example, in addition to their technical tasks, Chief Engineers and Captains are managers. Captains, in particular, are responsible for all crew on the vessel. However, they have limited leadership training, which is

particularly important for managing an increasingly diverse crew and ensuring they are prepared to create an inclusive workplace environment onboard the vessel.

COMPENSATION

The particularly acute shortage of engine room crew within WSF and the global labor force requires WSF address compensation concerns by conducting a formal compensation analysis for the engine room. As part of the compensation analysis, WSF should revisit its compensation strategy and philosophy to ensure that they are aligned with the organization's strategic goals. An effective market analysis should be conducted to ensure a competitive compensation structure, including comparisons to peer organizations and national, regional, and local markets. WSF will need a comprehensive communication and change management strategy to support the effort. There is a dedicated WSDOT Human Resources team doing an audit. A third-party vendor should be considered to help facilitate this process to ensure adequate, dedicated expertise committed to a full analysis.

Collective Bargaining Impact

There are no concerns about impacts on the MEBA CBA.

DIVERSITY, EQUITY, AND INCLUSION

Finally, a formal Diversity, Equity, and Inclusion (DEI) strategy must be central to WSF's employee advancement and retention efforts. Employees must see that WSF is investing in their growth. This strategy should identify the approach WSF is taking to ensure a diverse and inclusive workplace and should include the following:

- Specific goals and objectives WSF would like to achieve through its diversity and inclusion efforts.
- An inventory and outline of all the current diversity and equity programs and practices with their intended outcomes for the organization.
- Articulation of how the diversity, equity, and inclusion strategy will intersect with other key areas for the organization, such as recruiting and retention, succession planning, employer branding, and other areas.
- Training and development that should take place to support the diversity, equity, and inclusion strategy.
- Key performance indicators for ensuring the programs and practices have their intended effect on culture. These indicators should be aligned with the climate and engagement survey.

WSF's DEI planning must work within the Washington State Equity Office's framework and WSDOT's DEI goal, and they will have two full-time staff members dedicated to this work. However, WSF should consider contracting with a third party to facilitate the planning. A third party with specific knowledge skillsets will have the independence, latitude, and authority to make assessments and recommendations that may be difficult for staff.

Collective Bargaining Impact

There are no impacts on the CBAs related exclusively to the DEI strategy.

Succession Planning and Knowledge Transfer

Closely related to career advancement and retention is succession planning. WSF faces the loss of a significant amount of experience in the coming years as the existing workforce ages out. With that experience is a great deal of institutional knowledge, which WSF will lose if it does not implement a succession plan and knowledge transfer approach. We recommend that WSF adopt a formal succession model for leadership roles (e.g., Captains, Chief Engineers, Terminal Supervisors), such as the nine-box grid model.

SUCCESSION PLANNING

The nine-box grid is most commonly used in succession planning to evaluate an organization's talent and identify potential leaders. As outlined in Figure 7, the vertical columns of the grid indicate growth potential, and the horizontal rows identify whether the employee is currently below, meeting, or exceeding performance expectations. The intersection of the two determines the employee's current standing and where development may be needed.

When leadership performance and potential are assessed and plotted on the graph, individuals in the upper right quadrant (Box 3) are high-potential candidates for succession. They should be ready for leadership within six months to a year. Those in boxes 2, 3, or 6 have a longer timeline but can be groomed for eventual movement to box 3. Those in the lower left quadrant (Box 7) may need to be reassigned or targeted for additional training.

The boxes on the grid indicate where investment needs to be made to develop future leaders. This process should develop a robust leadership development program for the senior and mid-level crew. This program should include the following:

- Revised performance management approaches to enhance feedback mechanisms for managers and leaders.
- Formal mentoring, shadowing, or job rotation programs for critical leadership roles
- Structured leadership training/development experiences
- Cross-functional committees and teams to build leadership skills and culture
- Appropriate resources to support the design, implementation, and maintenance of the succession planning effort

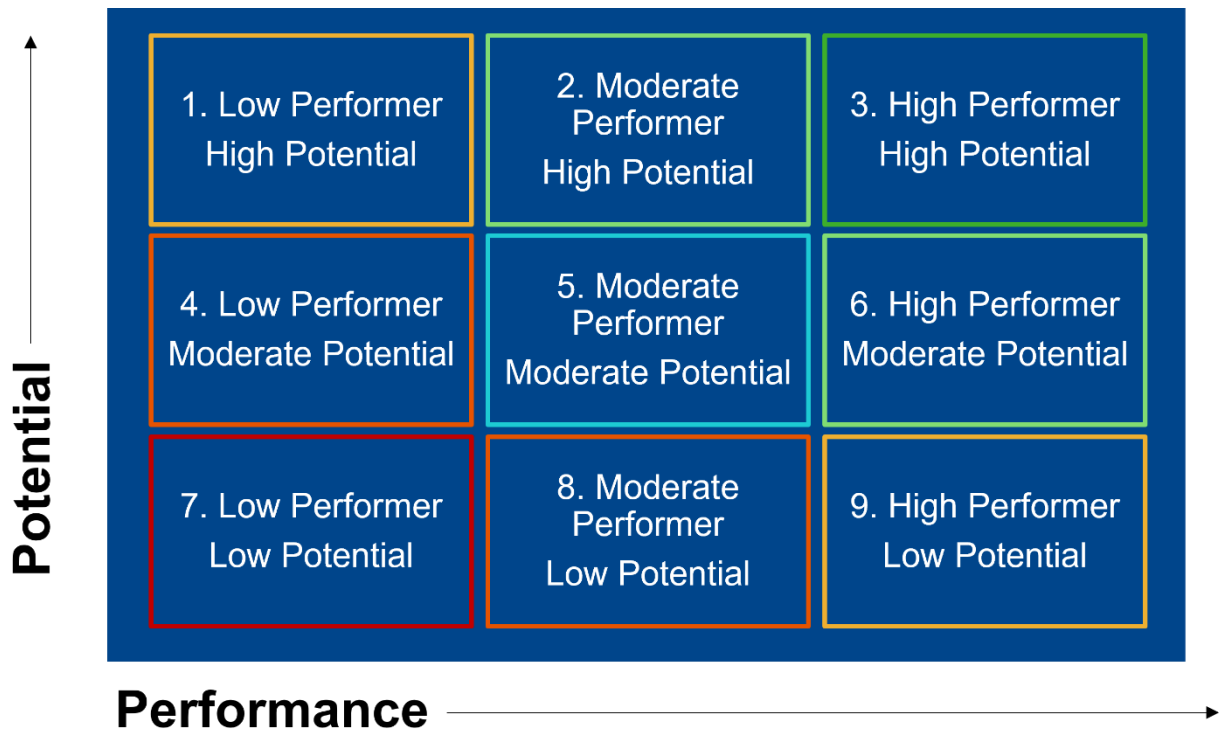


Figure 7. Nine-box Succession Planning Model

We recommend assembling three working groups for cases where a nine-box model may be challenging to implement, **** one each for deck, engine, and terminal succession to help design a broader succession framework. We recommend considering the following components:

- Develop approaches and tools for identifying critical skills and competencies and high potential or high-performing individuals that could fill at-risk positions.
- Establish clear and consistent job profiles and link them to core competencies.
- Determine the key success factors for various roles.
- Establish a mechanism and tool for gathering and storing/creating an inventory of the required knowledge, skills, abilities, and attributes for roles.
- Assess the abilities and career interests of employees.
- Conduct gap analyses for deck, engine, and terminal roles to inform recruiting and training strategies.
- Identify training and development priorities and needs, and revise programs accordingly.
- Determine criteria and processes for evaluating internal talent pools and whether an external search is needed.
- Establish internal mentoring and rotational programs to develop talent as appropriate.

**** The broader deck, engine, and terminal roles, particularly in a unionized environment where hiring and promotions are more regulated.

- Consider DEI objectives in the succession strategy.

KNOWLEDGE TRANSFER

Developing processes and identifying individuals within WSF to fill newly vacated positions must be augmented by a formal approach for knowledge transfer for leadership and critical or hard-to-fill roles. We recommended creating a process and tool for conducting an inventory of critical skills, competencies, and required experience for key roles and those roles' core tasks. Based on that inventory, WSF can then develop strategies and programs to support the transfer of critical skills and knowledge to successors, which may include:

- Mentoring (formal or informal) and apprentice programs
- Establishing work shadowing programs
- Guided experience program that features those with first-hand knowledge providing hands-on training to successors
- Cross-training initiatives
- Establishing communities of practice programs of collaborative learning groups that allow employees to meet and broadly share knowledge with groups over a longer period (can be supported by technology or digital platforms)
- Communication of "Best Practices"
- Leveraging e-learning and instructor-led training

So that this effort is not a one-off but has ongoing use and relevance, WSF must identify tools and technology to house inventory and monitor and track skills needs and gaps on an ongoing basis. This effort should include metrics to benchmark progress and success. It should align with the impacts of any potential turnover (i.e., the highest priority given potential knowledge loss that will have the most significant operational impact).

COLLECTIVE BARGAINING IMPACT

Because succession planning is closely connected to performance management, their impact on collective bargaining is similar. CBAs tightly control what performance issues can be used to dismiss someone from WSF employment and require that seniority and rank rather than performance or potential determine who is next in line for advancement. However, there is potential to use performance management to identify existing crew members to encourage or support through programs like the AB to Mate program or other leadership training so they have the licensure necessary to fill newly open vacancies.

Regarding the knowledge transfer planning, CBAs will require any additional work required to create or maintain the inventory of skills and competencies be accounted for in the compensation. The time required to implement the knowledge transfer program to build resiliency within the organization will also need to be incorporated into the staffing model.

Recruitment & Hiring

In addition to improving retention, to place WSF on a path to a sustainable workforce that can provide reliable, timely services, WSF must also enhance talent acquisition. This recommendation has three components: articulating the Employee Value Proposition (EVP), developing a strategic recruiting and sourcing plan, and allocating additional resources to talent acquisition.

EMPLOYEE VALUE PROPOSITION AND EMPLOYER OF CHOICE INITIATIVE

The first component, creating a strong and compelling employer brand and articulating an Employee Value Proposition (EVP) for current and prospective employees, aligns with WSDOT's goal of being an employer of choice. To do this, WSF must assess the current state of the employer brand, both internally and externally. This assessment must include examining all new employee and recruiting processes, interactions, and branding materials.

We recommend that WSF establish focus groups among deck, engine, and terminal employees to define what employees value and what WSF should include in the EVP. From this work, WSF can develop a specific statement, articulate the employee value proposition, and create a strategy and implementation plan to ensure the employee value proposition is consistent throughout all parts of the organization and during the recruiting experience.

In addition to creating an employee value proposition, WSF should consider launching a formal employer-of-choice initiative to bolster recruiting efforts with specific goals for achieving employer-of-choice status. This initiative must include a targeted plan with supporting resources for achieving and maintaining employer-of-choice status.

STRATEGIC RECRUITING PLAN

Once WSF articulates the EVP, it can develop a strategic recruiting and sourcing plan. This plan may include opportunities to:

- Evolve from a reactive recruiting model that fills vacancies as they occur to a proactive recruiting model that builds a solid workforce that can absorb and adapt to disruptions.
- Create formal talent pipelines for high-demand roles. This plan should focus on developing targeted networks and recruiting for positions with high turnover and high retirement rates, such as Captains and Chief Engineers.
- Work with labor partners, specifically MEBA,⁺⁺⁺⁺ to align recruiting efforts.
- Determine an appropriate balance between internal and external candidates for future recruiting needs.
- Incorporate internal development programs and career paths.

⁺⁺⁺⁺ MEBA continues to recruit Assistant Engineers while all other recruiting and hiring have moved from the unions to WSF.

- Continue to advance and evolve the new mate training and experienced mariners pilot program.
- Establish formal partnerships with community organizations, businesses, and maritime academies, as potential candidate sources.
- Consider internship and apprentice programs that support internal recruiting and staffing needs.
- Host networking and educational events and activities within the local community to showcase WSF as an employer.
- Leverage/expand social media recruiting and employer brand promotion (e.g., LinkedIn, Glassdoor, Facebook).
- Consider establishing an employee referral program.
- Incorporate appropriate elements of the employer brand into role descriptions and job announcements.
- Create targeted branding campaigns outlining the benefits of a career at WSF versus a maritime role that requires travel for extensive periods.
- Provide an opportunity for experienced mariners with licenses to move into captain positions swiftly.

TALENT ACQUISITION RESOURCES

To implement the strategic recruiting plan with the EVP, WSF will need additional talent acquisition resources. Additional human resources staff will enable WSF to reach a broader pool of candidates and make the time-to-hire faster. Ensuring these individuals have the skills and competencies in strategic recruiting, talent acquisition, and strengths in working with communities historically excluded from such career opportunities is essential.

COLLECTIVE BARGAINING IMPACT

The recommendation for developing the employee value proposition, a strategic recruiting plan, or additional talent acquisition resources has no anticipated impact on the CBAs.

Cultural Issues

To develop a strong EVP and create an inclusive workplace atmosphere, WSF must address long-standing cultural issues. We recommend conducting an engagement survey and in-depth cultural assessment as the first step. WSF should build an action plan based on the engagement survey and cultural assessment to remediate cultural concerns.

There is concern that employees are experiencing survey fatigue. Thus, this process must be transparent, and there be action directly tied to the feedback given via survey. Based on the survey and assessment, there should be a formal process for confirming priorities and areas of focus. Based on those confirmed priorities, WSF should develop approaches for addressing organization-wide issues and opportunities that surfaced in the survey. WSF leadership should engage leaders and staff through working groups and other forums to develop

targeted plans and initiatives to address survey results and improve employee engagement. These efforts should align with the EVP and employer branding efforts.

This process should not be a one-off event. Instead, a regular schedule and cadence for conducting follow-up surveys should be established. Adequate resources must be allocated to ensure that all employees have a meaningful opportunity to participate in the survey and that management and leadership have the opportunity to act on feedback.

COLLECTIVE BARGAINING IMPACT

The recommendation for regular and meaningful engagement surveys and cultural assessment has no anticipated impact on the CBAs.

PRIORITIZED IMPLEMENTATION ROADMAP

To facilitate the implementation of these recommendations, the project team, in collaboration with WSF leadership, has developed a detailed implementation plan. The complete implementation (Appendix D) plan has been provided to the JTC and WSF as a separate document. Below is the overview of the three implementation phases.

Phase 1: Build a Foundation for the Plan

In phase 1, WSF must develop and allocate a budget and create a short-term staffing plan to address staffing shortages. In this budget, WSF should:

- Continue to offer on-call staff stable hours
- Continue to utilize the staffing model to forecast workforce needs
- Determine operational staffing needs for deck and engine
- Conduct a comprehensive review of WSF data management practices and establish a data governance approach
- Develop an employee engagement and retention strategy and plan
- Add more talent acquisition staff

WSF has already begun a number of the specific elements of Phase 1. However, they do not have the necessary administrative capacity to complete this phase without additional support. Some of this may be available through WSDOT. Other elements may best be supported by consultants. Finally, it will require dedicated, additional WSF staff capacity. Specifically, WSF will need dedicated project management personnel and talent acquisition.

Phase 2: Evolve the Plan

In Phase 2, WSF will start putting into place the structural elements of the plan. One of the critical elements of this phase will be to procure technology to support the staffing model and identify or hire personnel with the requisite skills and competencies to support the new staffing model and technology.

This phase will also focus on creating the employer brand and articulating the Employee Value Proposition (EVP). The brand and EVP will be instrumental in the strategic recruiting and sourcing plan.

The final focus of Phase 2 is succession planning. First, WSF should establish succession planning for leaders and then more broadly throughout the organization. In conjunction with this, the knowledge transfer plan and work will take shape.

Phase 3: Implement Sustainable Workforce Strategies

The final phase of this implementation plan is to integrate it organization-wide. Central to this phase is creating a change management strategy and communications plan to support the staffing model and technology.

It is crucial that existing WSF employees be well-informed and prepared for these changes to prevent any unnecessary turnover and subsequent loss of experience and knowledge. Employee buy-in is also central to the implementation of the EVP and strategic recruiting and sourcing plan.

Finally, WSF will deploy knowledge transfer in Phase 3. If done well, knowledge transfer not only preserves institutional knowledge but highlights and affirms employees' value to the organization and supports their engagement.

REFERENCES

1. Bureau UC. 2020 Census Will Help Policymakers Prepare for the Incoming Wave of Aging Boomers. Census.gov. Accessed November 4, 2022. <https://www.census.gov/library/stories/2019/12/by-2030-all-baby-boomers-will-be-age-65-or-older.html>
2. Millennial Survey 2014 | Deloitte | Social impact, Innovation. Deloitte Albania. Accessed November 4, 2022. <https://www2.deloitte.com/al/en/pages/about-deloitte/articles/2014-millennial-survey-positive-impact.html>
3. COVID-19 Provisional Counts - Weekly Updates by Select Demographic and Geographic Characteristics. Published November 16, 2022. Accessed November 17, 2022. https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm
4. What are the Implications of Long COVID for Employment and Health Coverage? KFF. Published August 1, 2022. Accessed November 17, 2022. <https://www.kff.org/policy-watch/what-are-the-implications-of-long-covid-for-employment-and-health-coverage/>
5. Millions of baby boomers have left the workplace since 2020. Are they coming back? *Washington Post*. <https://www.washingtonpost.com/business/2022/02/25/great-resignation-older-workers/>. Published February 25, 2022. Accessed November 17, 2022.
6. On Your Mind: How Washington, DC is Increasing Access to Childcare. National League of Cities. Published May 13, 2022. Accessed October 26, 2022. <https://www.nlc.org/article/2022/05/13/on-your-mind-how-washington-dc-is-increasing-access-to-childcare/>
7. Schwartz J, Smith G. *Transportation Worker Identification Credential (TWIC)*. Transportation Security Administration; 2021.

LIST OF ACRONYMS

A

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APPENDIX A

Project Team

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APPENDIX B

Working Group

Last Name	First Name	Affiliation
Anisman	Jenifer	Pacific Northwest Regional Council of Carpenters Shipwrights
Catterson	Dave	Washington State Legislature
Crawford	Jane	Washington State Ferries
Forty	Jenna	Washington State Legislature
Griffith	Reema	Transportation Commission
Halbert	Aaron	Transportation Commission
Hansen	Erik	OFM
Lamphere	Todd	Washington State Ferries
MacIntosh	Nicole	Washington State Ferries
Mast	Terri	IBU
Masterson	Danny	Senate Transportation Committee
Monroe	Kim	Washington State Department of Transportation
Morrison	Rachel	Washington State Ferries
Neal	Paul	Washington State Legislature
Nevey	Steve	Washington State Ferries
Redfield	Beth	House Transportation Committee
Rubstello	Patty	Washington State Ferries
Servais	Austin (Ozzy)	Washington State Ferries
Singer	Rick	Washington State Ferries
Thompson	Harry	IBEW 46
Twohig	Dan	MM&P
Vezina	John	Washington State Ferries
Winge	Eric	MEBA
West	Tiff	OFM
Quam	Dana	House Republican Caucus
McCarty	Hannah	Senate Democratic Caucus
Othón	Loren	House Democratic Caucus
Presley	Martin	Senate Republican Caucus

APPENDIX C

Staffing Model

A supplemental staffing model was also created as part of this engagement. This deliverable is a dynamic tool created in Excel that draws on several data sources to provide insights into the number of recommended staff needed to fully operate the vessels and terminals, accounting for employee turnover and forecasted retirements. The model allows for variable inputs such as the percentage of overtime offered to employees and weighted labor rates. These changes will ultimately affect the suggested high and low number of additional crew members and the associated costs and savings.

The model provided to the JTC and WSF is the baseline model. It indicated the number of vessel crew necessary to allow WSF to restore the 2019 sailing schedule with the USCG minimum crewing requirements, given WSF's current training schedule and recent leave (planned and unplanned absences) data.

This staffing model does not fully integrate the recommendations above, including knowledge and succession planning and other components that will vessel crew time and thus demand additional staffing. It also does not address whether the USCG is the correct crewing level. It does not incorporate these elements because these changes depend on decisions and negotiations that have not yet occurred.

APPENDIX D

Implementation Plan

The project team developed a prioritized list of action items based on the recommendations and assigned each item a suggested start and end date. The team worked with WSF leadership to identify the following:

- Items that WSF has already started or completed
- Who is responsible for the action item
- Who should be consulted for the action item
- Estimated time to implement, cost to implement, and complexity
- Make note of any dependencies

The complete implementation plan has been provided to the JTC and WSF as an Excel document to track the progress implementing recommendations.

APPENDIX E

Interview List

Last Name	First Name	Role
Churchwell	Brian	IT Assistant Director
Cirkovich	Stephanie	Director of Community Services & Planning
Crawford	Jane	Training & Credentialing Manager
Dabney	Marcus	WSF IT Applications Manager
Garman	Ann	Transportation Planning Specialist 5
Hanbey	Matt	Operating Program Manager
Lathan	Dale	Director of Safety Systems
Mast	Terri	IBU
Mooney	Jay	Port Captain
Morrison	Rachel	Sr. Bid Administrator
Schweyen	Bill	Senior Port Engineer/Captain
Servais	Austin	Crew Resource Manager
Singer	Rick	Director of Finance & Administration
Sowers	David	Director of Terminal Engineering
Williamson	Alec	Project Management Engineer
Winge	Eric	MEBA

APPENDIX F

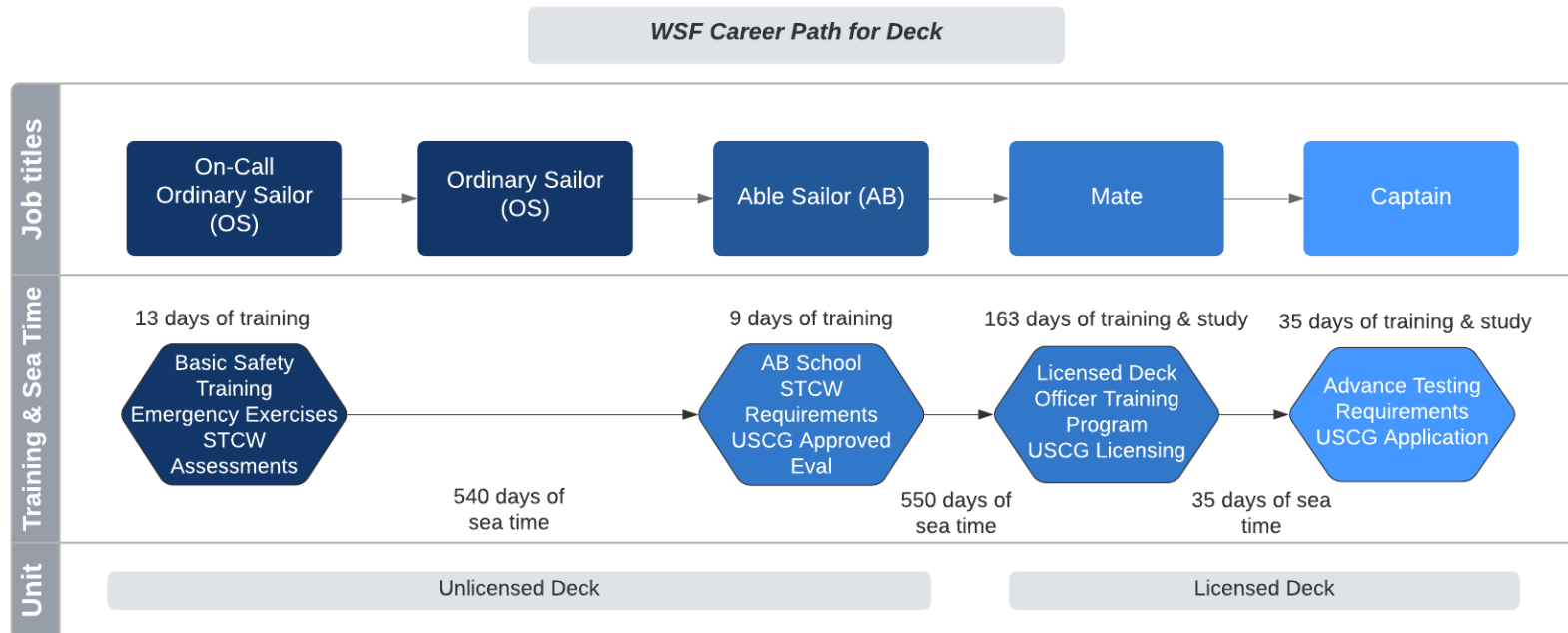
Data Biography

Dataset Name	Who collected the data	Who owns the data	How was the data collected	Who was included/excluded from sample	Why was the data collected
Cancellations	Built by SJI team from the WSDOT Graybook	SJI	WSDOT published Graybook	All reported cancellations by quarter (quarter is annual, not state fiscal)	Assess impact of crewing shortage on cancelations
May 8 - May 21 Headcount by position by day	WSF Budget & Policy	WSF	WSF Budget & Policy, 5/8-5/21/2022	Position head count 5/8-5/21/2022	
Separations due to Covid	Raw HR data & sheets of processed data	WSF	HR records	All job changes FY2019-FY2021	Separations by reason
vessel_crew_requirements	raw USCG-required crewing spreadsheet and vessel schedules	WSF	WSF operations maintained vessel crewing spreadsheet	crewing requirements by vessel class, passenger, and car capacity	To calculate, based on USCG required minimums, how many people WSF should employ
Work Orders	Codebook for work orders	WSF	List of work assignment locations		
WSF Leave Taken Request - 20220603	WSF Payroll	WSF	WSF Payroll, 3/2021-6/2022		

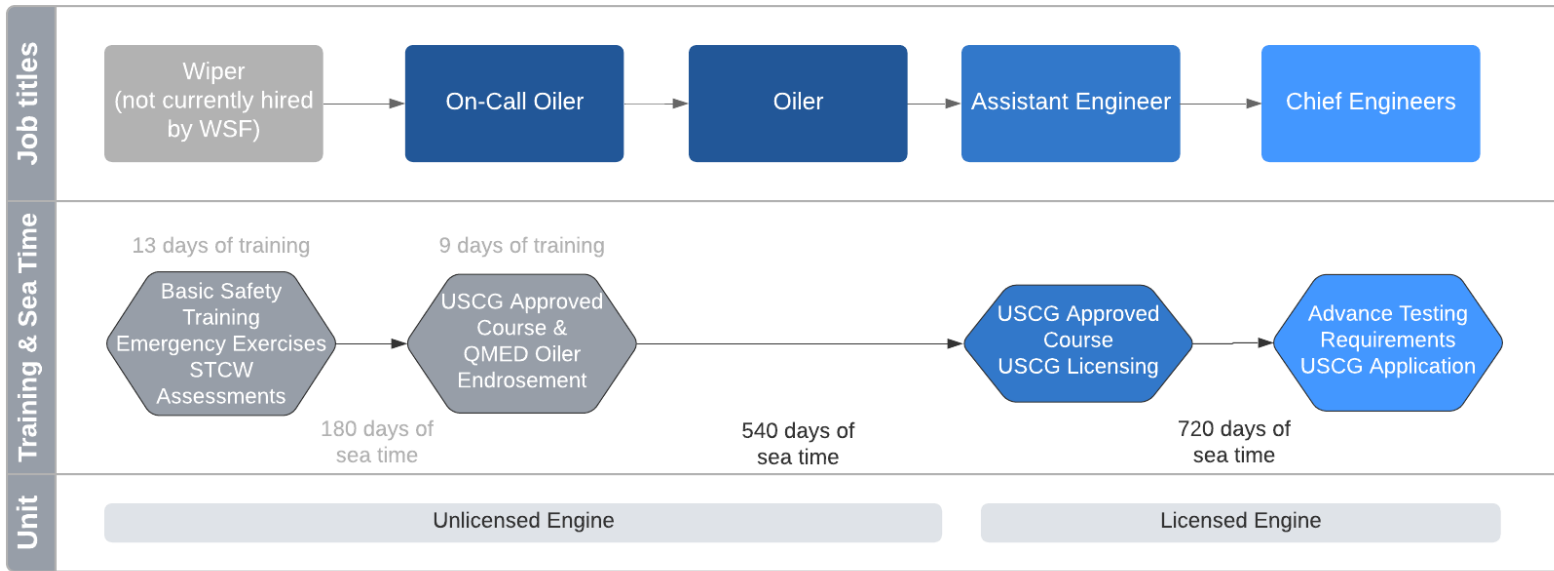
Dataset Name	Who collected the data	Who owns the data	How was the data collected	Who was included/excluded from sample	Why was the data collected
WSF_leave_complete	WSF Payroll	WSF	WSF Payroll records, 2006-2011, 2018-2020	All leave and payroll for operational positions	To calculate the relationship between leave and OT
JTC_20220601 - census	WSF HR	WSF	Employee census - HR records	Operational positions only	Headcount and tenure by position
JTC_20220601 - separations	WSF HR	WSF	Employee census - HR records	FY2017-present	Separations by reason
FY 2023 Labor Rates	WSF Budget	WSF	Weighted rates for each position based on WSF's payroll	FY2023	Cost/savings for expanding staffing
Crew Resource Demand per Work Cycle	WSF HR	WSF	Number of each position needed over a 2-week period	FY2020-FY2022	Minimum staffing per vessel position

APPENDIX G

Career Advancement and Retention



WSF Career Path for Engine



APPENDIX H

Median Wages Fiscal Year 2019

Median ST and OT hourly wages FY2019

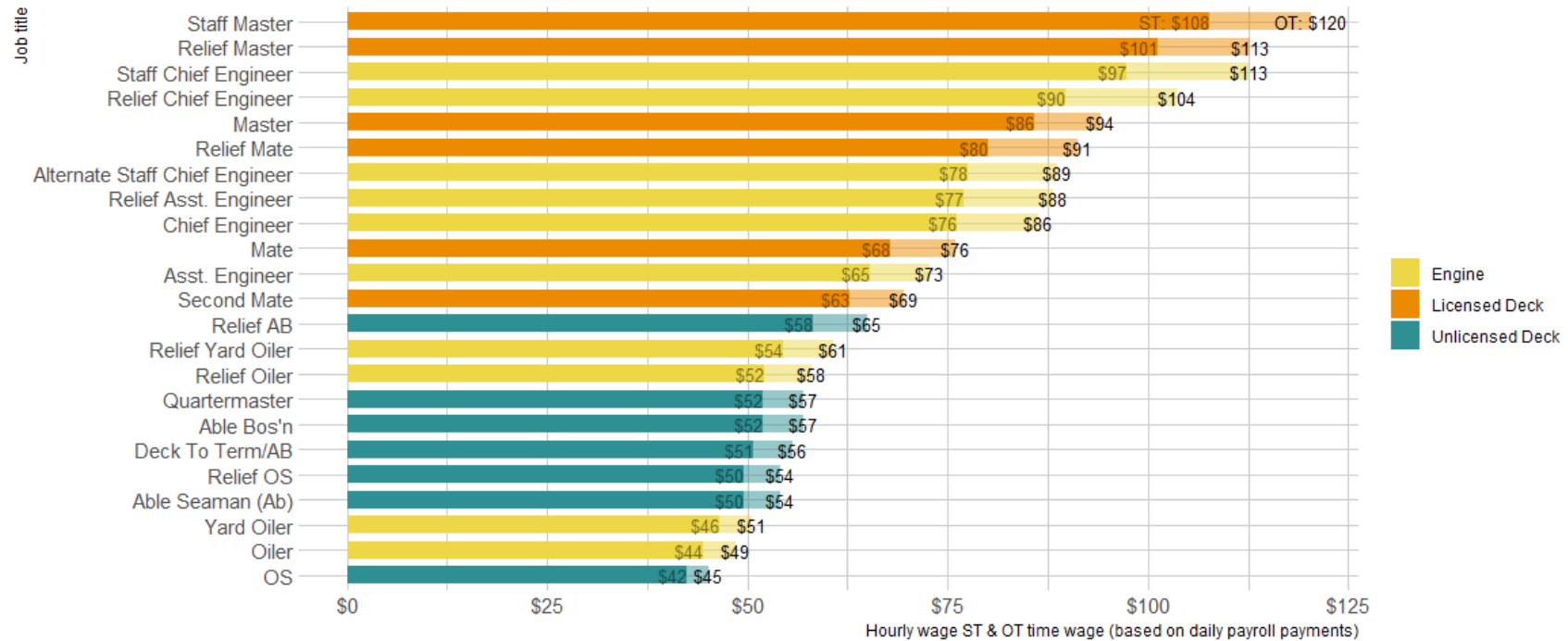


Figure 8. Median Hourly Wages by Position, Fiscal Year 2019