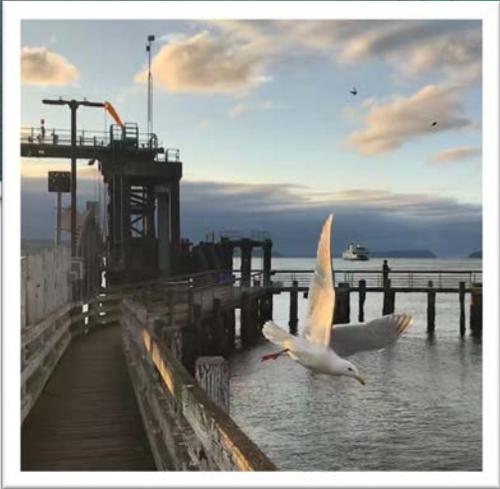
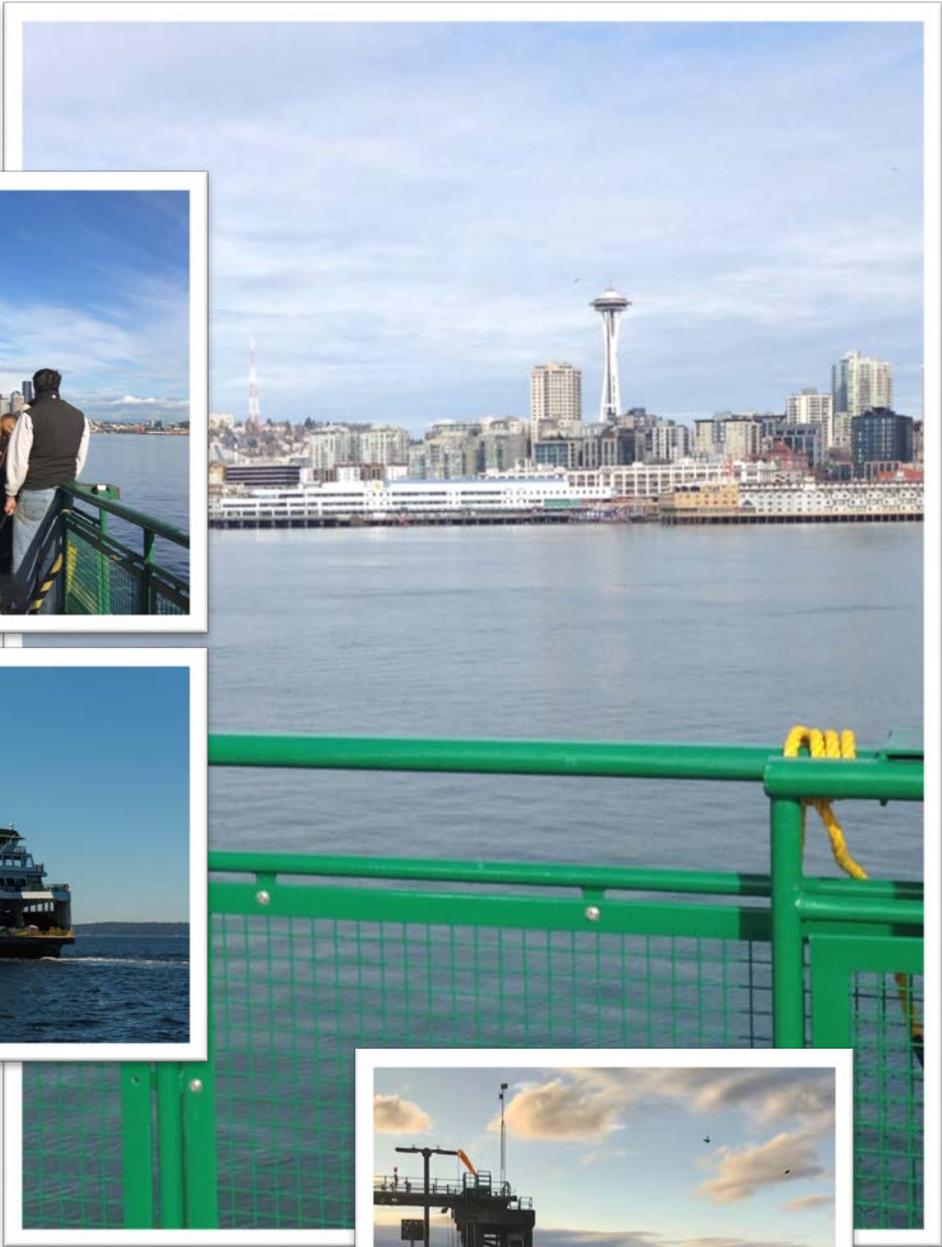
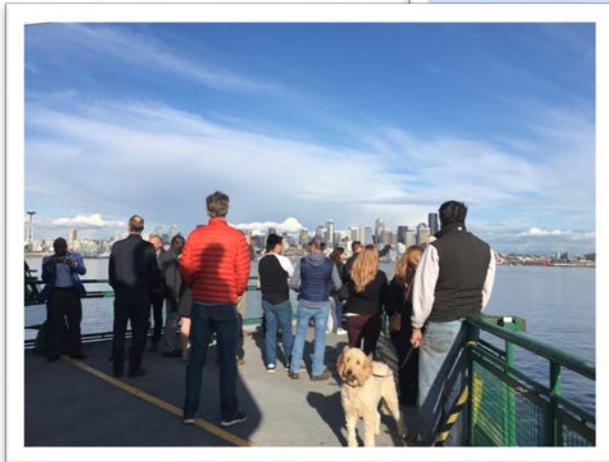


Washington State Ferries

2019 Alternate Service Plan

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1 Introduction



Washington State Ferries (WSF), a division of the Washington State Department of Transportation, is the largest ferry system in the United States and among the largest in the world, carrying nearly 25 million passengers a year. These passengers ride the ferry in a variety of modes: They walk or ride bicycles aboard, or drive onto the ferry in motorcycles, personal vehicles, RVs, and large commercial trucks. With 10 routes and 20 terminals that stretch from Tacoma, Washington to Sidney, British Columbia — and a fleet of 23 vessels that operate virtually 24 hours a day, seven days a week — WSF is the third largest mass transit provider in the state

of Washington.

As is to be expected with such a large and complex transportation system, WSF occasionally experiences disruptions in service. Disruptions can be caused by a number of reasons, including weather, unexpected vessel or terminal maintenance needs, or other external forces that indirectly affect sailings. For example, a vessel might be taken out of service not only because of mechanical issues, but also hard landings, groundings, or propeller shafts getting tangled in crab pot lines. Similarly, a terminal might become inoperable because of mechanical failure of a loading bridge or trestle, electronic malfunction, or even law enforcement activity. Service disruptions can also occur when the crew resources required to operate a vessel are unavailable.

The WSF Alternate Service Plan describes some of the reasons WSF experiences service disruptions and how WSF attempts to maintain as much service as possible when the unexpected happens. The goals of the Alternate Service Plan are to:

- Provide a measure of **predictability** about how WSF will manage unplanned vessel or terminal service disruptions and maintain service.
- Be **transparent** about decisions, considerations and priorities when unplanned vessel maintenance necessitates service adjustments.
- Outline how WSF will **communicate** with customers, community members, and other partners.

Previously called WSF's Summer Service Plan, WSF has broadened the scope of the plan and renamed it to reflect the challenges that occur year-round. Since 2017, the plan has been reviewed and revised annually with input from WSF's Ferry Advisory Committees (FAC) and the public; their comments and suggestions are reflected throughout this document.

In addition, in 2019 WSF completed a 20-year Long Range Plan to help guide the future of the ferry system for the next two decades. The WSF 2040 Long Range Plan was developed over the course of 18 months; its cornerstone was an extensive public outreach campaign that gathered input from more than 7,000 ferry riders, legislators, FACs, and the general public. The final plan that was submitted to the Washington State Legislature centered on four key themes that emerged from this outreach, with stakeholders providing a clear directive to WSF:



1. Maintain reliable service
2. Enhance the customer experience
3. Manage the system's growth
4. Operate with sustainability and resilience in mind

The 2019 Alternate Service Plan is a fundamental component of all four of these goal areas.

At left: Public outreach for the WSF 2040 Long Range Plan consisted of numerous open houses and community meetings.

2 Lessons Learned

WSF has continued to struggle with an aging fleet, sometimes having as many as seven vessels — approximately a third of the fleet — out of service for scheduled or unplanned maintenance. Because WSF tries to mitigate outages across the entire ferry system, unexpected vessel outages have especially affected island routes where there are more than one or two vessels to serve that route. For example, both the Fauntleroy/Vashon/Southworth and the Anacortes/San Juan Islands/Sidney, BC routes experienced diminished service in 2018, which was particularly difficult in the peak summer season.

Conversely, WSF experienced a snowstorm in February 2019 that forced it to consider voluntarily reducing service levels, both for safety and because of reduced ridership. Over the past year, WSF has been working with FACs, elected officials, ferry riders, and transit partners to implement a number of measures to stabilize and improve service across the system:

- With the publication of its 2040 Long Range Plan, WSF sought funding for five new Olympic class vessels to replace soon-to-be retiring, aging vessels; plans are currently underway to build one new hybrid-electric vessel that will save fuel, have a positive effect on the environment, and will help strengthen the reliability of WSF's fleet.
- After a two-year public process with the help of a task force comprised of FAC and community members, WSF implemented a new schedule on the Fauntleroy/Vashon/Southworth route that aims to ease congestion at the small, 70-year-old Fauntleroy ferry terminal; move more people with larger vessels; and better connect passengers to other transit.
- WSF has initiated the production of a Workforce Development Plan to help identify employment gaps and recommend strategies for attracting and retaining qualified staff to operate its vessels and terminals.
- WSF Operations conducted an assessment of service after the February 2019 snowstorm to better respond to inclement weather events in the future. See Section 10 below.

In addition to these external initiatives, WSF is also employing a number of internal improvements to its procedures, processes, and communications channels so that in the event of a service disruption, important information is shared across the agency in a consistent, accessible, and transparent way.

3 Vessel Considerations

WSF's vessels operate more than 20 hours each day, 365 days a year. This puts stress on our fleet, which is complicated by additional factors:

- **Retirement of the *Hyak*:** A Super class vessel constructed in 1967, *Hyak* has been slated for retirement at the end of the 2019 fiscal year, despite WSF's legislative request to continue funding for *Hyak* to serve as a service relief vessel. This means that as of July 1, 2019, WSF's fleet will decrease from 23 to 22 vessels, and with less service relief there will undoubtedly be service reductions.
- **Aging vessels:** The fleet has an average age of 29 years. Twelve of our remaining 22 ferries are more than 30 years old. Of those, four are at least 50 years old. This aging fleet requires more maintenance to deal with problems such as steel corrosion, replacing or repairing obsolete equipment, and preservation projects that have been deferred, leading to a higher risk of vessel breakdown.
- **Limited spare vessels:** With 19 vessels in service in summer, 17 in service in the winter, and two vessels rotating out for required annual maintenance (four in winter), WSF typically has only one funded standby vessel for emergency service relief throughout the summer. Unscheduled repairs can quickly consume this extra capacity, and there have been periods during most recent summers when the entire fleet was either in service or out for repairs with no service relief vessel available. This is far below the transit industry standard of a 20 percent spare ratio. In addition, the programmed service relief vessel for 2019 is *Sealth*, which has a capacity of only 90 cars. When a larger vessel goes out of service, WSF typically repositions a number of vessels in order to get each route as close to its planned capacity as possible. These boat moves are often complex and costly.
- **Limited slips at terminals:** Twelve of the 20 ferry terminals have only one landing slip for operations. If there are any problems with the single slip, the route is closed; vessels will need to be rerouted to other terminals or service suspended until the landing slip is repaired and returned to service.

When we have an equipment failure during other seasons, we are often able to shift vessels around, juggle maintenance needs, and reallocate resources across the system. However, in the summer when we are stretched thin, taking a boat or dock out of service for repairs is more complicated.

As frustrating as it is when a vessel leaves service, it is important to remember that it is still relatively rare. Our reliability rating is regularly better than 99%. Nevertheless, unplanned service disruptions are felt by more customers in the summer and have a negative effect on those businesses who rely on the summer tourism and travel that our ferries provide.

4 Terminal Considerations



A frozen button at the Lopez Island terminal transfer span caused a hoist cable to unravel and disrupted service to the island for most of the day on February 5, 2019.

While service disruptions resulting from terminal breakdowns are rare, there are situations that warrant the closure of a terminal or the imposition of weight and load restrictions at terminal facilities. For example, a cable or other mechanical component on a bridge transfer span might break, or a safety system might experience an electrical failure that prevents the transfer span from moving. More commonly, a terminal might experience an interruption in service because of extremely high traffic volumes, construction projects, or law enforcement activity — a suspicious package, a car crash in the holding lanes, or an abandoned vehicle.

When the problem is mechanical or electrical, WSF will dispatch a crew from its Eagle Harbor Maintenance Facility on Bainbridge Island to inspect and assess the situation. In most cases, the problem can be repaired, but how quickly the terminal can get back “online” is dependent on a number of factors, including:

- **The distance between Eagle Harbor and the breakdown.** For example, Eagle Harbor crews can reach the Bainbridge Island and Bremerton terminals much more quickly than they can Friday Harbor, which takes about six hours from door to door.
- **Tools and equipment.** Technicians will bring with them a variety of tools and equipment to make terminal repairs, but in the event that a specialized instrument or part is needed, they will have to obtain it from another source.
- **Duration of planned work.** WSF may take individual slips or terminals out of service temporarily for maintenance work or for longer periods of time during major construction projects.

In the event that terminal repairs cannot be made quickly, WSF must make some difficult decisions about whether it can and should reroute traffic to other terminals. Some criteria to consider include the estimated duration and effects of the disruption; whether there is an alternate route available to customers; the characteristics of the route; and the availability/suitability of an alternate terminal. The number of slips available for a vessel to dock at plays a huge role in whether or not a terminal is a suitable home for a vessel; see *Appendix B* for a diagram of terminal locations and features.

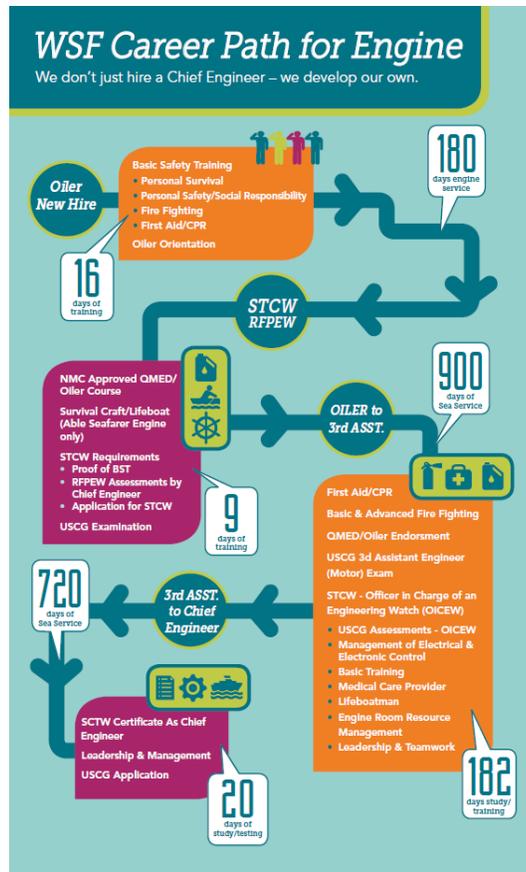
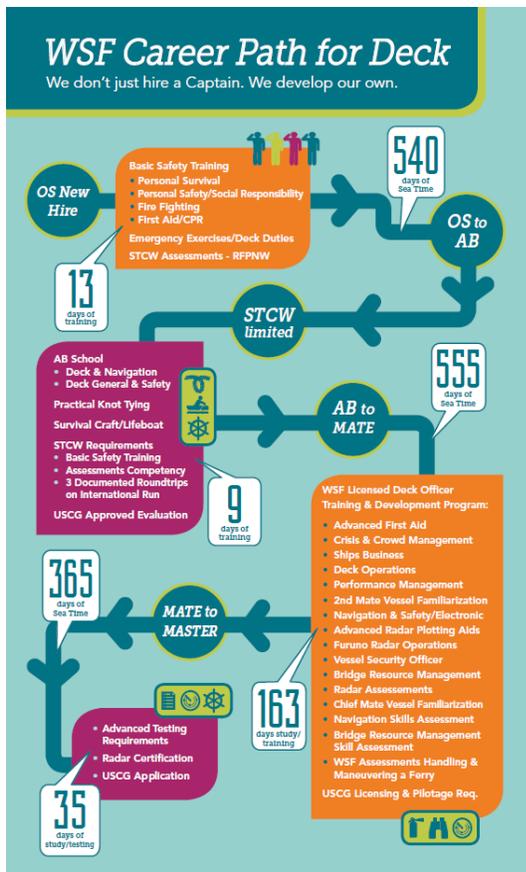
Because every situation is contingent upon a number of variables, it is difficult to predict with complete accuracy how WSF will respond in the event of a terminal closure. However, we can make some educated guesses: With construction currently underway at Seattle’s Colman Dock and vessels operating on a tight construction schedule, it is highly unlikely that WSF would redirect a vessel on a different route to the Seattle terminal. Or if a train derailed in Edmonds and blocks access to that terminal, WSF might decide to return passengers to Kingston so they can take alternate routes.

5 Workforce Considerations

WSF must supply crews and staff to work on vessels and at terminals that operate up to 24 hours each day, 365 days a year. In order to support such a vast operation, sufficiently trained staff must be in place. WSF must comply with regulations and requirements from multiple regulatory agencies, including the U.S. Coast Guard.

- **Crew/staff training:** Vessel staff must be trained in medical response, threat identification, firefighting, and vessel damage control as well as evacuation and rescue operations. Crew are first responders when the vessel is underway, and there must be sufficient crew to follow chain of command procedures. If a crewmember is not sufficiently trained or licensed, he or she will not be allowed to sail.
- **Limitations on staff availability:** Crewmembers' availability for work are constrained by a number of regulations, including collective bargaining agreements and U.S. Coast Guard oversight via the Code of Federal Regulations (CFR), guidelines developed by Safety of Life At Sea (SOLAS), and International Regulations for Preventing Collisions at Sea (COLREGS). Some of the constraints include minimum safe working conditions and hours, minimum manning requirements, and operational limits, such as:
 - No vessel deck crew can work more than 12 hours and must have at least eight hours of rest within a 24-hour timeframe. Terminal staff must have at least eight hours off between shifts. Scheduled engine room crew shifts can be a maximum of 12.5 hours, and WSF must relieve engineers for the following day if they work more than 16 hours due to unforeseen circumstances. There is no relief pool for Eagle Harbor maintenance staff, and employees who get called out for night jobs must receive the next day off.
 - There must be sufficient crew holding correct endorsements and licenses to safely navigate the vessel as appropriate by vessel size and passenger load.
 - WSF must account for required traveling time for employees dispatched to multiple locations to comply with endurance management requirements. This can be especially challenging in the more remote locations that WSF operates.

Like other employers nationwide, WSF is feeling the effects of a retirement wave; 30 percent of WSF's vessel workforce, 37 percent of the terminal workforce, and 24 percent of the workforce at WSF's Eagle Harbor Maintenance Facility are eligible for retirement in the next five years. An astonishing 75 percent of masters (captains) and 53 percent of chief engineers are retirement-eligible in the next five years. Across the maritime industry, employers are identifying a need to invest in attracting, retaining, and strengthening the workforce. In the meantime, when service disruptions occur, WSF may need to call on relief employees or pay overtime to employees to fill the gaps. Having a broad and diverse workforce at all license and training levels located throughout Puget Sound and available to step in on short notice is crucial, but staff development takes time.



6 Financial Considerations

The level of service that WSF is able to provide is highly dependent on its biennial budget as determined by the state legislature. In addition to providing the funding to operate and maintain particular vessels and set levels of service with the appropriate labor and fuel calculations, the budget also allocates capital funds for vessel preservation, improvements, and new construction. Starting July 1, WSF is budgeted to operate 22 vessels, with one vessel on “standby” to act as a service relief vessel.

As a steward of taxpayer dollars, WSF must make prudent economical decisions based on what is best for the ferry system as a whole — there are several costs associated with activating an alternate plan to minimize service disruptions. When vessels are moved from one route to another, WSF must consider the costs of labor and fuel, including the cost for vessel crew to travel each day that the vessel is away from its “home port” (the terminal where the vessel resides for the biennium). Depending on the length of time the alternate plan is in place, and the size of vessel(s) involved, the cost can be thousands of dollars per day or tens of thousands of dollars per week.

7 Vessel Placement

Once the budget is in place, WSF determines the vessel’s home port and when that vessel will undergo its required maintenance. Both the “where” and “when” come with a significant number of constraints. For

example, a vessel may be too large to physically fit in the dock of a particular terminal, or a vessel may be too fast or too slow for a particular route, making it not a good fit for that route. (See *Table 1 below*.)

In addition, WSF vessels are highly regulated by the U.S. Coast Guard and must meet stringent requirements before they are allowed to carry passengers. Some of these requirements include an underwater inspection twice every five years, an annual safety inspection, quarterly random inspections and additional testing of sprinkler systems and marine evacuation systems. Scheduling these tests and any related maintenance projects is often a delicate balance between the vessel's maintenance needs, its assigned route's service needs, and the scarce availability of dry dock space in Puget Sound.

Among the policies or assumptions we adhere to during this planning phase:

- In the initial scheduling process, WSF commits one vessel to service relief, or "standby."
- WSF schedules no more than two boats to be out for planned maintenance during summer season, three during fall and spring shoulder season, and four during winter season.
- WSF tries to avoid situations where two vessels of the largest classes (Jumbo class or Jumbo Mark II class) are out at the same time.
- WSF designates certain vessels as on "relief" instead of "permanent" assignment to their routes, providing more flexibility to move those vessels to another route when needed. In accordance with collective bargaining agreements, WSF prioritizes moving "relief" vessels that are assigned to regularly scheduled service before moving "permanent" vessels that are in service.

Along with a list of other considerations — including contracting, crewing and training needs; the capacity of WSF's maintenance facility at Eagle Harbor; budgetary concerns; and public or community commitments; among others — the initial planning process can take some time to complete and involves representatives from all areas of the organization.

Approximately five to nine months before each season actually begins, WSF planners work with community partners, transit agencies, and technical staff to review the previous year's ridership and on-time performance statistics, and identify minor changes in the schedule. If a more significant schedule change is implemented, planning may need to begin a year or more in advance, and the community engagement is more extensive. At least two months before the start of the season, WSF finalizes and posts the sailing schedule in time for reservations to open for the Anacortes/San Juan Islands/Sidney, BC and Port Townsend/Coupeville routes. It is at this point that the vessel assignments that were used to plan the schedule become the baseline for our service.

Each year, we identify one service relief vessel that can be used in the event a vessel breaks down anywhere in our system. The challenge to WSF is when vessels need maintenance or repairs unexpectedly. As the fleet ages, this is bound to happen more frequently. (See *Appendix A* for the current vessel assignments.)

The response to an unplanned vessel outage depends on the expected duration of an outage, its location, and the availability and capacity of the service relief vessel. In the last year, the service relief vessel has been in use almost the entire year, and WSF has made difficult decisions about how to provide service.

Table 1: "Fit" of Vessel Classes to Routes

| Size | Class | Veh Spaces | Vessel | Home Port | Route: | | | | | | | | | | |
|-------------|---------------|------------|----------------------------|---------------------------|---------------------------------|---|---------------------------|--|--------------------------|---|---------------------------------|------------------------------------|---|---|----------|
| | | | | | South | | | | | North | | | | | |
| | | | | | Point Defiance-Tahlequah PD-TAL | Fauntleroy-Vashon-Southworth FVS | Seattle-Bremerton SEA-BR | Seattle-Bainbridge SEA-BI | Edmonds-Kingston ED-KING | Mukilteo-Clinton MUK-CL | Port Townsend-Coupeville PT-KEY | Anacortes-San Juan Islands ANA-SJ | San Juan Interisland ANA-SJ 4 | Anacortes-Sidney ANA-SID | |
| Big | Jumbo Mark II | 202 | Tacoma | Seattle | Oversize for route | Oversize for route | More capacity than needed | Meets demand | Meets demand | Lengthy loading & off-loading | Will not fit in Keystone Harbor | Oversize for route | Oversize for route | No SOLAS | |
| | | | Wenatchee | Seattle | | | | | | | | | | | |
| | | | Puyallup | Kingston | | | | | | | | | | | |
| | Jumbo | 188 | Spokane | Edmonds | Oversize for route | Oversize for route | More capacity than needed | Meets auto demand; may not meet peak passenger demand | Meets demand | Lengthy loading & off-loading | Will not fit in Keystone Harbor | Fall to Spring: Oversize for route | Summer: Lengthy loading and off-loading | Oversize for route | No SOLAS |
| | | | Walla Walla | Edmonds | | | | | | | | | | | |
| | Super | 144 | Hyak (ret) | Seattle | More capacity than needed | More capacity than needed | Good fit for route | Moderate overloads; may not meet peak passenger demand | Moderate overloads | Poor fit to terminal. Lengthy loading & off-loading | Will not fit in Keystone Harbor | Good fit for route | More capacity than needed | Hyak, Kaleetan, Yakima: No SOLAS | |
| | | | Kaleetan | Seattle | | | | | | | | | | | |
| | | | Yakima | Anacortes | | | | | | | | | | | |
| | | | Elwha | Anacortes | | | | | | | | | | | |
| | Olympic | 144 | Tokitae | Mukilteo | More capacity than needed | Lengthy loading & off-loading; possible as 1 of 3 boats | Good fit for route | Moderate overloads; may not meet peak passenger demand | Moderate overloads | Good fit for route | Will not fit in Keystone Harbor | Good fit for route | More capacity than needed | No SOLAS | |
| | | | Samish | Anacortes | | | | | | | | | | | |
| | | | Chimacum | Seattle | | | | | | | | | | | |
| | | | Suquamish | Mukilteo | | | | | | | | | | | |
| | Issaquah | 124 | Issaquah | Fauntleroy | More capacity than needed | Good fit for route | Good fit for route | Can't meet demand | Can't meet demand | Good fit for route | Will not fit in Keystone Harbor | Good fit for route | More capacity than needed | Issaquah, Kitsap, Kittitas, Cathlamet: No SOLAS | |
| | | | Kitsap | Seattle | | | | | | | | | | | |
| Kittitas | | | Fauntleroy | | | | | | | | | | | | |
| Cathlamet | | | Fauntleroy | | | | | | | | | | | | |
| Issaquah 90 | 90 | Chelan | Anacortes | More capacity than needed | Good fit for route | Good fit for route | Can't meet demand | Can't meet demand | Good fit for route | Will not fit in Keystone Harbor | Good fit for route | Sealth: Good fit for route | Chelan: SOLAS | | |
| | | Sealth | Seattle for Service Relief | | | | | | | | | | | | |
| Small | E-State | 87 | Tillikum | Anacortes | More capacity than needed | Replace faster Sealth | Too slow to keep schedule | Can't meet demand | Can't meet demand | Replace Issaquah Class if needed for capacity | Will not fit in Keystone Harbor | Too slow to keep schedule | Good fit for route | No SOLAS | |
| | Kwa-di Tabil | 64 | Chetzemoka | Pt Def | Good fit for route | Lengthy loading & off-loading | Too slow to keep schedule | Can't meet demand | Can't meet demand | Can't meet demand | Good fit for route | Can't meet demand | Fall to Spring: Good fit for route | Summer: Moderate overloads | No SOLAS |
| | | | Salish | Pt Town | | | | | | | | | | | |
| | | | Kennewick | Pt Town | | | | | | | | | | | |

8 Alternate Service Plan



In the event that a vessel or terminal unexpectedly goes out of service, WSF's first priority is the safety of our passengers and our crew. If a vessel breaks down in transit, our focus is first moving it to dock as soon as possible so that passengers can disembark. Typically, vessel crew have already been working hard to identify the cause of the problem, and once the scene has been secured, they will contact WSF headquarters to help assess the situation. Crews are often dispatched from WSF headquarters and the Eagle Harbor Maintenance Facility to help troubleshoot the problem. We also notify the U.S. Coast Guard so they can assess the situation.

Whether WSF can restore service depends on a number of variables, including the nature of the problem, whether WSF has parts available for repair or must purchase them elsewhere, whether the repair will require dry dock space, whether dry dock space is available, the cost of the repair, and more. If it is determined the issue is severe and will last more than a day, our service relief vessel (if available) is dispatched to provide substitute service as soon as possible.

In general, during the **first day** following a vessel being taken out of service, the route where the vessel is assigned will operate without that vessel. The reasons for this are twofold:

- **WSF needs time to make an assessment** as to whether the cause for removal can easily be fixed or will last more than one day. Often, vessels can be repaired the same day.
- **It is a logistical challenge to move a vessel the same day**, especially if it is a mechanical breakdown and occurs on a route far from Eagle Harbor. WSF needs time to assemble crews to move vessels to new routes, and our customers need to plan accordingly.

There are a couple of exceptions to the general rule that vessel reassignments will not occur on the first day of a vessel's removal from service:

- **WSF cannot strand foot passengers.** Returning them to their terminal of origin is often most appropriate. On the Seattle/Bainbridge Island and Seattle/Bremerton routes where passenger capacity is an issue, and on the Point Defiance/Tahlequah route where only one vessel is available, it is necessary to maintain evening peak passenger capacity to get foot passengers back home. In rare cases, WSF might partner with other public transit agencies or even private transportation providers to help passengers get to their destination. Regardless of the situation, WSF will always put passenger safety at the top of its priorities.

- **WSF can rearrange some schedules on multi-destination routes with more than two vessels.** In the San Juan Islands and on the Fauntleroy/Vashon/Southworth route, alternate schedules are in existence that allow WSF to reassign existing vessels to cover important connections to island communities.
- **WSF can use vessels normally tied up for part of the day to fill in.** If an affected route has a schedule where vessels are tied up for part of the day, those vessels can be deployed to fill in for the missing vessel where feasible.

In general, on the **second day** after a vessel has been taken out of service and when a **service relief vessel is available**, the service relief vessel will be put into service. The flow chart shown in Figure 1 in *Appendix C* illustrates the actions for a service disruption on Day 1 and Day 2, given the vessel availability for the current year.

When a **service relief vessel is not available**, WSF must make difficult decisions about reallocating its service. To do this, WSF does its best to take into consideration a number of factors, including:

- **Minimal Service.** A minimum of one vessel needs to remain on any given route to maintain basic transportation connections.
- **Alternative Routes.** WSF considers whether an affected community has an alternative route via another ferry or a drive-around/bridge access.
- **Traffic/Ridership.** WSF considers how many people use the route, its utilization rate, and mix of traffic. On routes with higher commuter traffic, a service disruption on a weekend is more tolerable than a service disruption on a weekday. On some routes serving recreational destinations, it is often more crucial to maintain full capacity on weekends.
- **Percent of Service Loss.** If a route with two vessels loses a vessel, it represents a 50 percent loss of service. If a route with more than two vessels loses a vessel, the percentage of service loss is smaller — e.g., the loss of one vessel on a three-vessel route is 33 percent, the loss of one vessel from a five-vessel route is 20 percent.
- **Special Events.** Community events and their economic effects (e.g., Seahawks games, summer festivals).
- **Reservations.** WSF's current reservation system, like other existing systems, cannot automatically redistribute reservations to other sailings because customers may have other travel plans or reservations unbeknownst to WSF. WSF may temporarily adjust the reservation system's business and operational rules to address the issue until normal service is restored and resulting effects on traffic are mitigated. To the extent possible, WSF will prioritize travel for customers holding a reservation for any sailings during the service day over customers traveling from the same terminal without a reservation.
- **Life Rafting.** The passenger capacity of vessels is limited by the number and size of life rafts onboard.
- **Resources.** Crew availability; the ability of other vessels to operate safely and efficiently on other routes; availability of maintenance resources (Eagle Harbor, drydock).
- **Costs.** Where the vessel's home port is relative to where it might be moved. It typically costs \$14,000 per boat move, plus additional costs to operate vessels away from their home port.

- **Other.** Terminal construction work, nearby highway projects, etc.
- **Duration of Disruption.** Has a direct impact on all other factors: traffic/ridership, resources, reservations, costs, etc.

With three vessels serving the Fauntleroy/Vashon/Southworth route and four vessels serving the Anacortes/San Juan Islands route in fall, winter, and spring (with a fifth vessel added to the route in summer), these two routes are most often looked to for supporting a service disruption elsewhere in the system. The second Port Townsend/Coupeville vessel, which only runs eight hours per day, is also a potential option from late spring through early fall, though the vessel is too small to operate on any routes other than the San Juan Interisland route and the Point Defiance/Tahlequah route.

In addition to considering the factors listed above when deciding how to reallocate its resources, WSF takes into consideration ridership variations by season and the level of disruption on each route. For example, removing the fifth vessel from the Anacortes/San Juan Islands/Sidney, BC route in summer allows domestic reservations to remain intact. However, removing a vessel from this same route during the fall, winter, and spring seasons requires suspending reservations and creates significant disruption for all travelers on the route.

Each service disruption involves a different mix of factors that will shape our response. To assist WSF in deciding on the most cost-effective, least disruptive response to a service outage, staff uses a “Service Impact Response Form” to analyze and compare the various service options. (See *Appendix D*.)

9 Operational Adjustments

Aside from major disruptions, downsizings or breaks in service, any delays or changes in schedule affect our customers and have a ripple effect throughout the service day. Customers consistently tell us that predictability is extremely important to them, as they depend on the ferry system for their travel needs and they want every assurance we do everything we can to adhere to the printed schedule.

In the event vessels are off schedule, the following operational tactics will be implemented to mitigate further delays:

- Vessel and terminal crews will strive to minimize loading and unloading “dwell time” by calling for traffic immediately after the vessel’s security sweep.
- Vessel crews will position themselves on the car deck to help maximize the vessel’s vehicle capacity, including allowing 12 inches or less between bumpers, and loading three motorcycles per vehicle space (except when more space is required to allow ADA access and egress).
- Terminal employees will lower the transfer span and apron on each arrival and raise the bridge after departure to adjust for the tide in between vessels arrivals.
- Once the terminal has sent a standard number of vehicles for a typical load, the vessel loader will make an educated count of vehicles to be loaded at the end of the vessel (no secondary count will be permitted).

- Staff will limit the number of cross-traffic interruptions at intersections under WSF control when loading and off-loading.
- Crews will delay walk-on traffic until the end of the loading period (for terminals that load through the auto deck only).
- Crews will cancel a mid-load bicycle break (where the on-loading of vehicles is paused midway through to allow bicycles to load).

If vessels get so far behind that they are approaching the departure time of the next scheduled trip rather than the actual scheduled time, WSF Operations may choose to perform a “schedule reset.” A reset allows the vessels to realign their departure times with the schedule and can often reduce customer confusion. However, schedule resets do result in dropping a trip from the end of the day, which may not be appropriate in cases of high passenger loads late in the service day. WSF weighs these factors when making the decision to perform a schedule reset or continue running vessels behind schedule for the remainder of the day.

10 Seasonality & Inclement Weather



Summer is WSF’s busiest season. In addition to regular commuters who use WSF to get to work, school, shopping, and medical appointments, our ferries are enjoyed by visitors from around the world who are taking in Washington’s scenic islands, outdoor adventurers playing in Washington parks and waters with their kayaks and bicycles, and families spending picturesque weekends around Puget Sound. Carrying almost 25 million passengers each year, WSF’s white and green ferry boats have become an iconic symbol of transport in the Pacific Northwest.

However, the incredible popularity of the ferry system and the high demand for ferry service in the summer presents many difficult challenges for WSF. In general, WSF transports 50 percent more people in summer than we do in winter, but with only 18 percent more hours of service. While ridership climbs each summer, we are unable to proportionally increase the number of boats, terminals, or crew that serve our routes. This puts pressure on the entire ferry system, as riders wait longer to board, crews work longer hours, and maintenance crews have fewer hours available to access and maintain equipment. While WSF had the *Hyak* available as a secondary service relief vessel in 2018 for Olympic Class warranty repairs, it is retiring at the end of the spring season. That means WSF has one vessel less than the summer of 2018 to respond to service impacts.

On the opposite end of the spectrum, WSF may reduce service in extreme weather circumstances for the safety of customers, crews, and staff. When inclement weather closes roads, schools, places of employment, and other land-side infrastructure, WSF ridership often declines because many people stay home. The February 2019 winter storm that hit the Puget Sound region was a prime example of this type of scenario. From Saturday, Feb. 9 to Tuesday, Feb. 12, ridership was less than half the same days of the previous week. Other weather incidents that may affect WSF's ability to provide service include high winds, extreme tides, or other severe marine conditions. It may be prudent for WSF to reduce service in these cases in coordination with key ridership groups and connecting area transit agencies.



WSF maintained service levels despite a snowstorm in February 2019. Here, a WSF terminal employee makes sure that pathways are clear for pedestrians and vehicles.

WSF's inclement weather policy includes operational adjustments that are put into place depending on the severity of the weather incident. A service reduction plan for extreme circumstances is also under development. Operational adjustments include:

- Slower sailing speeds
- Alternate storm routes
- "Shortloading" of vessels — not loading to full capacity — to stabilize the vessels and keep more weight back of the boat
- Potential delays, cancellations, or suspensions of service

WSF aims to offer service consistent with other area transportation providers, but service may vary across the system due to the potential for variability in weather conditions across our large geographic area.

11 Service Disruption Communications

In the interest of transparency and accessibility, WSF works hard to communicate any service disruptions to the traveling public and to the broader community. As soon as is practicable after a service disruption occurs, our Customer Service staff or a member of our Operations staff (in the overnight hours) will send an email service alert to those who have subscribed for this service at <http://bit.ly/WSFalerts>. The email alert automatically populates the WSF website and sends a tweet via the WSF Twitter feed. Affected legislators, local elected officials, and FACs are contacted as well.

For most minor disruptions, email alerts and website updates will suffice. For longer-term disruptions, WSF employs a more comprehensive communications strategy that may include printed materials that can be distributed on the vessels and at terminals, media outreach, or community meetings. Customer Service staff also

have the ability to update messages on the Highway Advisory Radio System (HARS) and the Variable Message Systems (VMS) that are accessible from the highway.

The WSF Customer Contact Center is open seven days a week from 7 a.m. until 5:30 p.m. and can be reached by calling 206-464-6400 or 888-808-7977; or by dialing 511 from within the state of Washington. Customers may also submit written feedback or questions at <http://bit.ly/wsfcustomerfeedback>.

12 Conclusion

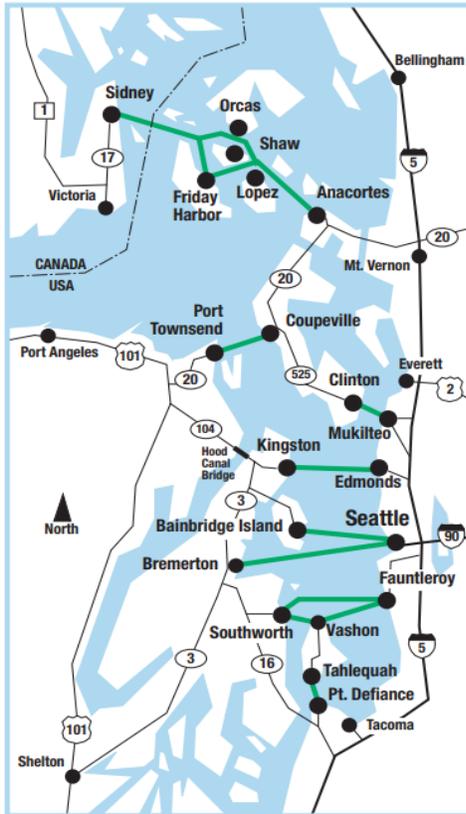
WSF understands the significant challenges that service disruptions present to its passengers, especially those who live in ferry-dependent communities and rely on WSF as their only mode of transportation. Despite these challenges and the many operational and financial constraints facing our ferry system, WSF makes every attempt to maintain service for as many people as possible in a service disruption scenario. We do this by putting the safety of our passengers first, and then by considering a number of factors, including the health of our publicly-owned assets, the costs to taxpayers of implementing an alternate service plan, and other operational concerns. While service disruptions are an inevitable reality of most mass transit systems today, WSF hopes that this Alternate Service Plan offers passengers some predictability and insight into the many trade-offs that WSF must balance in a service disruption and how these difficult decisions are made.

Appendix A: 2019 Vessel Assignments

| Route | Vessel Position | Summer Assignment | | Fall/Winter/Spring Assignment* | |
|--|------------------------|-------------------|------------------|--------------------------------|------------------|
| | | Vessel Name | Vehicle Capacity | Vessel Name | Vehicle Capacity |
| Anacortes - San Juans - Sidney | ANA-SID 1 | Chelan | 124 | Elwha | 144 |
| | ANA-SJ 2 | Yakima | 144 | Yakima | 144 |
| | ANA-SJ 3 | Samish | 144 | Samish | 144 |
| | ANA-SJ 4 (Interisland) | Tillikum | 87 | Tillikum | 87 |
| | ANA-SJ 5 | Elwha | 144 | | |
| Port Townsend - Coupeville | PT-KEY 1 | Kennewick | 64 | Kennewick | 64 |
| | PT-KEY 2 | Salish | 64 | Salish (shoulder seasons only) | 64 |
| Mukilteo - Clinton | MUK-CL 1 | Suquamish | 144 | Kitsap | 124 |
| | MUK-CL 2 | Tokitae | 144 | Tokitae | 144 |
| Edmonds - Kingston | ED-KING 1 | Puyallup | 202 | Puyallup | 202 |
| | ED-KING 2 | Spokane | 188 | Spokane | 188 |
| Fautleroy - Vashon - Southworth | FVS 1 | Issaquah | 124 | Issaquah | 124 |
| | FVS 2 | Kittitas | 124 | Kittitas | 124 |
| | FVS 3 | Cathlamet | 124 | Cathlamet | 124 |
| Pt. Defiance - Tahlequah | PD-TAL 1 | Chetzemoka | 64 | Chetzemoka | 64 |
| Seattle - Bainbridge | SEA-BI 1 | Tacoma | 202 | Tacoma | 202 |
| | SEA-BI 2 | Wenatchee | 202 | Wenatchee | 202 |
| Seattle - Bremerton | SEA-BR 1 | Walla Walla | 188 | Kaleetan | 144 |
| | SEA-BR 2 | Chimacum | 144 | Chimacum | 144 |
| Service Relief (standby) | | Sealth | 90 | Sealth | 90 |
| Maintenance Reserve | | Kaleetan | 144 | Walla Walla | 188 |
| | | Kitsap | 124 | Chelan | 124 |
| | | | | Suquamish | 144 |
| | | | | Salish (low season only) | 64 |
| Retired Vessels | | Hyak | 144 | Hyak | 144 |

* as of May 2019 and reflects 2019-20

Appendix B: Terminal Features



Anacortes: 2 Vehicle Slips, 2 Tie-Up Slips, Overhead loading

Use other drive-on slip, delays when vessels conflict. Nighttime: 4 slips needed for vessel tie-up.

Bainbridge: 2 Vehicle Slips, 1 Tie-Up Slip, Overhead loading

If system fails use other slip, move passengers onto car deck for overhead failures.

Bremerton: 2 Vehicle Slips, Overhead loading

If system fails use other slip, move passengers onto car deck for overhead failures.

Clinton: 2 Vehicle Slips

Use other drive-on slip. Will need alternate for tie-up if not available

Coupeville: 1 Vehicle Slip

Consider canceling sailings until repairs complete.

Edmonds: 1 Vehicle Slip, Overhead loading

Consider moving service to Seattle (if Colman construction allows).

Fautleroy: 1 Vehicle Slip

Consider moving service to Seattle (if Colman construction allows).

Friday Harbor: 1 Vehicle slip, 1 Tie-up Slip

If breakdown of Slip 1, then passenger traffic could be accommodated until repaired. Vessel tie-up in tie-up slip.

Kingston: 2 Vehicle Slips, 1 Tie-Up Slip, Overhead loading

If system fails use other slip, move passengers onto car deck for overhead failures.

Lopez Island: 1 Vehicle Slip

If breakdown no service until repaired.

Mukilteo: 1 Vehicle Slip

Consider moving service to Edmonds.

Orcas Island: 1 Vehicle Slip

If breakdown no service until repaired.

Port Townsend: 2 Vehicle Slips

Use alternate slip. Note that 2 vessels need tie-up so may have to move a vessel if tie-up cannot occur.

Seattle: 2 Vehicle Slips, Overhead loading

Use other slip until repaired. If overhead loading use other slip but may need to go to car deck at some point. Third slip restored in 2023.

Shaw Island: 1 Vehicle Slip

If breakdown no service until repaired.

Sidney, BC: 1 Vehicle Slip

Consider no service until repairs complete.

Southworth: 1 Vehicle Slip

No service until repaired, possible route to Bremerton for long term.

Vashon Island: 2 Vehicle Slips, 1 Tie-up Slip

Use other slip until repaired, reduced sailings.

Tahlequah: 1 Vehicle Slip

No service until repaired.

Point Defiance: 1 Vehicle Slip

No service until repaired.

Appendix C: Service Plan Flowchart with Available Service Relief Vessel

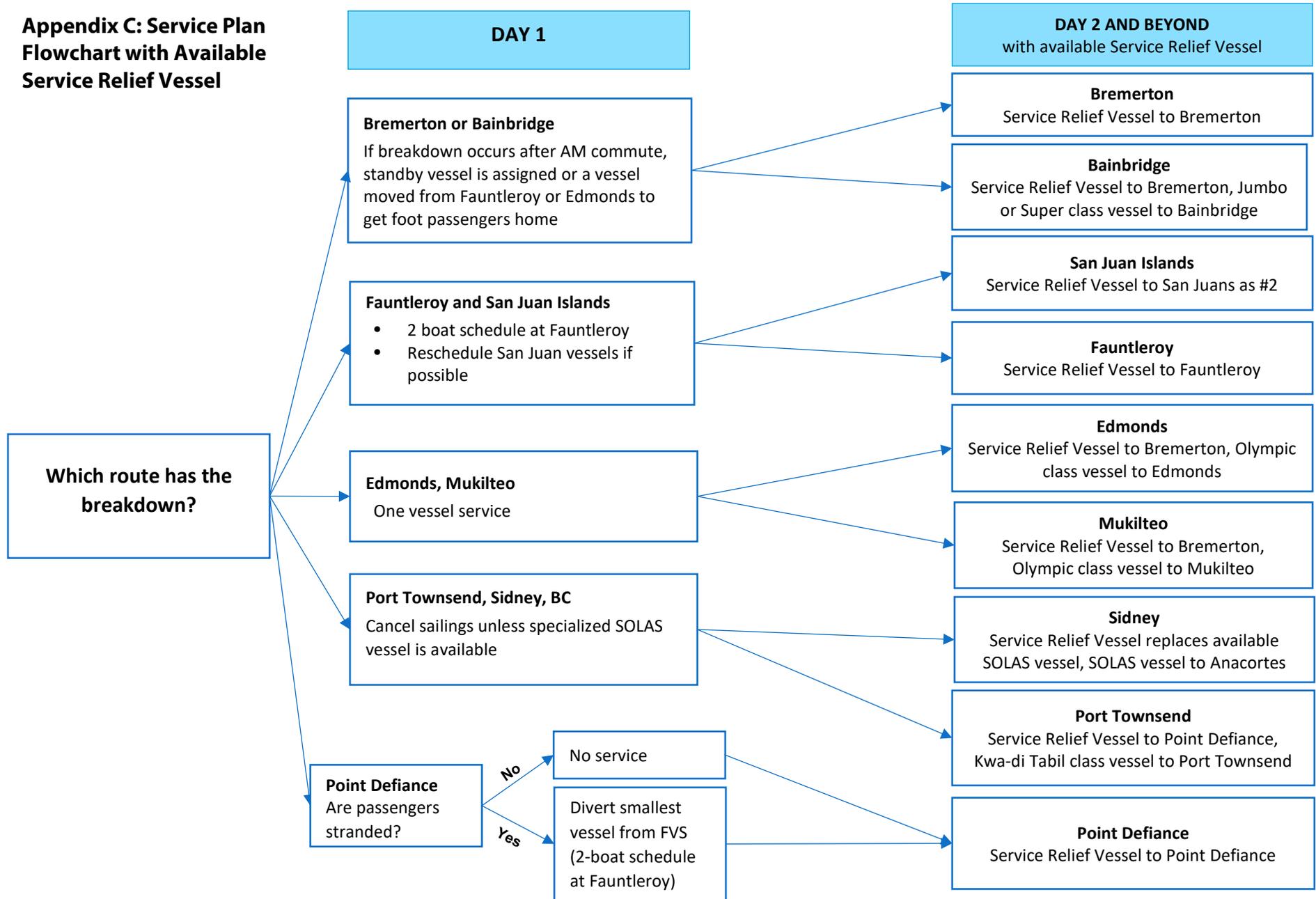


Figure 1: Alternate Service Plan Flowchart

Appendix D: Service Impact Response Form



Situation: _____

Date: _____

SERVICE IMPACT RESPONSE (SIR FORM)

The following factors (*outlined in the WSF Summer Service Plan*) are to be considered and weighed in advance of any unplanned boat moves; departments are assigned as leads to facilitate timely response. If alternative boat move scenarios are available, list them and compare best options ***across that category only***.

| Factor (Dept. Lead) | Option 1: | Option 2: | Option 3: | Best Option # |
|--|-----------|-----------|-----------|---------------|
| Vessel Availability/Location(s) (Vessels) | | | | |
| Preservation & Maintenance Impact (Vessels) | | | | |
| Crew Availability (Operations) | | | | |
| Life-rafting/COI staffing (Operations) | | | | |
| Traffic/Rider Impact (Comm. Svcs. & Planning) | | | | |
| Reservations Impact (Comm. Svcs. & Planning) | | | | |
| Special Events/Economic Impact (Comm. Svcs. & Planning) | | | | |
| Alternate Routes (Comm. Svcs. & Planning) | | | | |
| Costs (Finance) | | | | |

| | | | | |
|---|--|--|--|--|
| Duration of Disruption <i>(Vessels, Comm.Svcs. & Planning)</i> | | | | |
| Other Factors <i>(Comms., Govt. Affairs, Safety & Security)</i> | | | | |

DEPARTMENT INPUT. Department directors or designees to provide additional input and a recommendation after reviewing all of the factors above.

| Department | Comments/Option # Chosen |
|---------------------------------|---------------------------------|
| Communications | |
| Community Services and Planning | |
| Finance | |
| Government Affairs | |
| Human Resources | |
| IT | |
| Safety and Security | |
| Operations | |
| Terminals | |
| Vessel Maintenance/Preservation | |

WSDOT Assistant Secretary, Ferries Division (or designee) to fill out:

Approved

Disapproved

Date: _____