

WASHINGTON STATE LEGISLATURE  
JOINT TRANSPORTATION COMMITTEE

WASHINGTON STATE FERRIES  
**Fare Media Study**  
**Policy Options White Paper**

DECEMBER 2011



Fare Media ■ Fare Structure ■ Interoperability



**DRAFT**



## EXECUTIVE SUMMARY

The 2011 legislature directed the Joint Transportation Committee (JTC) to conduct a study of the Washington State Ferry (WSF) fares that recommends the most appropriate fare media for use with the reservation system and the implementation of demand management pricing and interoperability with other payment methods.

A *Situation Assessment White Paper* October 2011 discusses the existing fare structure, fare media, and interoperability; and WSF's reservation and demand management pricing programs. An *Interoperability and Fare Media White Paper* November 2011 identifies four options to improve interoperability among three systems currently used by WSF – *Wave2Go*, ORCA, and commercial accounts – and with *Good To Go!*, the Washington State Department of Transportation's highway tolling system, which is not used by WSF. A *Fare Structure White Paper* December 2011 analyzes fare structure options that are consistent with legislative fare policies, the identified interoperability options, and WSF's reservation and demand management pricing programs.

This *Policy Options White Paper* builds on the other three white papers by recommending systemwide and travel shed specific fare structure, fare media and interoperability changes. For the purposes of this report, the travel sheds are the Central Puget Sound (Bainbridge, Bremerton, and Edmonds); San Juan Islands (including Sidney); North Sound (Mukilteo and Port Townsend), and South Sound (Pt. Defiance, Vashon, and Southworth).

## CUSTOMER SURVEY

The WSTC conducted a survey of ferry customers as part of this study. Key findings from the 1,978 respondents are:

### Customer Travel

- Most customers travel within a single travel shed
- Most households have more than one person who travels on the WSF system

### WSF Fare Media

- WSF customer households use multiple WSF fare products

### ORCA

- A significant percentage of WSF customers who most frequently travel on routes in travel sheds served by ORCA transit partners have an ORCA card
- Having the ability to add a WSF multi-ride card to ORCA (which is not currently possible) is important to many customers have an ORCA card

### *Good To Go!*

- Approximately one-third of customers that most frequently travel in travel sheds that are near a *Good To Go!* tolled facility have a *Good To Go!* account
- Of those with a *Good To Go!* account, the majority rate it as somewhat or very important to be able to use it on WSF

- An additional nearly one-third of respondents are either planning to or may get a *Good To Go!* account in the future

### WSF Combination Account

- WSF customers would be very likely to use a combined WSF account for all of their WSF fare products if one were available and a significant percentage believe it is a somewhat or very important fare media option.

### Vehicle Reservations

- Customers that most frequently travel on routes where WSF will be introducing vehicle reservations (Bainbridge, Bremerton, Edmonds, and San Juans) vary in how likely they are to make a reservation, ranging from 76 percent in the San Juans to 33 percent in Bremerton.

## SYSTEMWIDE RECOMMENDATIONS

The consultants are making three system-wide interoperability recommendations and four system-wide fare structure recommendations.

*Implementation of these recommendations may vary by travel shed and would not be applicable to the South Sound if the consultants' recommendations for modifying the South Sound interoperability and fare structure are implemented.*

### Interoperability

The consultants recommend two near-term improvements to interoperability - that WSF increase interoperability with ORCA and accept *Good To Go!* - and one long-term interoperability improvement – to move to an account-based system when *Wave2Go* is replaced.

The ORCA improvement could be made within the next three to five years. The *Good To Go!* improvement could be made in the next three to five years depending on whether *Good To Go!* can support its implementation along with the planned highway tolling projects. *Wave2Go* will most likely not be replaced for another ten years.

### ORCA – Stored Ride Feature

**Recommendation 1. WSF should implement the stored ride feature of ORCA for at least the passenger multi-ride card and consider implementing it for vehicle multi-ride cards if operationally feasible.**

WSF indicates that it is possible to add the passenger multi-ride card to an ORCA card without operational problems, but that it would not be practical to add the vehicle multi-ride card.

Routes and travel sheds on which this recommendation is particularly important are in the Central Puget Sound and in parts of the South Sound and North Sound travel sheds where a high percentage of customers have ORCA cards.

The ability to store a multi-ride product is part of the ORCA capability and is currently being used by Sound Transit. Implementing this recommendation may require some *Wave2Go* and ORCA system upgrades.

## ***Good To Go!***

**Recommendation 2. WSF should implement *Good To Go!* at vehicle collection lanes as a peripheral to *Wave2Go*. This will require that tollbooths be attended.**

Routes and travel sheds on which this recommendation is particularly important are in the Central Puget Sound and in parts of the South Sound that are near WSDOT *Good To Go!* tolled facilities.

With *Good To Go!* drivers would be required to stop at a toll booth and vehicle/driver plus passenger fares computed using *Wave2Go* equipment (i.e. the point of sale terminals in the booth) and the total fare charged against the *Good To Go!* account. Drivers without a *Good To Go!* transponder would pay, as they do now, wish cash, credit card, or WSF multi-ride product(s).

## **WSF Account-Based System**

**Recommendation 3. WSF should migrate to a centralized account system when it replaces *Wave2Go*. The centralized account system could be part of *Good To Go!* or in a separate WSF system.**

With a WSF new account-based system, customers could choose a preferred medium (i.e. ORCA, *Good to Go!*, bank account etc.) and households could have all fare media tied to the account. This would provide a way for customers to consolidate all of their WSF fare media to one account.

With an account-based system, WSF could accept new mobile phone applications, open payment smart cards and other developing fare payment methodologies. It would also allow new pricing concepts such as time of day discounts, pre-booking discounts, frequency of use discounts etc. to be more easily implemented.

An option exists to utilize the Statewide Tolling Customer Service Center to provide the central account function.

## **Fare Structure**

The fare structure recommendations are intended to meet legislative direction, particularly the requirement to keep fare schedules simple.

## **Legislative Direction**

RCW 47.60.290 requires that when proposing fares for consideration by the WSTC, WSF must:

- Recognize that each travel shed is unique
- Use WSTC's market survey information, public hearings and reviews with Ferry Advisory Committees
- Consider the impact on users and ferry communities
- Keep fare schedules simple
- Consider demand management, and
- Meet the requirements of the biennial budget

## **Fare Simplification**

There are a number of reasons to simplify the current fare structure at WSF:

- Meet the legislative direction to keep the fare schedule simple

- Improves efficiency at terminals, eliminating the need to verify multiple fare category requirements
- Reduces staff time spent answering questions and clarifying the fare structure for customers
- Makes it easier for customers to understand
- Free up capacity within *Wave2Go*
  - Allows WSF to pursue demand management pricing (currently *Wave2Go* cannot handle the number of additional fares that would be required for time of day pricing)
  - Gives WSF flexibility to use multiple vehicle reservation deposit amounts (currently, WSF is limited in how it can implement reservations deposits)
- Reduce instances of fare evasion
  - Having a larger variety of fares means there are more ways for customers to intentionally or unintentionally pay the wrong fare

**Recommendation 4. WSF and the WSTC should consider the following changes to the fare structure that would simplify the fare structure and meet other legislative policy goals: modify the vehicle fares to separate vehicle and driver fares and charge by the vehicle foot; eliminate surcharges and fees that generate little revenue; and consolidate fares among routes.**

**If all of the consultants' recommendations are enacted the total fare number of fares in the ticket system would be reduced from 643 to 84.**

### **Modify Vehicle Fares**

- **Separate vehicle and driver fares – 200 fares.** The advantages of implementing this recommendation are that it would simplify vehicle reservation implementation and it could be enacted without any price impact to customers. The disadvantages are that drivers would need two fare products – a vehicle and a separate drive – rather than one. It would also increase the disparity in prices between a terminal where a round-trip passenger fare is collected along with a one-way vehicle fare and the corresponding terminal where only a one-way vehicle fare is collected.
- **Charge by foot – 428 fares.** The advantages of implementing this recommendation are that it provides a strong incentive for customers to bring the smallest vehicle suitable for their trip and maximizes the use of vessel deck space. Measuring vehicles with precision at the tollbooth will require the acquisition of automated vehicle measuring devices.

### **Eliminate Low Revenue or Operationally Difficult Surcharges and Fees – 163 Fares**

- **Eliminate Over-Size Vehicle Fares Sidney Route - 42 fares.** This recommendation recognizes that commercial traffic is no longer allowed at Sidney.
- **Motorcycle Surcharges - 22 fares.** This proposal consolidates the motorcycle and small car fare, which WSF is already considering.
- **Overheight Charge Vehicles Less than 30 Feet – 86 fares.** The additional advantage is that it makes it easier for vehicle processing if tollbooth staff do not have to measure the height and would allow less expensive automated measuring devices.

- **Bicycle Surcharge – 13 fares.** The bicycle surcharge was eliminated Oct. 1, 2011 for multi-ride, monthly pass, and ORCA cardholders. This recommendation would extend this reduction to all bicycle riders.

### Further Consolidate and Adjust Route Fares – 245 Fares

Consolidating routes would mean that WSF offers fewer route-specific fares and instead, publishes fares for the travel shed. Currently, Central Sound fares are organized this way. Recommended consolidations are:

- **South Sound Fares.** This consolidates the fares charged for Fauntleroy-Southworth with Vashon Island fares
- **San Juan Islands Fares.** Consolidating the San Juan Island routes would have the most significant impact on the fare structure. The Anacortes-San Juans Island routes have 160 of WSF's 643 unique fares or 25 percent. Instead of charging different fares to each of the islands, WSF could charge one fare from Anacortes to any of the islands, and a second fare for interisland trips.
- **Sidney Fares.** The fare structure for the international route has grown complex to accommodate trips from either Anacortes or the San Juan Islands to Sidney and back. This single route, which has two round-trip sailings a day in the spring, summer, and fall, has 204 of WSF's 643 fares or 32 percent of all fares. The number of fares is compounded by the separation of RV and other commercial vehicle fares. WSF could offer one international fare—an Anacortes-Sidney round trip fare and allow customers free stopovers in the San Juan Islands.

## TRAVEL SHED RECOMMENDATIONS - SOUTH SOUND

**Recommendation 5. WSF should consolidate South Sound fares into a single fare structure. To address traffic imbalance, provide demand management options, and simplify operations at the Fauntleroy terminal, fares should be applied only to vehicles and collected through the *Good To Go!* system.**

### Problems Addressed

- **Traffic Imbalance.** Passenger fares are collected round-trip at Fauntleroy for Southworth and are not collected at Southworth. As a consequence a significant number of riders on the Fauntleroy-Southworth route make a roundtrip that includes an eastbound ferry ride and a westbound drive over the Tacoma Narrows Bridge (TNB), which allows them to avoid both the TNB toll westbound and pay only for the vehicle and driver on the eastbound trip.
- **Reservations and Demand Management Pricing.** Terminal constraints will not allow the implementation of full vehicle reservations on the South Sound routes. This means that pricing will be the primary demand management tool on these routes, which can be supported by *Good To Go!* if WSF elects to use demand management pricing in the future.
- **Fauntleroy Congestion.** Fauntleroy has a very small vehicle holding and processing area and handles mixed destination sailing. The terminal cannot be expanded under existing Seattle codes. It is one of the most complicated and congested terminals in the system. By automating the selling function, WSF could eliminate existing tollbooths to create some more holding space at Fauntleroy.

- **Vashon and Tahlequah Infrastructure.** Fares are not collected on Vashon for vehicles so there is no ticket infrastructure. This makes it difficult to consider any demand management options that would require one-way fare collection.

### **Good To Go! – South Sound**

- **Fully Deployed.** Under this recommendation *Good To Go!* would be fully deployed in the South Sound with unattended collection lanes. Fares would be collected one-way at all terminals using *Good To Go!* transponders and license plate reader technology for vehicles that do not have transponders.
- **Wave2Go.** No integration with *Wave2Go* would be required because all fares would be collected through *Good To Go!*.

### **South Sound Fare Structure**

- **Vehicle Only (No Passenger) Fares.** Only vehicle fares can be collected with *Good To Go!*. Under this recommendation all vehicle and walk-on passengers would be free.
- **Same Rate for all South Sound Routes.** To simplify fares and make it easier to implement *Good To Go!* at multi-destination terminals, all of the per foot vehicle fares would be the same.
- **Mirror *Good To Go!* Highway Tolls.** The same options for pay by mail and pay by plate would be available as are planned to be available for SR 520.

### **Net Revenues – South Sound Fares**

- **Revenue.** The loss of passenger revenue is estimated at \$3.7 million annually.
- **Operations Savings.** WSF estimates operations savings of \$1.0 million annually.
- **Fares.** If the resulting \$2.7 million annual net reduction in revenues is shared 40 percent systemwide and 60 percent borne within the South Sound, single vehicle fares would increase substantially for single occupant vehicles, but would be lower for vehicles with one or more passengers besides the driver. If the net revenue loss is borne only with the South Sound, single occupant vehicle fares would increase even more and customer fares would be reduced only when there are 2 or more passengers in the vehicle in addition to the driver. In all situations, walk-on customers would benefit from free fares.

## **TRAVEL SHED RECOMMENDATIONS - SAN JUANS AND SIDNEY**

**Recommendation 6. WSF should consolidate vehicle Anacortes - San Juan Island fares, streamline Sidney vehicle fares, and implement the systemwide interoperability option that would allow the use of *Good To Go!* and expanded use of ORCA.**

### **Problems Addressed**

- **Fare Complexity.** Sixty-three percent (63%) of WSF's 643 fares are in the San Juan Islands travel shed, which has 9 percent of the system's ridership and 29 percent of its customers. Fifty percent (50%) of the San Juan Island fares are for Sidney, which has the greatest number of

fares of any route in the WSF system. This fare complexity limits *Wave2Go* capacity to implement fare change systemwide and complicates customer, particularly tourist, understanding of the fares.

- **Fare Evasion.** Fare evasion is a problem at Anacortes when drivers pay for the lowest fare to Lopez and then get it line for one of the other more expensive stops.

### Interoperability

- **Anacortes and Sidney Only.** The consultants do not recommend that *Good To Go!* be extended to the Island terminals. The only fares that are proposed under the fare structure to be collected on the Islands are for the Interisland route and it is unreasonable to deploy *Good To Go!* for this limited purpose.

### Fare Structure – Anacortes to San Juans

- **Equal Fares.** The consultants recommend that the fare structure be changed to consolidate the Anacortes to San Juan fares to charge the same vehicle fare. This is currently the structure for passenger fares.
- **Revenue Neutral.** This recommendation has very little impact on revenue if the fares move to the middle fare which is now charged from Anacortes to Orcas and Shaw. The means that fares to Friday Harbor would go down and fares to Lopez would go up.

### Fare Structure – Anacortes to Sidney

- **One Fare.** The consultants recommend that the Sidney fare structure be amended to establish a single Sidney rate that would be a one-way fare between Anacortes and Sidney. Sidney travelers would be able to stop in the San Juans (currently the vessel stops at Friday Harbor) without an additional charge. Island residents would have to pay the Anacortes to Sidney fare.
- **Revenue Neutral.** This recommendation is revenue neutral because customers still need to purchase a ticket between Anacortes and Sidney.

## TRAVEL SHED RECOMMENDATIONS: NORTH AND CENTRAL PUGET SOUND

**Recommendation 7. WSF should implement the systemwide interoperability recommendations in the Central Puget Sound and the North Sound to allow the use of *Good To Go!* and expanded use of ORCA and consider reinstating transit joint passes on those routes with heavy commuter traffic.**

The only travel shed specific recommendation is to consider the reinstatement of the discounted WSF transit joint pass for the Seattle-Bainbridge, Seattle-Bremerton, Edmonds-Kingston, and Mukilteo-Clinton routes all of which have a large base of walk-on commuters.

## CAPITAL COST – NEAR TERM RECOMMENDATIONS

The estimated capital cost to implement the modifications to ORCA , accept *Good To Go!* at all terminals except at Friday Harbor, Lopez, Shaw, and Orcas Islands, fully deploy *Good To Go!* in the South Sound, and install automated vehicle measuring systems at all terminals except the four San Juans Islands is \$3.4 million in FY 2011 dollars.

## Contents

<b>INTRODUCTION .....</b>	<b>1</b>
A. Travel Sheds .....	2
B. Legislative Fare Policy Direction .....	2
C. Interoperability Options.....	3
D. Fare Structure Options .....	4
E. Revenue Assumptions.....	5
<b>SECTION I. CUSTOMER SURVEY .....</b>	<b>6</b>
A. Routes .....	6
B. Fare Media .....	7
C. Vehicle Reservations .....	10
<b>SECTION II. SYSTEMWIDE RECOMMENDATIONS.....</b>	<b>12</b>
A. Interoperability .....	12
B. Fare Structure .....	18
<b>SECTION III. TRAVEL SHED RECOMMENDATIONS.....</b>	<b>21</b>
A. South Sound.....	21
B. San Juan Islands and Sidney.....	29
C. Central Puget Sound and North Sound.....	33
<b>SECTION IV. NEAR TERM RECOMMENDATIONS CAPITAL COST ESTIMATE.....</b>	<b>35</b>
A. Terminal Interoperability Requirements .....	35
B. Capital Cost Estimate .....	36

# POLICY OPTIONS WHITE PAPER

## INTRODUCTION

The 2011 legislature directed the Joint Transportation Committee (JTC) to conduct a study of the Washington State Ferry (WSF) fares that recommends the most appropriate fare media for use with the reservation system and the implementation of demand management pricing and interoperability with other payment methods. The study is to include direct collaboration with members of the Washington State Transportation Commission (WSTC) (ESHB 1175, Section 204 (1)); (Chapter 367, 2011 Laws, PV).

The following definitions are used throughout this study:

**Interoperability:** Degree to which system accepts fare media of other systems and vice versa.

**Fare Media:** The products that are accepted for payment.

**Fare Structure:** The structure and policies setting the fares and to whom they are charged.

Three white papers have been prepared as part of this study:

- *Situation Assessment White Paper* October 2011. This white paper includes discussions of the WSF system and its travel sheds; WSF ridership and customers; the existing fare structure, fare media and interoperability; and the reservation and demand management pricing programs that need to be accommodated by WSF's fare structure, fare media, and interoperability.
- *Interoperability and Fare Media White Paper* November 2011. This white paper identifies four options to improve interoperability among three systems currently used by WSF - Wave2Go, ORCA, and commercial accounts - and with *Good To Go!*, the Washington State Department of Transportation's (WSDOT) highway tolling system which is not currently in use at WSF terminals.
- *Fare Structure White Paper* December 2011. This white paper analyzes fare structure options that are consistent with legislative fare policies, the identified interoperability options, and WSF's reservation and demand management pricing programs.

This *Policy Options White Paper* builds on the other three white papers by recommending systemwide and travel shed specific fare structure, fare media and interoperability changes.

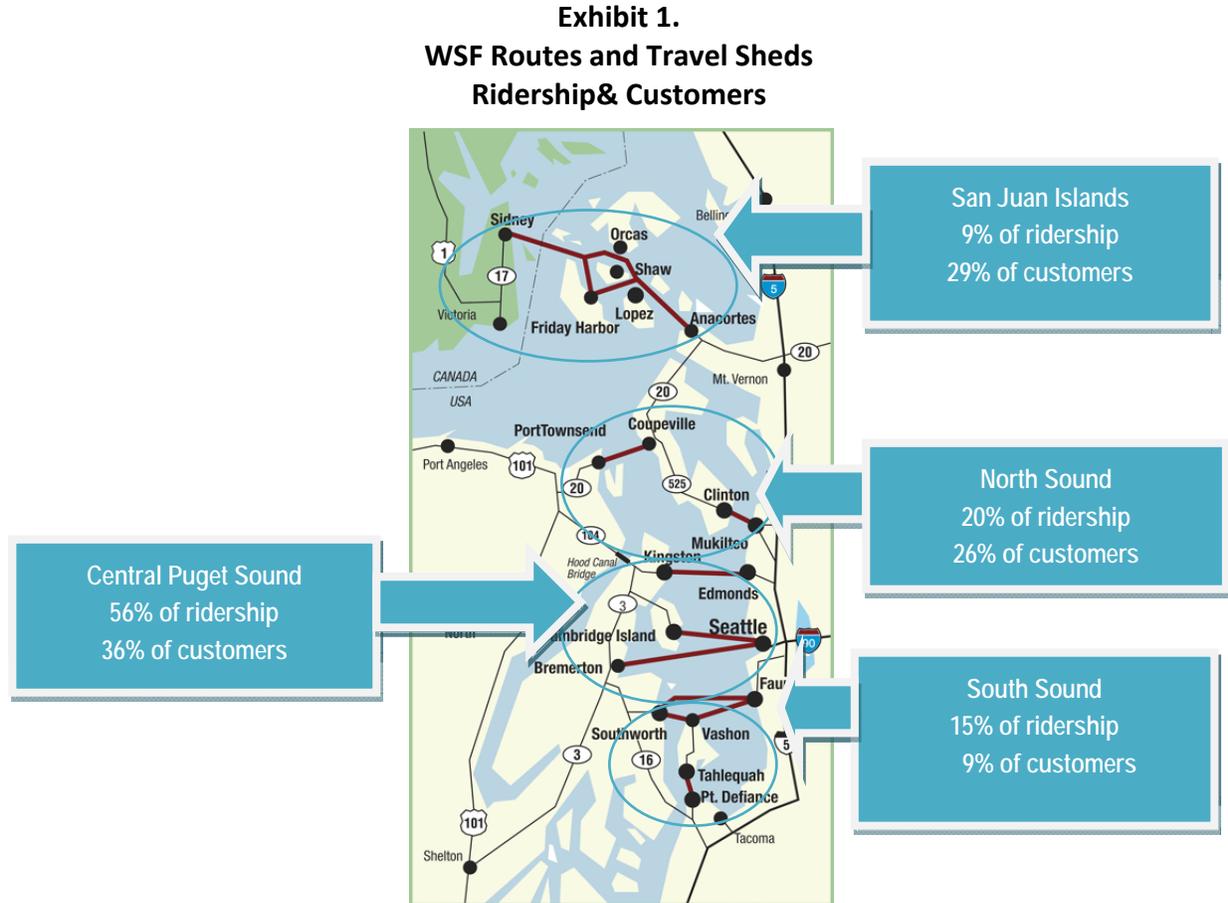
A central focus of this study is the WSF customer. Fare media, interoperability, fare structure, and the introduction of new programs such as reservations and demand management pricing are intertwined and affect the customer experience, satisfaction and ultimately WSF's ridership.

This white paper is informed by the results of a WSTC survey of WSF customers done for this study.



## A. Travel Sheds

WSF provides auto-passenger ferry service on 10 routes which, for the purposes of this report, are divided into four travel sheds. These travel sheds are distinct in the customers they serve. The exhibit below shows the proportion of the systems total ridership and customers by travel shed.



## B. Legislative Fare Policy Direction

In 2008, with the passage of ESHB 2358, the Legislature enacted significant changes to fare policies by providing very specific direction on what WSF must consider in developing fare proposals. WSF must:

- Recognize that each travel shed is unique
- Use WSTC market survey information, public hearings and reviews with Ferry Advisory Committees
- Consider the impact on users and ferry communities
- Keep fare schedules simple
- Consider demand management
- Meet the requirements of the biennial budget.

### C. Interoperability Options

The four interoperability options identified in the *Interoperability and Fare Media White Paper* are shown in the exhibit below. The options are not mutually exclusive. Options 1, 2, and 4 could be implemented with the existing fare products and fare structure. Option 3 would require that the vehicle fare structure be simplified to something that is more akin to the state highway tolls.

**Exhibit 2.**  
**Summary of Interoperability Options**

Option	Interoperability	Fare Media Impacts
<b>1. ORCA Stored Ride Feature</b>	Increases interoperability between <i>Wave2Go</i> and ORCA	ORCA stores passenger multi-ride products in addition to single fare and monthly passenger passes  Commercial accounts remain separate
<b>2. <i>Good To Go!</i> at Attended Booths</b>	<i>Good To Go!</i> implemented as a peripheral to <i>Wave2Go</i>  Integration with <i>Wave2Go</i> system required	Tollbooth staff calculates fares and charges to <i>Good To Go!</i> account  Commercial accounts remain separate
<b>3. <i>Good To Go!</i> at Unattended<sup>1</sup> Toll Collection Lanes</b>	<i>Good To Go!</i> implemented as a separate stand-alone system  No integration with <i>Wave2Go</i> system required	Fare products and fare structure changes required  Vehicle fares calculated based only on vehicle length, determined electronically in unattended tollbooth lanes
<b>4. Account-based WSF System</b>	Major upgrade or replacement of <i>Wave2Go</i>  <i>Good To Go!</i> and ORCA used as an identifier. The amount to be paid deducted from customers <i>Good To Go!</i> account or from stored value on ORCA card. Could support emerging payment technologies, such as cell phone payments.	No changes required to fare products or fare structure  Computed with central logic  Commercial accounts could be integrated  Establish account to receive discounts on travel based on trip frequency

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<sup>1</sup> Tollbooths would be unattended for the purposes of toll determination and collection. Booths may have to be attended for security or other reasons. That has not yet been determined.

## D. Fare Structure Options

### 1. Fare Structure Simplification

The WSF ticketing system has 643 unique fares. There are a number of reasons to consider simplifying the fare structure:

- Meet the legislative direction to keep the fare schedule simple
  - Improve efficiency at terminals, eliminating the need to verify multiple fare category requirements
  - Reduce staff time spent answering questions and clarifying the fare structure for customers
  - Make it easier for customers to understand
- Free up capacity within *Wave2Go*
  - Allows WSF to pursue demand management pricing (currently *Wave2Go* cannot handle the number of additional fares that would be required for time of day pricing)
  - Gives WSF flexibility to use multiple vehicle reservation deposit amounts (currently, WSF is limited in how it can implement reservation deposits)
- Reduce instances of fare evasion
  - Having a larger variety of fares means there are more ways for customers to intentionally or unintentionally pay the wrong fare.

Six ways to simplify the fare structure were included in the *Fare Structure White Paper*. These options are shown in the exhibit below.

**Exhibit 3.  
Fare Simplification Options**

Fare Simplification Option	Features
1. Separate vehicle and driver fares	<ul style="list-style-type: none"> <li>• Separate driver fare from vehicle fare</li> <li>• Could be enacted without price impact on customers</li> <li>• Would work well with vehicle reservation system</li> </ul>
2. Eliminate surcharges and fees that generate little revenue	<ul style="list-style-type: none"> <li>• Eliminate surcharges and fares that generate little revenue</li> </ul>
3. Further consolidate fares among routes	<ul style="list-style-type: none"> <li>• Reduce fare groups from 12 to 5               <ol style="list-style-type: none"> <li>1. Central Sound</li> <li>2. South Sound (Vashon Island &amp; Southworth)</li> <li>3. North Sound (Port Townsend &amp; Mukilteo)</li> <li>4. San Juan Island</li> <li>5. Sidney</li> </ol> </li> </ul>
4. Adjust vehicle size categories	<p>There are two ways to accomplish this:</p> <ul style="list-style-type: none"> <li>• Measure by foot or</li> <li>• Reduce number of oversize categories</li> </ul>
5. Anacortes-Sidney Round Trips with Free Stopover on San Juan	<ul style="list-style-type: none"> <li>• Offer one international fare with a free stopover in the San Juans. (Keep the current Anacortes-Sidney fare, and eliminate Islands-Sidney fares)</li> </ul>

Fare Simplification Option	Features
Islands	
6. Consolidate motorcycle & small car fares	<ul style="list-style-type: none"> <li>• Consolidate under 14' car fare with motorcycle fare</li> <li>• WSF is already working on this</li> </ul>

## 2. No Charge for Vehicle Passengers

Interoperability Option 3 *Good To Go!* at unattended collection lanes requires that fares be collected for the vehicle and not for the passengers in the vehicle.

Charging for the vehicle only and not the passengers in the vehicle would require base vehicle fares to increase to maintain current fare revenues.

The advantages of charging for the vehicle only through the *Good to Go!* system are that it:

- Provides for the most complete interoperability with *Good To Go!*
- Facilitates demand pricing
- Encourages carpooling
- Reduces the eastbound/westbound traffic imbalance

The disadvantages are that it:

- Increases instances of walk-on customers looking for vehicles to enter prior to the tollbooth so that they don't need to pay the walk-on fare
- Has a negative impact on current multi-ride single occupant vehicle (SOV) customers who would pay substantially more

## E. Revenue Assumptions

The analysis is based on maintaining current fare revenues. ***Any option that would decrease fare revenue would be coupled with a system-wide (or targeted) fare increase to offset the revenue losses.*** This is consistent with the legislative direction that fares must meet the requirements of the biennial budget.

## SECTION I. CUSTOMER SURVEY

The WSTC conducted a survey of ferry customers as part of this study through its Ferry Riders Opinion Group. The survey, which was completed by 1,978 respondents, asked customers about their use of the system, which WSF fare media their households purchased and how they use or might use ORCA and *Good To Go!*, and their interest in a potential combined WSF account.

This section provides an overview of the most important systemwide results.

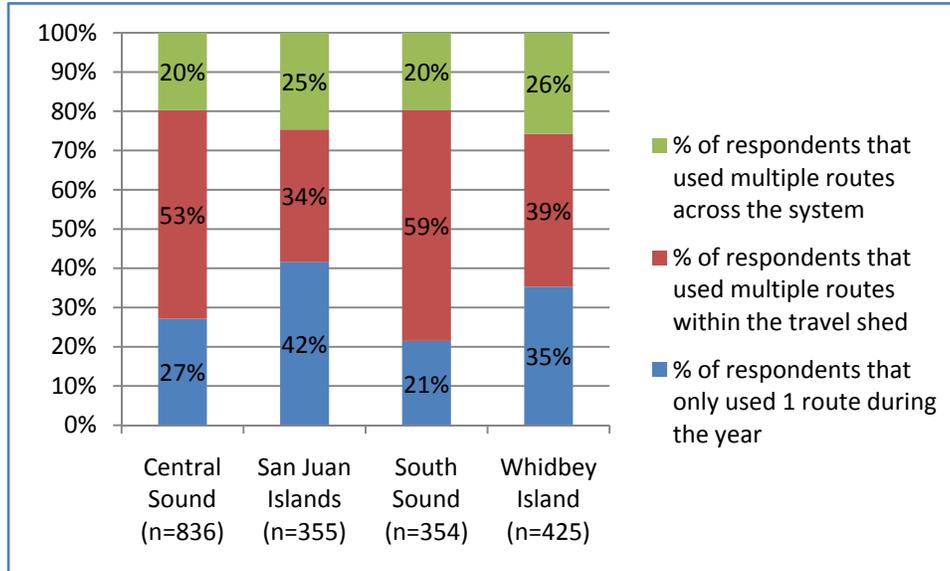
### A. Routes

Respondents were asked to identify the route they most often traveled on and what routes other members of their household most often traveled on, how they accessed the ferry, and the number of trips they took in an average month on the route they used most frequently.

The key systemwide results are:

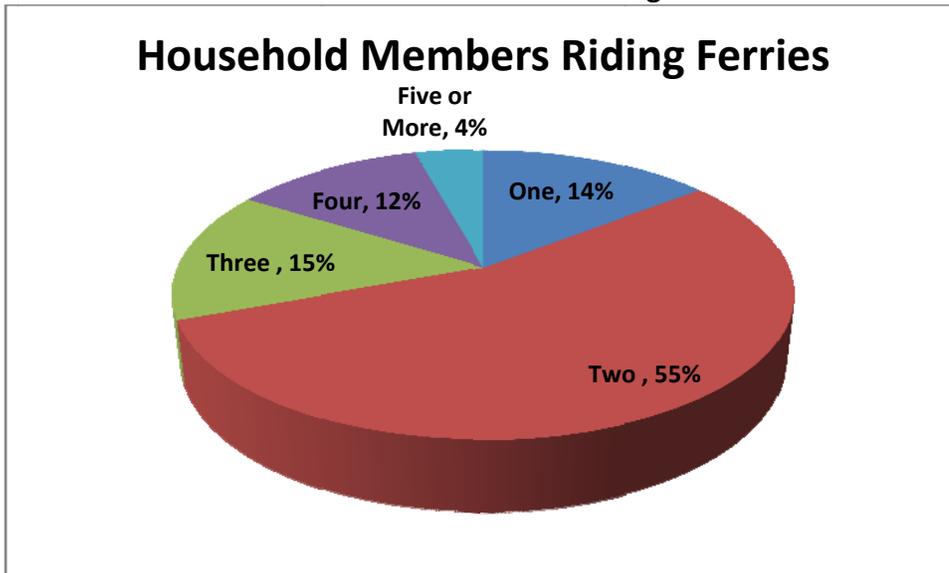
- Most customers travel within a single travel shed.** As shown in the exhibit below, 80 percent of respondents using Central Sound and South Sound routes most frequently, 75 percent of those using San Juan Island routes most frequently, and 76 percent of those using North Sound routes most frequently used either a single route or multiple routes within the travel shed during the last year.

**Exhibit 4.**  
**Customer Travel Within Travel Shed**



- Most households have more than one person who travels on the WSF system.** As shown in the chart below, 86 percent of respondents had two or more people in their household who used the ferry system. Fifty-five percent (55%) of respondents had two people in their households, 15 percent three people, 12 percent four people, and 4 percent five or more people who used the ferry system.

Exhibit 5.  
Household Members Riding Ferries



## B. Fare Media

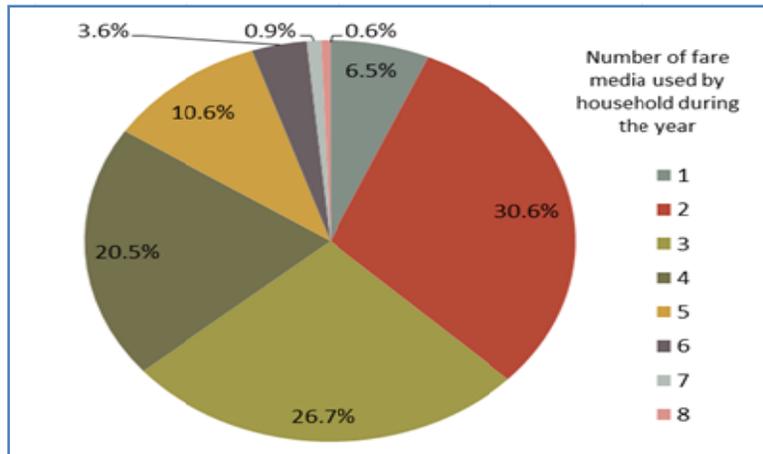
Respondents were asked to identify the WSF fare media their household or employer purchased in the past year, how they used ORCA and *Good To Go!*, and their interest in a potential WSF combined account.

The key systemwide results are:

### 1. WSF Fare Media

- **WSF customer households use multiple WSF fare products.** As shown in the exhibit below, WSF customers typically use more than one WSF fare product for their households. Only 7 percent of respondents reported using one fare media product, while 78 percent used two to four different products.

**Exhibit 6.**  
**Number of WSF Fare Products Used by Household**



**2. ORCA**

- **A significant percentage of WSF customers who most frequently travel on routes in travel sheds that are served by ORCA transit partners have an ORCA card.** As shown in the exhibit below, 52 percent of respondents who said they most frequently use a Central Sound route have an ORCA card as do 48 percent of those who most frequently use a South Sound route, and 31 percent of those who most frequently use a North Sound route. Only 10 percent of respondents who most frequently use a San Juan Islands route have an ORCA card.
- **Adding the multi-ride card to ORCA is important to many customers who have an ORCA card.** Fifty-four (54%) percent of respondents who most frequently use a South Sound route and have an ORCA card responded that it is important or very important to be able to use their ORCA card to purchase multi-ride WSF products, as did 44 percent of the Central Sound and Whidbey customers who have an ORCA card. Respondents were not asked to distinguish between the importance of having vehicle versus passenger multi-ride products on ORCA, so their response may pertain to either of these products.

**Exhibit 7.**  
**Households with ORCA Cards**

	Households with at least one ORCA card	Households who think having multi-rides on ORCA is somewhat or very important	% Households <i>with</i> ORCA who think having multi-rides on ORCA is important or very important
Central Sound	52%	34%	44%
South Sound	48%	40%	54%
North Sound	31%	35%	44%
San Juan Islands	10%	26%	37%

### 3. Good To Go!

Respondents were asked if their household currently has a *Good To Go!* account or if they plan to get one, how important it is to be able to use their *Good To Go!* account on WSF, and whether such use would increase the likelihood that they would get a *Good To Go!* account.

The key systemwide results are:

- **Approximately one-third of customers that most frequently travel in travel sheds that are near a *Good To Go!* tolled facility already have a *Good To Go!* account.** As shown in the exhibit below, 35 percent of those who most frequently travel on a route in the Central Puget Sound travel shed and 36 percent of those who most frequently travel on a route in the South Sound travel shed have a *Good To Go!* account. Within the South Sound, 79 percent of customers who most frequently use the Fautleroy-Southworth route currently have *Good To Go!* accounts. In the Central Sound, 62 percent of customers who most frequently use the Seattle-Bremerton route already have *Good To Go!* accounts.
- **Of those with a *Good To Go!* account, the majority rate it as somewhat or very important to be able to use it on WSF.** As shown in the exhibit below, between 42 and 60 percent of those who have a *Good To Go!* account rate it as somewhat or very important to be able to use the account on WSF. The level of importance increases if use of a *Good To Go!* account resulted in lower fares.

**Exhibit 8.  
 Households with *Good To Go!***

		<b>Households with <i>Good To Go!</i></b>	
	Households with <i>Good To Go!</i> now	Somewhat or very important to use <i>Good To Go!</i> on ferries	Importance would increase if fares were discounted
Central Sound	35%	58%	85%
South Sound	36%	60%	82%
San Juan Islands	11%	42%	58%
North Sound	10%	60%	75%

- **An additional nearly one-third of respondents are either planning to or may get a *Good To Go!* account in the future.** As shown in the exhibit below nearly one-third of respondents who do not currently have a *Good To Go!* account are planning on or might get a *Good To Go!* account in the future. That number would increase to over 60 percent of respondents who don't currently have an account if it could be used on WSF. The number increases even more if use of a *Good To Go!* account also resulted in paying a lower WSF fare.

**Exhibit 9.**  
**Households without *Good To Go!* Accounts**

<b>Households that don't currently use <i>Good To Go!</i></b>			
	Planning to get <i>Good To Go!</i> (yes or maybe)	People more likely to get <i>Good To Go!</i> if could be used with WSF (excludes those planning to get <i>Good To Go!</i> anyway)	People more likely to get <i>Good To Go!</i> if could be used with WSF and fare was reduced (excludes those planning to get <i>Good To Go!</i> anyway)
Central Sound	32%	63%	85%
South Sound	38%	64%	90%
San Juan Islands	28%	64%	87%
North Sound	31%	62%	88%

**4. WSF Combination Account**

Respondents were asked how important is it that WSF allow customers to combine all their fare products on one card or account.

- **WSF customers would be very likely to use a combined WSF account and a significant percentage believe it is an important fare media option.** Over 60 percent of respondents in each travel shed thought it was somewhat or very likely that they would participate in a program if WSF offered one account or card to pay for all ferry travel. Between 43 and 56 percent responded that it was somewhat or very important to offer such an account or card.

**Exhibit 10.**  
**Interest in WSF Combined Account**

If WSF offered one account/card to pay for all ferry travel:		
	People somewhat or very likely to participate	People who think this is somewhat or very important
South Sound	71%	56%
San Juan Islands	66%	45%
North Sound	62%	43%
Central Sound	61%	45%

**C. Vehicle Reservations**

Respondents who most frequently ride the Anacortes-San Juan Islands, Edmonds-Kingston, Seattle-Bainbridge, and Seattle-Bremerton routes were asked how likely they are to make a vehicle reservation for travel if a reservation program is introduced and how it will impact how often they ride. Vehicle reservations are planned for these routes.

- Customers that most frequently travel on routes where WSF will be introducing vehicle reservations (Bainbridge, Bremerton, Edmonds, and San Juans) vary in how likely they are to make a reservation, ranging from a 76 percent in the San Juans to 33 percent in Bremerton.

As shown in the exhibit below, the likelihood of making a reservation was highest for the Anacortes-San Juans routes and lowest at Seattle-Bremerton. The low percentage of Bremerton customers who are likely to make a reservation is probably a reflection of the fact that Bremerton has the fewest traffic backups of the four routes and reservations may be seen as less necessary than at the more congested routes.

**Exhibit 11.**  
**Likelihood of Using New Vehicle Reservation System**

<b>Route</b>	<b>Somewhat or very likely to make a reservation</b>	<b>Would drive on somewhat or considerably more often assuming no additional charge</b>
San Juans	76%	22%
Edmonds-Kingston	51%	12%
Seattle-Bainbridge	48%	10%
Seattle-Bremerton	33%	8%

## SECTION II. SYSTEMWIDE RECOMMENDATIONS

This section recommends systemwide interoperability and fare structure modifications that are generally applicable across the system. The specific implementation of these recommendations may vary by travel shed and would not be applicable to the South Sound if the consultants' recommendations for modifying the South Sound interoperability and fare structure are implemented.

### A. Interoperability

The consultants recommend two near-term improvements to interoperability - that WSF increase interoperability with ORCA and accept *Good To Go!* - and one long-term interoperability improvement - to move to an account-based system when *Wave2Go* is replaced.

#### 1. ORCA – Stored Ride Feature

**Recommendation 1. WSF should implement the stored ride feature of ORCA for at least the passenger multi-ride card and consider implementing it for vehicle multi-ride cards if operationally feasible.**

##### a. Customers

Many WSF customers who frequently travel in travel sheds served by ORCA transit providers have ORCA cards (31 to 52 percent as shown in the exhibit below) and many who have an ORCA card think it is important or somewhat important that they be able to use ORCA to purchase a multi-ride card (44 to 54 percent as shown in the exhibit below).

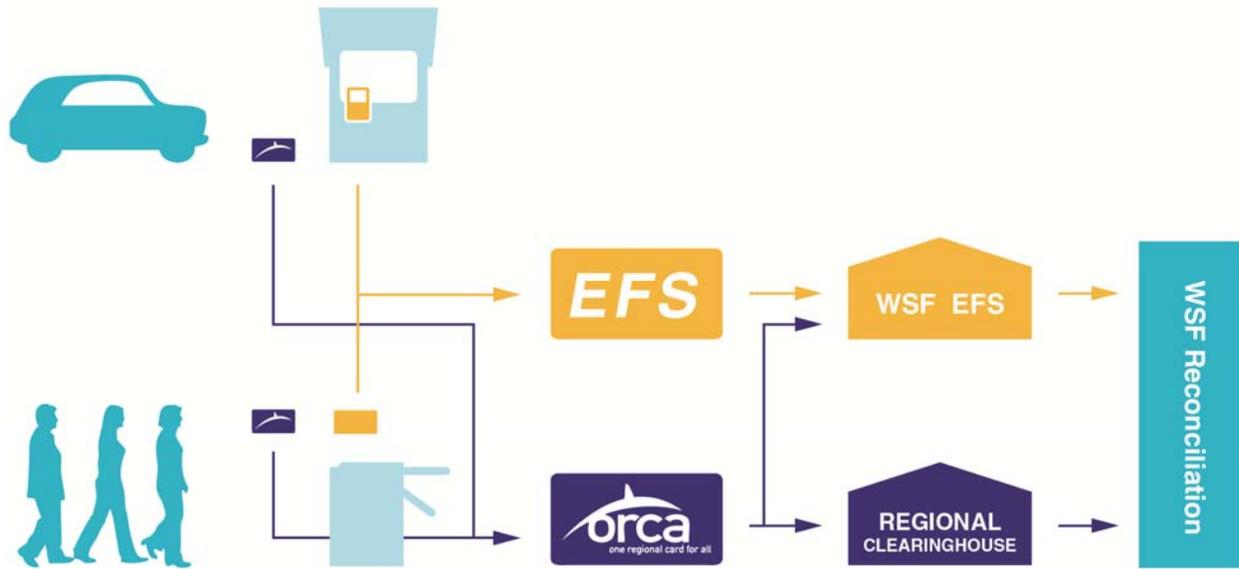
WSF indicates that it is possible to add the passenger multi-ride card to an ORCA card without operational problems, but that it would not be practical to add the vehicle multi-ride card.

Routes and travel sheds on which this recommendation is particularly important are, as shown in the exhibit below, in the Central Puget Sound and in parts of the South Sound and North Sound travel sheds where a high percentage of customers have ORCA cards.

**Exhibit 12.  
 Routes with High ORCA Card Use**

	Travel Shed	Households with at least one ORCA card	% Households <i>with ORCA</i> who think having multi-rides on ORCA is important or very important
Seattle-Bremerton	Central Puget Sound	62%	47%
Seattle-Bainbridge	Central Puget Sound	54%	53%
Edmonds-Kingston	Central Puget Sound	38%	35%
Vashon-Southworth	South Sound	67%	71%
Fauntleroy-Vashon	South Sound	56%	60%
Fauntleroy-Southworth	South Sound	51%	38%
Mukilteo-Clinton	Whidbey	37%	49%

**b. System features**



The stored ride capability of the ORCA card would be activated to allow customers to buy passenger tickets on their ORCA card. The primary benefit of this option is that it would allow customers who use an ORCA card for transit plus a multi-ride card to consolidate both into their ORCA card and account. Key elements of this option are as follows:

**ORCA SUMMARY**

- Wave2Go** – No change in products, but some system upgrades needed
- ORCA** – Enable stored rides for passenger travel and, if operationally possible, for vehicles

- Although stored ride functionality has been developed for ORCA (and is in use by Sound Transit), it has not been deployed for WSF at this time. A system update may be required by the supplier of the ORCA system to fully deploy this functionality for WSF.
- A system update may be required by the supplier of the *Wave2Go* system to support full implementation across WSF.

**2. Good To Go!**

**Recommendation 2. WSF should implement *Good To Go!* at vehicle collection lanes as a peripheral to *Wave2Go*. This will require that tollbooths be attended.**

**a. Customers**

Approximately one-third of customers that most frequently travel in travel sheds that are also near *Good To Go!* tolled facilities already have a *Good To Go!* account. This number increase to 62 to 79 percent of customers on the Bremerton and Southworth routes, respectively. For the majority of customers that have a *Good To Go!* account already, it is very important or important that they have the ability to use their *Good To Go!* account to pay WSF fares. Another one-third of customers in key travel sheds plan to get a *Good To Go!* account and are much more likely to do so if the account can be used for WSF fares.

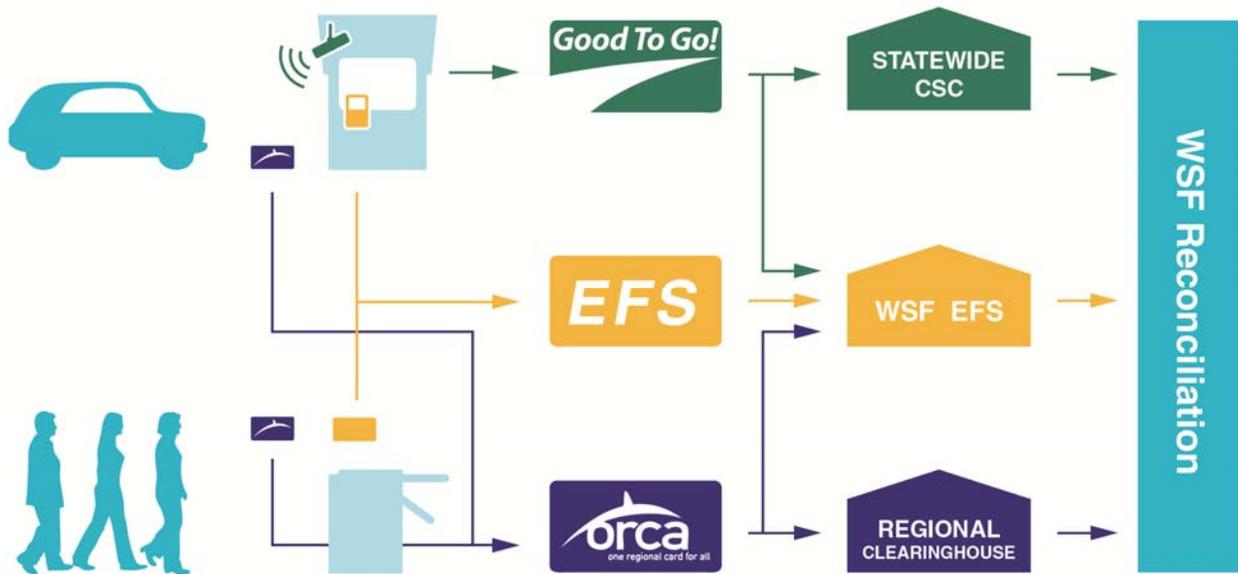
Routes and travel sheds on which this recommendation is particularly important are, as shown in the exhibit below, in the Central Puget Sound and in parts of the South Sound that are near WSDOT *Good To*

Go! tolled facilities. Even on parts of the system where there is currently a relatively low percentage of customers with *Good To Go!* accounts, there is a higher number that plan to get such an account.

**Exhibit 13.**  
**Routes With or Planning to Get *Good To Go!* Accounts**

	Travel Shed	Households with <i>Good To Go!</i> now	Planning to get <i>Good To Go!</i> (yes or maybe)
Seattle-Bremerton	Central Puget Sound	62%	43%
Seattle-Bainbridge	Central Puget Sound	26%	29%
Edmonds-Kingston	Central Puget Sound	30%	32%
Fauntleroy-Southworth	South Sound	79%	46%
Vashon-Southworth	South Sound	60%	0%
Fauntleroy-Vashon	South Sound	12%	40%
Point Defiance-Tahlequah	South Sound	15%	31%
Mukilteo-Clinton	North Sound	9%	32%
Anacortes-San Juan Islands	San Juans	12%	30%

**b. System**



With *Good To Go!* drivers would be required to stop at a toll booth and vehicle/driver plus passenger fares computed using *Wave2Go* equipment (i.e. the point of sale terminals in the booth) and the total fare charged against the *Good To Go!* account.

Operation is assumed to be as follows:

- Each vehicle will stop at a seller booth as they do currently. The ticket seller will determine the vehicle classification, total fare to be collected, and passenger count for vehicle/drivers and passengers.

**GOOD TO GO! SUMMARY**

*Wave2Go* – System upgrades needed to accept *Good To Go!* as a peripheral system

*Good To Go!* – Implemented for vehicles, fares calculated by *Wave2Go*

- *Good To Go!* reader equipment would be implemented as an additional peripheral to the *Wave2Go* electronic fare system in the same way that ORCA readers are connected. In this case, all fare computation is done using *Wave2Go* equipment with only the total amount of the transaction passed to the *Good To Go!* account
- To minimize infrastructure requirements and costs, all *Good To Go!* customers will be expected to have a transponder (like SR 167), and *Good To Go!* reader equipment will be installed at all booths. License plate reading will not be supported.
- If the *Good To Go!* system indicates that a vehicle has a valid transponder, the total vehicle and occupant fare is charged to the associated *Good To Go!* account by the ticket seller.
- If a vehicle does not have a valid *Good To Go!* account, the ticket seller collects cash, credit card or other fare media.
- If a customer wishes to use the discounted multi-ride product, he or she could not pay for the transaction with *Good To Go!*.
- Commercial accounts would remain separate.

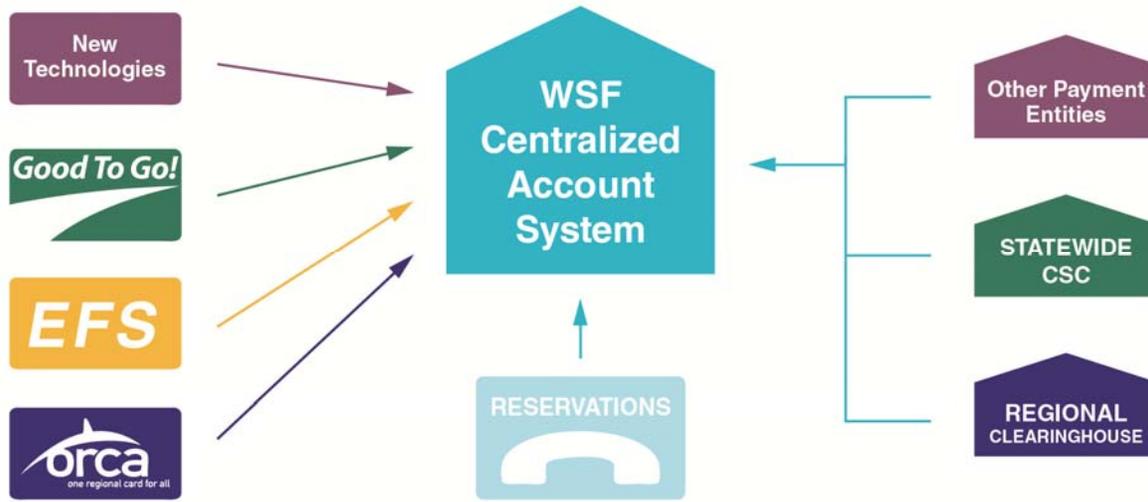
### **3. WSF Account-Based System**

**Recommendation 3. WSF should migrate to a centralized account system when it replaces *Wave2Go*. The centralized account system could be part of *Good To Go!* or in a separate WSF system.**

#### **a. Customers**

WSF customers have *Good To Go!* accounts, ORCA cards, and use more than one WSF fare media product during a year. Customers indicate a strong interest in the potential of consolidating their WSF purchases into one account with between 60 and 70 percent of travel shed respondents indicating they would be somewhat or very likely to participate in such a program and 43 to 56 percent responding that it is very important that such a program be offered.

**b. System**



Under this concept, WSF moves to a completely centralized account system and any and all fare media simply act as identification devices. Under this option, all logic for computing vehicle and passenger fares, including all logic for calculating discounts, would be maintained centrally in a WSF system, and all media (*Wave2Go*, ORCA, *Good To Go!*, future technologies) would act as an identification device.

Customers wishing to pre-purchase discounted products (e.g. multi-ride tickets) would be required to establish an account (registered or anonymous) with WSF, and pre-pay for those products. They would also associate the identification number of whatever payment instrument(s) they would like to use (*Wave2Go*, ORCA, *Good To Go!*, new technology device, etc.) to that account.

Vehicle classification and number of passengers would still need to be determined at a booth, however the final price would not be determined until one of these devices was presented, at which point the fare would be computed based on the central logic, with applicable discounts applied, and a value deducted. A customer could choose a preferred medium, and households could have all media tied to the account so that they would receive applicable discounts if one medium was used one day, another medium used the next, etc.

Casual use customers (e.g. ones having one of those other media but choosing not to register with WSF) could still use that media to pay for full-fares.

A new or replaced system would manage all the central accounts and would include all logic to calculate fares. It would also include back-office interfaces to ORCA, *Good To Go!* and other systems to be able to validate a medium presented for payment, and collect funds from those other systems. Ride history would be maintained in the central computer system, and any discounts, rebates or other incentives would be computed and applied at the time of travel, versus through applying the discount up front as is

**WSF ACCOUNT SYSTEM SUMMARY**

**Customer** - could choose a preferred medium & households could have all media tied to the account

**ORCA** – Would be used as an identifier with the appropriate fare deducted from stored value (no passes or rides)

**Good To Go!**– Would be used as an identifier

currently done with prepaid multi-rides. As an example, a customer making XX trips in a period could be charged full fare for the first few trips, then receive discounts or rebates on subsequent trips after that. As another example, the discount amount could vary by time of day or day of week to support demand management strategies as it would be applied at the time of use, not in advance.

Other attributes of this option include:

- All reader devices (ORCA, *Good To Go!*, future payment technologies) would be connected as peripherals to an extensively updated or replaced *Wave2Go* electronic fare system that would generally only be required to read the identification number of the payment device, thus simplifying integration. In the case of ORCA, the equipment would still need to read and write back to the card in order to update the stored value (ORCA is a card-based system with the account data held on the card), however all logic to calculate discounts would still reside in the central system thus eliminating any need for passes or rides to be stored on the card.
- Any type of open payment smart card, with the appropriate back-office financial agreements, could be used for cash payments.
- Mobile phone applications have potential for transmitting an identification code to allow posting of transactions to an account, or a banking link to allow direct payment transactions to occur.
- Commercial accounts would migrate to this new system, and the identification devices that the commercial operator uses (ORCA cards, *Good To Go!* transponders, etc.) linked to their account.
- Reservations would also be linked to the account, and any reservation deposits would be included in the account and applied to the fare automatically.
- Each time a payment instrument was presented, the identification number would be read and the account (ride or value) debited as appropriate.
- New pricing concepts such as time of day discounts, pre-booking discounts, frequency of use discounts (where the price reduces as more trips are taken in a given period), etc. could be tested or implemented by updating logic in the central account system without changing any of the media or modifying/updating any third party systems such as ORCA and *Good To Go!*.

This option represents significant changes to existing fare payment systems, but introduces new options to provide flexibility.

#### **d. Statewide Tolling Customer Service Center**

The potential exists to utilize the Statewide Tolling Customer Service Center (CSC) to provide all of the functions noted above, thus eliminating the need for *Good to Go!* customers to maintain a WSF-specific account. It is expected that existing software would need to be modified to accommodate WSF requirements; new software modules added to process WSF business rules, accept alternative payment methods (e.g. cellphones, etc.), integrate with ORCA, and integrate with WSF reservations; and additional customer service staff, training and capabilities to handle WSF-related inquiries. This would be a significant change to the current contract, and would likely involve new fees and/or modifications of the existing fee structure to accommodate WSF-specific requirements.

Another approach would be to incorporate WSF requirements in any future initiative to replace the systems or operations of the Customer Service Center. This would open it up to competition and also

provide WSDOT with an opportunity to consider whether they wish to maintain the same service-based contracting approach or bring some or all of the systems in-house.

## B. Fare Structure

**Recommendation 4. WSF and the WSTC should consider the following changes to the fare structure that would simplify the fare structure and meet other legislative policy goals: modify the vehicle fares to separate vehicle and driver fares and charge by the vehicle foot; eliminate surcharges and fees that generate little revenue; and consolidate fares among routes.**

**If all of the consultants' recommendations are enacted the total fare number of fares in the ticket system would be reduced from 643 to 84.**

Some of the recommended options overlap fare categories (i.e. consolidating routes would eliminate some of the same fares that separating the vehicle and driver portions of the fares would) so the reduction in fare counts is achieved by options that are not additive to the total.

### 1. Modify Vehicle Fares

#### a. Separate vehicle and driver fares

##### Reduction in Fare Count: 200

Separating vehicle and passenger fares would mean that instead of one published “vehicle and driver fare,” WSF would publish fares for just the vehicle and just the passengers. This would have the effect of eliminating all of the senior/disabled *vehicle* fares, because these customers would pay the senior/disabled *passenger* fare plus the applicable vehicle fare.

The advantages of this simplification are that:

- **It could be enacted without any price impact to customers.** Senior and disabled vehicle drivers would still receive a discount by purchasing a senior/disabled passenger fare in addition to the base vehicle fare.
- **Reservation system.** Separating vehicle and passengers would work well with the proposed vehicle reservation system, as deposit amounts could be set at the vehicle fare level, and customers could pre-purchase passenger tickets online.

The disadvantage is that customers who currently only need one fare product – a single vehicle and driver ticket – would need to carry two fare products, one for the vehicle and one for the driver. Currently, as shown in the survey results the majority of WSF customers have multiple fare products for their household.

#### b. Vehicle Charge by Foot

##### Reduction in Fare Count: 428

WSF currently has a separate fare for ten different vehicle size categories, excluding motorcycles. Measuring by foot could reduce all of the size categories to one per-foot charge. It has the advantage of providing a strong incentive to customers to bring the smallest vehicle suitable for their trip, thus maximizing the use of vessel deck space and allowing WSF to accommodate more vehicles per sailing. Measuring vehicles with precision at the tollbooth will require the acquisition of automated vehicle measuring devices.

## 2. Eliminate surcharges and fees that generate little revenue

### Reduction in Fare Count: 163

There are a number of miscellaneous surcharges and fares that WSF charges which do not generate significant revenues. The consultants recommend the elimination of the following four surcharges and miscellaneous fees that together account for 163 fares.

**Exhibit 14.**  
**Surcharges & Fees Recommended for Elimination**

Surcharges & Fee	Estimated Annual Revenue	# of Fares	Impact
Eliminate Oversize Vehicle Fares - Sidney	\$0	42	WSF has two oversize vehicle fares on this route – one for RVs and buses and another for commercial traffic. Canadian customs no longer allow commercial traffic at Sidney. Separate commercial vehicle fares are no longer needed.
Motorcycle Surcharges	TBD	22	These fares could be consolidated with the small car fare, which is something WSF is already considering.
Overheight Charge (Vehicles under 30')	TBD	86	Complicates fare collection by requiring terminal staff to measure the height of vehicles.
Bicycle Surcharge	TBD	13	Bicycle surcharge has already been eliminated effective Oct. 1, 2011 for multi-ride, monthly pass, and ORCA cardholders.

## 3. Further Consolidate and Adjust Route Fares

### Reduction in Fare Count: 245

Consolidating routes would mean that WSF offers fewer route-specific fares and instead, publishes fares for the travel shed. Currently, Central Sound fares are organized this way. Recommended consolidations are:

- **South Sound Fares.** This consolidates the fares charged for Fauntleroy-Southworth with Vashon Island fares. Offering one fare for all of these routes would have the advantage of simplifying operations at Fauntleroy, one of the most congested and space-constrained terminals in the system. It will require collecting one-way fares in place of the round trip fares currently collected for Vashon traffic.
- **San Juan Islands Fares.** Consolidating the San Juan Island routes would have the most significant impact on the fare structure. Instead of charging different fares to each of the islands, WSF could charge one fare from Anacortes to any of the islands, and a second fare for interisland trips. The current fare structure results in fare evasion when a customer purchases a Lopez Island fare then gets in line for Friday Harbor. Charging one fare to all of the Islands would eliminate this possibility for fare evasion.

- **Sidney Fares.** The fare structure for the international route has grown complex to accommodate trips from either Anacortes or the San Juan Islands to Sidney and back. This allows customers to deduct the amount paid from Anacortes to the Islands and pay the difference from the San Juan Islands on to Sidney, benefiting island communities from customers that stop over. WSF could achieve this and simplify the fare structure by offering one international fare—an Anacortes-Sidney round trip fare and allowing customers free stopovers in the San Juan Islands. Customers that live in the San Juan Islands and would like to travel to Sidney would have to pay the Anacortes-Sidney fare.

## SECTION III. TRAVEL SHED RECOMMENDATIONS

This section recommends actions in the four travel sheds that would meet the legislative direction to consider each travel shed as unique while also simplifying the fare structure and considering demand management options.

### A. South Sound

**Recommendation 5. WSF should consolidate South Sound fares into a single fare structure. To address traffic imbalance, provide demand management options, and simplify operations at the Fauntleroy terminal, fares should be applied only to vehicles and collected through the *Good To Go!* system.**

#### 1. Terminals and Fare Collection

The South Sound includes the following five terminals serving the Pt. Defiance-Tahlequah route and the Triangle route which includes Fauntleroy-Vashon, Vashon-Southworth, and Southworth-Fauntleroy.<sup>2</sup>

- **Fauntleroy.** Fauntleroy has a very small holding area (84 cars for 87- and 124-car vessels), short headways (as little as 20 minutes), and sailings with mixed destinations (i.e. goes to Vashon and to Southworth) as well as direct Vashon and Southworth sailings. Round-trip fares are sold at Fauntleroy for passengers, one-way vehicle/driver fares are collected for Southworth, and round-trip vehicle/driver fares are collected for Vashon.
- **Vashon.** The Vashon Island terminal has very limited holding capacity. No tolls are collected on Vashon and as a consequence there is no toll infrastructure.
- **Southworth.** The Southworth terminal has holding for 160 vehicles and is served by 87- and 124-car ferries. It has short headways of 30 minutes between peak sailings. Vehicle/driver one-way fares are collected at this terminal for Fauntleroy. Passenger fares are not collected for Fauntleroy. Round-trip vehicle/driver and passenger fares are collected for Southworth-Vashon sailings.
- **Tahlequah.** The Tahlequah terminal, on Vashon, has holding capacity for 10 vehicles and is served by a 64-car vessel. No fares are collected at Tahlequah.
- **Pt. Defiance.** The Pt. Defiance terminal has holding for 50 vehicles. Round-trip passenger and vehicle/driver fares are collected at this terminal.

#### 2. Traffic Imbalance – Southworth

Passenger fares are collected round-trip at Fauntleroy for Southworth and are not collected at Southworth. As a consequence a significant number of riders on the Fauntleroy-Southworth route make a roundtrip that includes an eastbound ferry ride and a westbound drive over the Tacoma Narrows Bridge (TNB), which allows them to avoid both the TNB toll westbound and pay only for the vehicle and driver on the eastbound trip. While this same phenomenon affects the Bremerton route, it is most pronounced at Southworth which is closer to the TNB. WSTC's 2011 Fare Strategies Survey found that 44

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<sup>2</sup> Information on terminal capacities is taken from Washington State Ferries *Final Vehicle Reservation Predesign Study*, January 2010.

percent of Fauntleroy-Southworth had used an alternative to the westbound route, with 29 percent of those on the Fauntleroy-Southworth route indicating that they had done it for 10 or more trips in the first four months of 2011.

In the WSTC survey for this study, 93 percent of customers who most frequently travel on the Fauntleroy-Southworth route used a combination of the TNB and a ferry to complete a round-trip, with 71 percent of those reporting that they took the ferry on the eastbound (passengers free) portion of the round-trip.

It is difficult to measure the precise imbalance, as information on eastbound passengers is not collected on affected routes. Using vehicle traffic as a proxy, the imbalance in eastbound and westbound vehicle traffic in 2009 was estimated to be 25 percent on this route (i.e. 25 percent more customers took the eastbound sailing than took the westbound sailing).

### 3. Reservations and Demand Management Pricing

WSF plans to make commercial reservations available on these routes. Terminal constraints will not allow the implementation of full vehicle reservations on these routes.

This means that pricing will be the primary demand management tool on these routes.

### 4. Current Fare Structure

There are two fare structures for these routes.

**Exhibit 15.**  
**Current South Sound Fares**

Fares – Dec. 2011	Southworth-Fauntleroy	Vashon-Southworth Fauntleroy-Vashon Pt. Defiance - Tahlequah
	Passenger Fare (round-trip)	\$5.85
Standard Vehicle Fare (round-trip)	\$19.70	\$16.25
Standard vehicle fares collected one-way at \$9.85 each way for Southworth-Fauntleroy		

### 5. King County Passenger-Only Ferry

King County operates a passenger-only ferry from Vashon to downtown Seattle. Customers from Southworth who want to access downtown Seattle via the King County ferry have to pay fares for both the King County ferry and the WSF ferry.

### 6. Recommended Interoperability Solution – *Good To Go! with Unattended Collection Lanes*

The consultants recommend that *Good To Go!* be fully deployed in the South Sound with unattended collection lanes. This will allow fares to be collected one-way at all terminals, which will help rectify the traffic imbalance. It also provides a way for demand management pricing to be implemented if and when it is deemed necessary to manage demand on this route and it will simplify operations at Fauntleroy. This also provides an opportunity to collect fares at the Vashon terminal without adding expensive toll infrastructure (i.e. booths) that does not currently exist.

**a. Customers**

- **Good To Go! Accounts.** A significant percentage of customers who most frequently use South Sound routes have *Good To Go!* accounts or would plan to get *Good To Go!* accounts if they could be used for ferries. This is especially the case for customers who frequently travel on the Southworth-Fauntleroy route, where 79 percent of respondents said their household has a *Good To Go!* account.

**Exhibit 16.**  
**South Sound Household *Good To Go!* Accounts**

Households that don't currently use <i>Good To Go!</i>				
	Households with <i>Good To Go!</i> now	Planning to get <i>Good To Go!</i> (yes or maybe)	People more likely to get <i>Good To Go!</i> if could be used with WSF (excludes those planning to get <i>Good To Go!</i> anyway)	People more likely to get <i>Good To Go!</i> if could be used with WSF and fare was reduced (excludes those planning to get <i>Good To Go!</i> anyway)
Fauntleroy-Vashon	12%	40%	79%	95%
Fauntleroy-Southworth	79%	46%	75%	88%
Vashon-Southworth	60%	0%	50%	100%
Point Defiance-Tahlequah	15%	31%	74%	89%

- **Frequent Drive-On Riders.** South Sound riders are primarily frequent riders, with a limited amount of recreational ridership. They primarily access the vessel by driving-on.<sup>3</sup>

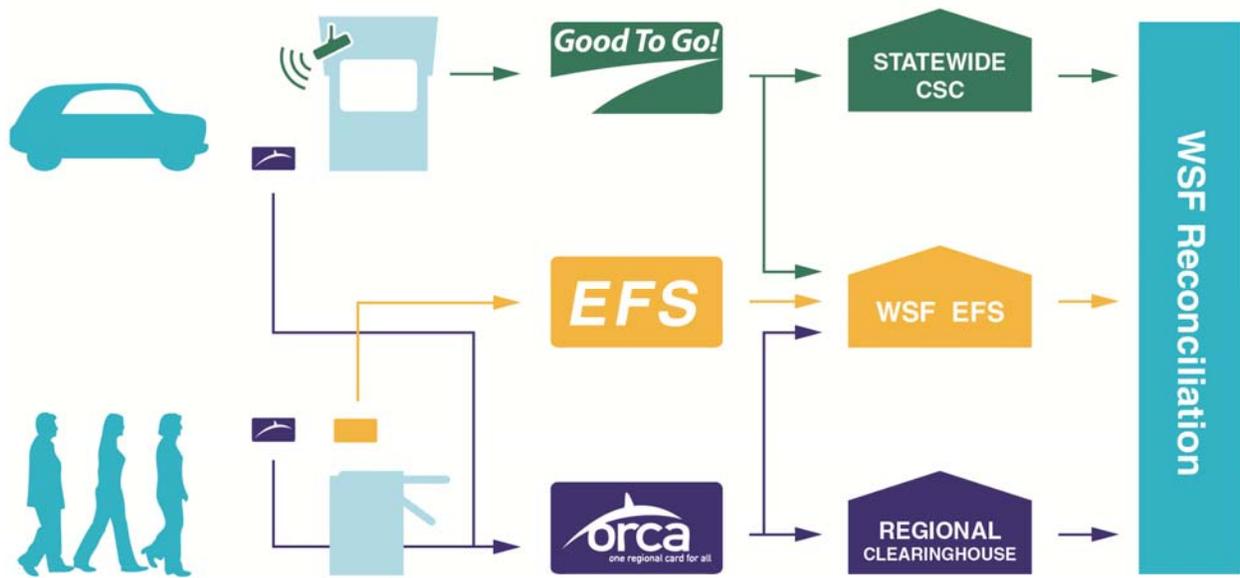
**b. Demand Management Pricing**

*Good To Go!* is capable of handling demand management pricing either by time of day or by day of week. Demand management pricing would be very difficult to implement with *Wave2Go*.

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<sup>3</sup> The WSTC 2008 Ferry Customer Survey found that 38 to 48 percent of riders on the Fauntleroy-Vashon, Fauntleroy-Southworth, and Pt. Defiance-Tahlequah routes were commuters. The same survey found that Fauntleroy / Vashon and, to a somewhat lesser extent Point Defiance / Tahlequah riders are WSF's most frequent riders (24.6 and 24.0 one-way trips per month, respectively).Fauntleroy / Southworth are also relatively frequent riders, averaging 19 one-way trips per month. The WSTC 2008 Ferry Customer Survey also found that 59 to 67 percent of riders on the Fauntleroy-Vashon, Fauntleroy-Southworth, and Pt. Defiance-Tahlequah routes either drive on 100 percent of the time (41 to 49 percent) or primarily drove-on (12 to 26 percent).

**c. System**



Attributes of the system are:

- No integration with *Wave2Go* would be required. *Good To Go!* would be installed as a separate, stand-alone system connected directly to the regional *Good To Go!* customer service center, thus simplifying integration requirements on these routes. All revenue and traffic data would need to be consolidated from the different systems by WSF upon transfer of transaction information between the *Good To Go!* customer service center and WSF.
- License plate reader technology would be required to address situations for non-transponder equipped vehicles. These customers would, as is currently anticipated for SR 520, be billed through the mail and pay an extra \$1.50 or have the option to mail in their payment within 72 hours and pay only an extra \$1.00.

**GOOD TO GO! SOUTH SOUND SUMMARY**

*Good To Go!* – Implemented for vehicles. Only fare collection system for vehicles.

**d. Terminals**

Processing vehicles would be easier with *Good To Go!* at unattended toll collection lanes. Transponders, license plate readers, and automated vehicle measuring devices would be required at each terminal.

By automating the selling function, WSF could eliminate existing tollbooths to create more holding space at Fautleroy. As the selling function would be automated through *Good To Go!* terminal operating costs would be reduced. Preliminary WSF estimates are that operating costs would be decreased in the South Sound by approximately \$1.0 million annually.

**7. Recommended South Sound Fare Structure**

**a. Fare Structure Changes Required to Implement *Good To Go!* with Unattended Toll Collection Lanes**

As discussed in the *Interoperability and Fare Media White Paper*, having *Good To Go!* implemented without staff collection lanes or tollbooths requires that the fare structure be similar to that on the

highways, with vehicles only charged (no passenger fares) on a per foot basis. Discounts for multi-ride cards and for seniors would not be available. A surcharge for those without a *Good To Go!* transponder account would be charged as it is on the highways.

#### b. Recommended Fare Structure

The recommended fare structure, taking into account the requirements of *Good To Go!* and the fare simplification recommendations are:

- **Charge vehicles only.** The *Fare Structure White Paper* discusses the possibility of continuing to charge for passengers that walk-on the vessel even if vehicle passengers are not charged. On balance, the concerns regarding the potential terminal disruption caused by casual carpooling outweigh any potential economic benefits from continuing to charge walk-on riders. This is particularly important in highly congested terminals such as Fauntleroy.
- **Charge vehicles by the foot.** Charging vehicles by the foot with automated vehicle measuring devices is easily implemented with *Good To Go!*.
- **Mirror *Good To Go!* highway tolls.** Vehicle fares should mirror the payment options available on SR 520 which are:
  - *Good to Go! pass.* This is the least expensive payment option with payment made by a *Good To Go!* account.
  - *Pay by mail.* These are payments made by customers without a *Good To Go!* account. An image of their vehicle license plate is taken and the customer is billed through the mail. The extra charge is \$1.50 over the *Good To Go!* pass fare.
  - *Pay by plate.* This is an extra \$0.25 charge for those with a *Good To Go!* account who do not have an active transponder account at the time the fare is collected.
  - *Customer initiated payment.* A customer receives a discount of \$0.50 off the Pay by Mail rate if the customer pays for the transaction not later than 72 hours after driving on the vessel.
- **Same rate for all South Sound routes.** To simplify fares and make it easier to implement *Good To Go!* at multi-destination terminals all of the per foot vehicle fares would be the same on these routes.

#### SOUTH SOUND FARE STRUCTURE SUMMARY

- Vehicle fares only
- No driver or passenger fares
- Vehicle fares charged by foot
- Lowest rate is use transponder
- Surcharges for other payment options
- Same rate for all routes

The advantages of this rate structure are:

- **Walk-on passengers ride free.** In addition to providing an incentive to increase walk-on ridership, this also provides customers with greater interoperability with the King County passenger-only ferry since they would only have to pay one fare.
- **Traffic imbalance.** Charging for the vehicle only one-way may reduce the traffic imbalance caused by customers going more frequently in the direction where passenger fares are not currently collected.
- **Potential for demand management pricing.** This fare structure provides an opportunity to implement vehicle demand management pricing on these routes where vehicle reservations, other than potentially for commercial vehicles, are not a practical demand management tool.

## 8. South Sound Fares

The consultants made the following assumptions in calculating the impact on fares in the South Sound

- **Vehicle Rates.**
  - This analysis sets base transponder fares at the Fauntleroy-Vashon multi-ride level (approximately \$6.50 one way) then increases the travel fares to recoup lost revenue
  - Depending on payment option, surcharges may apply (following the same schedule as SR 520)
- **Transponder Usage.**
  - Sixty percent (60%) of trips made using transponder (follows multi-ride usage, and approximately 36 percent of customers currently have transponders in this travel shed)
  - Remaining trips average \$1.00 surcharge (in line with the *Good To Go!* customer initiated payment surcharge)
- **Loss of passenger revenue.** Annual revenue loss from not charging for passengers is \$3.7 million, based on FY 2011 passenger revenues for these routes.
- **Operation savings.** Annual operating savings are estimated by WSF at approximately \$1.0 million per year and are the result of staffing changes due to automated fare collection. It is assumed that these savings offset the revenue loss and essentially buy-down the fare increase that would be required to recoup the lost revenue.
- **Net revenue impact distributed either within the travel shed or shared systemwide.** The two options for vehicle fares below show the impact of distributing the resulting lost net revenue to vehicles traveling only in the South Sound and an alternative in which the net revenue loss is shared the rest of the system with a small systemwide adjustment. Any significant fare increases would be phased in over time.

### a. Revenue Loss Absorbed with South Sound Travel Shed

Under this option, the revenue impacts are mitigated entirely by increasing vehicle fares in the South Sound. The net effects are:

- Vehicles with at least two passengers experience a significant fare reduction
- SOVs pay a significantly higher fare
- Walk-on passengers ride free

**Exhibit 17.**

**South Sound Fare Changes – Revenue Loss Absorbed in South Sound**

**Fauntleroy/Vashon - Change in Roundtrip Cost  
(Based on Jan 2011)**

		<i>Number of Additional Passengers</i>			
		<b>SOV</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Single Tickets (Infrequent)</b>	Current Average Ticket Price	\$13.75	\$17.32	\$20.90	\$24.48
	Expected Average Ticket Price	\$19.73	\$19.73	\$19.73	\$19.73
	Difference	\$5.98	\$2.41	(\$1.17)	(\$4.75)
		44%	14%	-6%	-19%
<b>Multi-ride or Passes (Frequent)</b>	Current Average Ticket Price	\$12.83	\$16.83	\$20.82	\$24.82
	Expected Average Ticket Price	\$17.73	\$17.73	\$17.73	\$17.73
	Difference	\$4.89	\$0.90	(\$3.10)	(\$7.09)
		38%	5%	-15%	-29%
<b>Walk-on Passengers</b>	Current Average Ticket Price	\$3.58			
	Expected Average Ticket Price	\$0.00			
	Difference	(\$3.58)			
		-100%			

**Fauntleroy/Southworth - Change in Roundtrip Cost  
(Based on Jan 2011)**

		<i>Number of Additional Passengers</i>			
		<b>SOV</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Single Tickets (Infrequent)</b>	Current Average Ticket Price	\$14.58	\$19.42	\$24.25	\$29.08
	Expected Average Ticket Price	\$19.73	\$19.73	\$19.73	\$19.73
	Difference	\$5.14	\$0.31	(\$4.52)	(\$9.35)
		35%	2%	-19%	-32%
<b>Multi-ride or Passes (Frequent)</b>	Current Average Ticket Price	\$15.58	\$20.47	\$25.35	\$30.23
	Expected Average Ticket Price	\$17.73	\$17.73	\$17.73	\$17.73
	Difference	\$2.15	(\$2.74)	(\$7.62)	(\$12.50)
		14%	-13%	-30%	-41%
<b>Walk-on Passengers</b>	Current Average Ticket Price	\$4.83			
	Expected Average Ticket Price	\$0.00			
	Difference	(\$4.83)			
		-100%			

**b. Impact on Fares if Revenue Loss Shared Systemwide**

Under this option, the revenue impacts are split equally between the systemwide fare increase and vehicle fares in the South Sound, with the South Sound absorbing 60 percent of the revenue impact the and the rest of the system 40 percent. The net effects are:

- A systemwide general fare increase of 1.5 percent
- SOVs pay more on a per trip basis

- Vehicles with at least one passenger and walk-on passengers experience significant fare reductions
- Vehicles that currently use multi-ride products on the Fautleroy-Southworth route would not see their average fare change.

**Exhibit 18.**  
**South Sound Fare Changes – Revenue Loss Shared Systemwide 60/40 Split**

**Fautleroy/Vashon - Change in Roundtrip Cost  
(Based on Jan 2011)**

		<i>Number of Additional Passengers</i>			
		SOV	1	2	3
<b>Single Tickets (Infrequent)</b>	Current Average Ticket Price	\$13.75	\$17.32	\$20.90	\$24.48
	Expected Average Ticket Price	\$17.59	\$17.59	\$17.59	\$17.59
	Difference	\$3.84	\$0.26	(\$3.31)	(\$6.89)
		28%	2%	-16%	-28%
<b>Multi-ride or Passes (Frequent)</b>	Current Average Ticket Price	\$12.83	\$16.83	\$20.82	\$24.82
	Expected Average Ticket Price	\$15.59	\$15.59	\$15.59	\$15.59
	Difference	\$2.75	(\$1.24)	(\$5.24)	(\$9.23)
		21%	-7%	-25%	-37%
<b>Walk-on Passengers</b>	Current Average Ticket Price	\$3.58			
	Expected Average Ticket Price	\$0.00			
	Difference	(\$3.58)			
		-100%			

**Fautleroy/Southworth - Change in Roundtrip Cost  
(Based on Jan 2011)**

		<i>Number of Additional Passengers</i>			
		SOV	1	2	3
<b>Single Tickets (Infrequent)</b>	Current Average Ticket Price	\$14.58	\$19.42	\$24.25	\$29.08
	Expected Average Ticket Price	\$17.59	\$17.59	\$17.59	\$17.59
	Difference	\$3.00	(\$1.83)	(\$6.66)	(\$11.49)
		21%	-9%	-27%	-40%
<b>Multi-ride or Passes (Frequent)</b>	Current Average Ticket Price	\$15.58	\$20.47	\$25.35	\$30.23
	Expected Average Ticket Price	\$15.59	\$15.59	\$15.59	\$15.59
	Difference	\$0.00	(\$4.88)	(\$9.76)	(\$14.64)
		0%	-24%	-39%	-48%
<b>Walk-on Passengers</b>	Current Average Ticket Price	\$4.83			
	Expected Average Ticket Price	\$0.00			
	Difference	(\$4.83)			
		-100%			

## B. San Juan Islands and Sidney

**Recommendation 6. WSF should consolidate vehicle Anacortes - San Juan Island fares, streamline Sidney vehicle fares, and implement the systemwide interoperability option that would allow the use of Good To Go! and expanded use of ORCA.**

### 1. Terminals

- **Anacortes.** The Anacortes terminal holds approximately 560 vehicles divided between San Juan Islands and Sidney traffic. Fares are collected round trip for vehicles and passengers to all four of the San Juans stops (Lopez, Orcas, Shaw, Friday Harbor) and one-way for vehicles and passengers to Sidney. Fare evasion is a problem with drivers paying for Lopez then getting in line for one of the longer stops and passengers walking around the toll booth on the beach and getting in cars.
- **Lopez.** The Lopez Island terminal has capacity for approximately 75 vehicles. Fares are collected round trip for vehicles only going to Shaw, Orcas, and Friday Harbor on the Interisland service. Fares are collected one-way for travel to Sidney and reflect the purchase of fare from Anacortes to Lopez in the calculation. For example, the fare from Lopez to Sidney is \$14.10 for a standard off-peak vehicle but the return from Sidney costs \$46.50.
- **Orcas.** The Orcas Island terminal has capacity for approximately 150 vehicles. Fares are collected round trip for vehicles only to Shaw and Friday Harbor on the Interisland service and for one-way travel to Sidney, with the fares the same as they are from Lopez.
- **Shaw.** The terminal at Shaw Island has capacity for 15 vehicles and generates little traffic. There are currently no staff to manage traffic. Vehicle fares are collected round-trip to Friday Harbor for the Interisland service and the Sidney passenger and vehicle fares are the same as the other islands.
- **Friday Harbor.** The terminal at Friday Harbor has capacity for about 255 vehicles, including remote holding. Fares collected are for vehicles and passengers one-way to Sidney.
- **Sidney.** WSF contracts out operations at the Sidney terminal. Reservations are currently required from Sidney. Fares are collected one-way and are the same to the Islands and Anacortes.

### 2. Current Fare Structure

#### a. Anacortes - San Juan Islands

There is currently one passenger fare for travel from Anacortes to the Islands and separate vehicle fares for Lopez, Shaw/Orcas and Friday Harbor. The Anacortes-San Juans Island routes have 160 of WSF's 643 unique fares or 25 percent.

#### Exhibit 19.

#### Current Anacortes - San Juan Island Fares

Fares – Dec. 2011	Anacortes-Lopez	Anacortes-Orcas/Shaw	Anacortes-Friday Harbor
Passenger Fare (round-trip)	\$12.05	\$12.05	\$12.05
Standard Vehicle Fare (round-trip)	\$29.00	\$34.75	\$41.25

**b. Interisland**

Passengers ride free on the Interisland and a standard vehicle pays \$17.55 round-trip. It is proposed that the Interisland vehicle fares would not be consolidated with the San Juan-Anacortes fares. Currently the Interisland route accounts for 31 of WSF’s 643 fares.

**c. Sidney**

There is currently one set of fares from Anacortes to Sidney and another from the Islands to Sidney which allow for both one-way and round-trip fares. This single route, which has two round-trip sailings a day in the spring, summer, and fall, has 204 of WSF’s 643 fares or 32 percent of all fares. The number of fares is compounded by the separation of RV and other commercial vehicle fares.

**Exhibit 20.  
Current Sidney Fares**

Sample Fares – Dec. 2011	Anacortes Sidney Sidney Anacortes One Way	San Juan Islands/Sidney One Way	San Juan Islands/Sidney Round Trip
Passenger Fare	\$17.50	\$6.70	\$23.95
Standard Vehicle Fare	\$46.50	\$14.10	\$60.53
22’ to 30’ Commercial Fare	\$141.30	\$42.50	\$183.55
22’ to 30’ RV Fare	\$70.80	\$21.40	\$91.95

**3. Fare Evasion – Anacortes – San Juan Routes**

One of the problems with having different rates for the Anacortes – San Juan routes is that fare evasion occurs when a customer purchases a vehicle fare for Lopez Island and then gets in line for either Friday Harbor or Orcas Shaw. Charging one fare from Anacortes to all of the Islands would eliminate the possibility for fare evasion.

**4. Recommended Interoperability Change**

The consultants’ systemwide interoperability recommendations to accept *Good To Go!* accounts and allow passenger multi-ride cards on ORCA would be applicable to Anacortes and Sidney. There is less advantage from interoperability with *Good To Go!* and ORCA for frequent riders of these routes than is the case for routes that are adjacent to ORCA transit districts and near *Good To Go!* tolled highways or bridges. Only 11 percent of customers who frequently use the San Juan Island routes currently have a *Good to Go!* account and 28 percent of those without an account respond yes or maybe when asked if they plan to get one. Ten percent (10%) of these customers have an ORCA account and 37 percent of those with an ORCA account believe it is very or somewhat important to have a multi-ride card on ORCA.

Implementation of the interoperability changes could, as a consequence be a lower priority at Anacortes and Sidney. However, it is not known how many peak season infrequent customers might have an ORCA card or *Good To Go!* account.

**SAN JUANS TO ANACORTES  
FARE STRUCTURE CHANGES**

**Systemwide Changes**

- Vehicle fares charged by foot
- Separate vehicle fare from driver
- No bicycle surcharge
- No overheight surcharge – standard vehicles
- Consolidate motorcycle and small car categories

**Specific Changes**

- Vehicle fares same rate from Anacortes to any of the Islands (currently done for passengers)

Implementing *Good To Go!* on the Islands to collect vehicle fares may not be practical in the long-run given the expense and difficulties of implementation on the Islands.

## 5. Recommended Fare Structure – Anacortes to San Juans

The consultants recommend that the fare structure be amended to consolidate the San Juan to Anacortes fares and to streamline the Sidney fares and that the systemwide changes to how vehicles are charged and to surcharges be implemented in the San Juans.

The primary change is to implement the same vehicle fares between Anacortes and each of the San Juan Islands as is currently done for passengers.

## 6. Anacortes – San Juans Fares

The projected revenue change from consolidating the vehicle fares between Anacortes and the Islands depends on whether fares are consolidated at the mid-point (i.e. the Orcas/Shaw rate) or all lowered to the Lopez rate.

- **Mid-Point.** If consolidated at the mid-point and implemented over three years, revenue losses would be less than \$0.2 million annually and would not likely require changes to systemwide fares. It would mean that travelers to Lopez would pay more and travelers to Friday Harbor less than they do now. It might also result in less lost revenue from fare evasion as the fares would be the same to all the Islands. This is the consultants' recommended approach.
- **Lopez Rate.** If all of the vehicle rates were lowered to the Lopez rate over three years, the revenue loss would result in an approximately \$1 million annual revenue loss. If absorbed within the system as a whole, it would result in an overall 1 percent fare increase for each of those three years.

### SIDNEY FARE STRUCTURE CHANGES

#### Systemwide Changes

- Vehicle fares charged by foot
- Separate vehicle fare from driver
- No bicycle surcharge
- No overweight surcharge – standard vehicles
- Consolidate motorcycle and small car discounts

#### Specific Changes

- Establish one fare structure Anacortes to Islands with stop-over in Islands available
- Consolidate commercial & RV rates

**Exhibit 21.**  
**Anacortes - San Juan Islands Fare Adjustment Options:**  
**Base Season Standard Vehicle Full Fares**

	Year 1	Year 2	Year 3
<b>Lopez</b>			
Posted FY2011 Fare	27.95		
Option 1: Bring to Midpoint Orcas/Shaw Rate	29.70	31.55	33.55
<i>Percent Increase from prior year</i>	6%	6%	6%
Option 2: Lower all Fares to Lopez Rate	27.95	27.95	27.95
<i>Percent Increase from prior year</i>	0%	0%	0%
<b>Orcas/Shaw</b>			
Posted FY2011 Fare	33.55		
Option 1: Bring to Midpoint Orcas/Shaw Rate	33.55	33.55	33.55
<i>Percent Increase from prior year</i>	0%	0%	0%
Option 2: Lower all Fares to Lopez Rate	31.55	29.70	27.95
<i>Percent Increase from prior year</i>	-6%	-6%	-6%
<b>Friday Harbor</b>			
Posted FY2011 Fare	39.85		
Option 1: Bring to Midpoint Orcas/Shaw Rate	37.65	35.55	33.55
<i>Percent Increase from prior year</i>	-6%	-6%	-6%
Option 2: Lower all Fares to Lopez Rate	35.40	31.45	27.95
<i>Percent Increase from prior year</i>	-11%	-11%	-11%
<b>Systemwide Fare Impacts</b>			
Option 1: Bring to Midpoint Orcas/Shaw Rate	0%	0%	0%
Option 2: Lower all Fares to Lopez Rate	1%	1%	1%

**7. Sidney Fare Structure Changes**

The consultants recommend that the Sidney fare structure be amended to establish a single Sidney rate that would be a one-way fare between Anacortes and Sidney. Sidney travelers would be able to stop at Friday Harbor, which is the only Island which currently has service to Sidney, without an additional charge. Residents of Friday Harbor or other island communities would have to purchase a Sidney-Anacortes fare.

Additionally, the consultants recommend consolidating the RV and commercial rates in light of recent changes in Canadian customs that disallow commercial traffic through Sidney.

The primary advantage of these proposed changes is that the fare structure would be greatly simplified.

## 8. Sidney Fares

This proposed change is revenue neutral with customers still needing to purchase a ticket between Anacortes and Sidney with the free stop at the Islands. This would in effect provide the same revenue as the separate fares do today.

What is unknown is how many Island residents travel to Sidney. This group of customers would experience a fare increase.

## 9. Interisland Fares

Only the systemwide fare structure changes would be implemented for the Interisland route. The vehicle charge by foot may be hard to implement given the terminal constraints on the Islands where the fares are collected. It may be necessary to maintain specific vehicle size category charges for the Interisland route.

## 10. Terminals

### a. Interoperability Implementation

The Anacortes and Sidney terminals would need to be equipped with transponders to accept *Good To Go!* and with automated vehicle measuring devices to implement charging by the foot. The same is also true for the Island terminals collecting Interisland vehicle fares if *Good To Go!* and measuring by foot are implemented in the Islands.

### b. Fare Collection

Fares would no longer be collected in the Islands for Sidney. A way would have to be developed for customers to use an Anacortes-Sidney ticket to stop at the Islands.

### INTERISLAND FARE STRUCTURE CHANGES

#### Systemwide Changes

- Vehicle fares charged by foot –not practical for Interisland route
- Separate vehicle fare from driver
- No bicycle surcharge
- No overheight surcharge – standard vehicles
- Consolidate motorcycle and small car discounts

## C. Central Puget Sound and North Sound

**Recommendation 7. WSF should implement the systemwide interoperability recommendations in the Central Puget Sound and the North Sound to allow the use of *Good To Go!* and expanded use of ORCA and consider reinstating transit joint passes on those routes with heavy commuter traffic.**

### 1. Terminals – North Sound

- **Mukilteo.** The Mukilteo terminal has holding capacity for 198 vehicles.
- **Clinton.** The Clinton terminal on Whidbey Island has holding capacity for 150 vehicles and is served by two 124-car ferries.
- **Port Townsend.** The Port Townsend terminal has capacity for 90 vehicles and is served by two 64-car ferries in the summer and shoulder seasons and one during the rest of the year. Reservations are currently used on this route.
- **Coupeville.** The Coupeville terminal has capacity for 90 vehicles and is served by two 64-car ferries in the summer and shoulder seasons and one during the rest of the year. Reservations are currently used on this route.

## 2. Terminals – Central Sound

- **Seattle.** Colman Dock holds vehicles traveling to Bremerton and Bainbridge and has a total holding capacity of 545 vehicles.
- **Bainbridge.** The Bainbridge terminal is served by two 202-car vessels and has holding capacity for approximately 225 vehicles.
- **Bremerton.** The Bremerton terminal approximately 195 vehicles and is served by 124-, 144-, and 188 car vessels.
- **Edmonds.** The Edmonds terminal holds about 155 vehicles and is served by 188- and 202-car vessels.
- **Kingston.** The Kingston terminal has capacity for 288 vehicles and is served by 188- and 202-car vessels.

## 3. Vehicle Reservations

Vehicle reservations are planned for all of the North and Central Puget Sound routes except Mukilteo-Clinton which has inadequate holding space and short headways.

## 4. Commuters

All of these routes, with the exception of Port Townsend-Coupeville have a large number of commuters. WSF at one point offered a discounted joint WSF and transit pass which has been discontinued. A 2011 Fare Survey by WSTC conducted outside of this study found large support among these routes for reinstatement of this pass program.

## 5. Recommended Interoperability Change

The consultants' systemwide interoperability recommendations to accept *Good To Go!* accounts and allow passenger multi-ride cards on ORCA would be applicable to the Central Puget Sound and North Sound routes.

There is less advantage from interoperability with *Good To Go!* and ORCA for frequent riders of the North South routes than is the case for routes that are adjacent to ORCA transit districts and near *Good To Go!* tolled highways or bridges. Only 10 percent of customers who frequently use the North Sound routes currently have a *Good to Go!* account and 31 percent of those without an account responded yes or maybe when asked if they plan to get one. Thirty-one percent (31%) of these customers have an ORCA account and 44 percent of those with an ORCA account believe it is very or somewhat important to have a multi-ride card on ORCA.

Implementation of the interoperability changes could, as a consequence be a lower priority in the North Sound than Central and South Sound. However, it is not known how many peak season infrequent customers might have an ORCA card or *Good To Go!* account.

## 6. Recommended Fare Structure

The consultants recommend no route specific fare structure changes for the Port Townsend-Coupeville and Mukilteo-Clinton routes in the North Sound other than the reinstatement of a discounted WSF transit pass. The systemwide changes to charge vehicles by the foot, separate the vehicle from the driver, not charge the bicycle and overweight surcharges, and consolidate the motorcycle and small car categories are recommended.

## SECTION IV. NEAR TERM RECOMMENDATIONS CAPITAL COST ESTIMATE

The estimated capital cost to implement the near-term interoperability changes to implement greater use of ORCA and accept *Good To Go!* at the terminals and install automated vehicle length measuring devices to allow per foot vehicle charges is \$3.4 million.

### A. Terminal Interoperability Requirements

**Exhibit 22.**  
**Terminal Interoperability Requirements**

	ORCA Passenger Stored Ride	<i>Good to Go!</i> with <i>Wave2Go</i>	Stand-alone <i>Good to Go!</i>
<b>Central Puget Sound</b>			
Colman Dock (Pier 52)	Y	Y	
Bainbridge		Y	
Bremerton		Y	
Edmonds	Y	Y	
Kingston	Y	Y	
<b>North Sound</b>			
Mukilteo	Y	Y	
Clinton		Y	
Port Townsend	Y	Y	
Coupeville	Y	Y	
<b>South Sound</b>			
Fauntleroy			Y
Southworth			Y
Point Defiance			Y
Vashon Island			Y
Tahlequah			Y
<b>San Juan Islands/Sidney</b>			
Anacortes	Y	Y	
Lopez			
Shaw			
Orcas			
Friday Harbor			
Sidney		Y	

## B. Capital Cost Estimate

Capital costs (in 2011 dollar) for the near term approach have been estimated based on the following assumptions/guidelines:

- Existing ORCA infrastructure (i.e. readers and handheld units) will be used to support the implementation of the multi-ride card feature. Costs identified are estimates to cover potential integration and contract change costs for the existing ORCA and *Wave2Go* contractors to update their software to enable stored ride functionality.
- For all terminals where *Good To Go!* is implemented at attended tollbooths, existing *Wave2Go* equipment would be modified to accept *Good to Go!* toll tag readers, but license plate readers would not be required (customers without *Good to Go!* tags would need to use an alternative payment method). Length measuring equipment would also be provided.
- In the South Sound terminal locations would be equipped with *Good to Go!* tag readers, *Good to Go!* license plate readers, and vehicle length measuring devices. Software and systems at the *Good to Go!* CSC would calculate charges based on these parameters.
- Under integration costs, approximate costs to provide a payment Gateway interface to *Good to Go!* to recover funds from *Good To Go!* have been included. For the South Sound it has been assumed that costs would be incurred to update CSC software modules to handle WSF vehicle classification and payment computation.
- Any CSC-related implementation costs have been capitalized for the purpose of this document. It is recognized however that recovery of those costs would likely require an amendment to the CSC service agreement.

The following exhibit summarizes equipment required at each terminal.

**Exhibit 23.  
Terminal Equipment**

	<b>ORCA Integration (1)</b>	<b>Good to Go! Transponders</b>	<b>Good to Go! License Plate Readers</b>	<b>Vehicle Length Measuring Equipment</b>
<b>Central Puget Sound</b>				
Colman Dock (Pier 52)	Y	Y		Y
Bainbridge		Y		Y
Bremerton		Y		Y
Edmonds	Y	Y		Y
Kingston		Y		Y
<b>North Puget Sound</b>				
Mukilteo	Y	Y		Y
Clinton		Y		Y
Port Townsend	Y	Y		Y
Coupeville	Y	Y		Y
<b>South Sound</b>				
Faultleroy		Y	Y	Y
Southworth		Y	Y	Y
Point Defiance		Y	Y	Y
Vashon Island		Y	Y	Y
Tahlequah		Y	Y	Y
<b>San Juan Islands/Sidney</b>				
Anacortes	Y	Y		Y
Lopez				
Shaw				
Orcas				
Friday Harbor				
Sidney		Y		Y

Note (1): This would be a one-time integration cost covering all of the terminals identified. No terminal-by-terminal costs have been assumed for ORCA integration.

Based on this assumed distribution of equipment, the following exhibit summarizes estimated capital costs on a terminal by terminal basis.

<b>CAPITAL COST ESTIMATE (Note 1)</b>			
<b>TERMINAL EQUIPMENT (Note 2)</b>			
	<b>Veh. Booths</b>	<b>Unattended Lanes</b>	<b>Estimated Cost</b>
Colman Dock (Pier 52)	4	0	\$ 140,000
Bainbridge	4	0	\$ 140,000
Bremerton	2	0	\$ 70,000
Edmonds	3	0	\$ 105,000
Kingston	3	0	\$ 105,000
Mukilteo	3	0	\$ 105,000
Clinton	4	0	\$ 140,000
Port Townsend	2	0	\$ 70,000
Keystone	2	0	\$ 70,000
Fauntleroy	0	3	\$ 133,000
Southworth	0	2	\$ 88,000
Point Defiance	0	1	\$ 44,000
Vashon Island	0	1	\$ 44,000
Tahlequah	0	1	\$ 44,000
Anacortes	3	0	\$ 105,000
Lopez	0	0	\$ -
Shaw	0	0	\$ -
Orcas	0	0	\$ -
Friday Harbor	0	0	\$ -
Sidney	1	0	\$ 35,000
<b>Subtotal - Terminal Equipment</b>			<b>\$ 1,438,000</b>
<b>SYSTEM INTEGRATION AND TESTING (Note 3)</b>			
ORCA system updates to support Option 1			\$ 150,000
EFS system updates to support Option 1			\$ 100,000
EFS system updates to support Option 2			\$ 200,000
WSDOT CSC updates to support Option 2			\$ 150,000
WSDOT CSC updates to support Option 3			\$ 300,000
<b>Subtotal - System Integration</b>			<b>\$ 900,000</b>
<b>IMPLEMENTATION (Note 4)</b>			
Planning, design and engineering @ 20% of capital			\$ 470,000
WSF project management @ 10% of capital			\$ 230,000
Contingency at 15% of capital			\$ 350,000
<b>Subtotal - Implementation</b>			<b>\$ 1,050,000</b>
<b>TOTAL ESTIMATED</b>			<b>\$ 3,388,000</b>

Notes

(1) Costs are rough order of magnitude in 2011 dollars; rounded to nearest \$1,000

- (2) Equipment costs based on recent toll system procurements. Costs include 30% for installation reflecting WSF's unique terminal environment
- (3) Integration costs based on consultant judgment. No discussions have been had with the EFS vendor, ORCA vendor, or CSC vendor.
- (4) Implementation costs based on consultant judgment.