Prepared for:

Washington State Transportation Commission

2010 Ferry Customer Survey

Summary Report

Prepared by

market decisions CORPORATION

STATE OF WASHINGTON
TRANSPORTATION COMMISSION
PO Box 47308, Olympia WA 98504-7308 • 2404 Chandler Ct SW Suite 270, Olympia WA 98502
(360) 705-7070 • Fax (360) 705-6802 • transc@wstc.wa.gov • http://www.wstc.wa.gov

February 15, 2011

The Honorable Christine Gregoire
Office of the Governor
PO Box 40002
Olympia, WA 98504-0002

The Honorable Members
Washington State Senate
PO Box 40482
Olympia, WA 98504-0482

The Honorable Members
Washington State House of Representatives
PO Box 40600
Olympia, WA 98504-0600

Dear Governor Gregoire and Honorable Members of the Senate and House of Representatives:

The Washington State Transportation Commission is pleased to submit this report which outlines the findings of our 2010 Ferry Customer Survey. The report summarizes the key findings of several different surveys we conducted over the last year. Also included is a CD which contains a whole host of detailed data as well as all of the detailed reports for each survey conducted.

This survey effort was done primarily on-line, polling approximately 6,000 ferry riders who joined our on-line survey panel called the Ferry Rider Opinion Group (FROG). We conducted a major winter and summer rider survey both on-line and on the ferries. We also conducted several surveys focused on a variety of topics as follows:

- Freight survey – surveyed freight and shipping companies who ride the ferries.
- General market assessment – surveyed individuals living in communities served by ferries, but who rarely if ever ride the ferries.
- Mode shift and elasticity of demand survey – surveyed panel members on their travel mode choices and ability to shift modes and/or time of travel.
- Capital funding – surveyed panel members on their views and preferences towards funding the capital needs of Washington State Ferries.

- Various quick poll surveys – seven single question surveys were sent to panel members for "quick" response and result tabulation. Topics covered fares, ferry names, privatization, etc.
- Fare Strategy Survey – this survey will be conducted in February 2011 and will survey panel members on their views and preferences for a variety of fare policies and strategies.

We hope you find this information useful and informative as you work towards identifying means and approaches to addressing the many challenges facing our state ferry system.

Sincerely,

Philip C Parker

Philip Parker, Chairman
Washington State Transportation Commission

Table of Contents

Contents

Table of Contents 4
Study Background & Methodology 11
General Overview of Study Efforts 13
Overview of Technical Reports 14
Executive Summary - Key Findings 16
Freight Users - Summary 24
- Ferry Usage by Freight Customers 26
- Vehicle Reservations & Fare Changes 27
- Perceived Value, Flexibility and Other Issues 28

General Ferry Travel Habits/Activities - Summary 30
- Ridership Frequency 32
- Miscellaneous Trip Characteristics 35

Recreational Ferry Travel - Summary 37
- Recreational Trip Characteristics 39
- Recreational Ferry Usage 40
- Change in Recreational Ridership 41

Attitudes towards Tariff Changes - Summary 43
- Support for Fare Discounts and Surcharges 46
- Attitudes Toward Proposed Fuel Surcharges 48

Operational Costs and Privatization 49
Attitudes towards Capital Funding - Summary 51
Public Perceptions of Capital Funding 53
Perceived Depth of Capital Funding Issues 54
Capital Funding Methods & Distribution 55
Capital Funding Recommendation & Support 56
Capital Funding & Fare Recovery 57
Relieving Peak Vehicle Congestion - Summary 59
Impact of Off-Peak/Peak Fare Changes 62
Reservation System Support & Feature Importance 63
Transit Services Impact on Peak Travel 64
Mode Shift – Background and Methodology 65
Impact of the Attributes Tested on Peak Vehicle Drivers' Behavior 66
Simulator Result: *Across the Board Fare Increases* 67
Simulator Result: *Increase in Only Peak Vehicle Fares* 68
Simulator Result: *Increases in Wait Time for Peak Vehicle Drivers* 69
Simulator Result: *Increases in Wait Time for Peak Vehicle Drivers by Trip Purpose* 70
Simulator Result: *Best vs. Base Case* 71
Simulator Result: *10% Across the Board Increase* 72
Simulator Result: *15% Peak Vehicle Fare Increase with 5% Off-Peak/Walk-On Increases* 73
Satisfaction, Value & Miscellaneous Ferry Issues - Summary 75
Satisfaction and Perceived Value 77
Satisfaction with Specific Ferry Services 78

Miscellaneous Ferry Topics 80
Quick Polls - Summary 82
Car Size Fares & Fare vs. Service Quick Polls 83
Ferry Names, Privatization & Telecommunicating Quick Polls 84
Fuel Surcharge & Summer Travel Quick Polls 85
Ferry Ridership Characteristics - Summary 87
Detailed Demographic Snapshot 88
Demographic Information – Winter & Summer Surveys 89
Company Information – Freight Survey 92
Demographic Information – Quick Polls 93
Demographic Information – General Market Assessment 94
Demographic Information – Mode Shift Survey 95
Demographic Information – Capital Funding 96
Weighting Schemes 98

List of Figures

Figure 1: Frequency of Freight Trips 26
Figure 2: Expected Freight Reservation Program Use 27
Figure 3: Impact of Peak Fare Increase on Freight Use 27
Figure 4: Factors Influencing Freight Sailing Decision 28
Figure 5: Impact of Wait Times on Freight Travel 28
Figure 6: Time & Direction of Last Trip 32
Figure 7: Scheduled Departure Time of Last Trip 32
Figure 8: Route Ridership (Seasonal Comparison) 33
Figure 9: Ratio of Commuters per Month (Seasonal Comparison) 34
Figure 10: Figure 10: Primary Purpose of Ferry Travel (Seasonal Comparison) 35
Figure 11: Recreational Boarding Method 39
Figure 12: Recreational Trip Purpose 39
Figure 13: Reason for Ferry Selection 40
Figure 14: Recreational Route Taken 40
Figure 15: Changes in Recreational Ridership 41
Figure 16: Non-Resident Fare Increase 47
Figure 17: Peak Fare Pricing Change Support 47
Figure 18: Fuel Surcharge Support 48
Figure 19: Perceived Sources of Operational Funding 49
Figure 20: Perceived Sources of Operational Funding After Fares 49
Figure 21: Perceived Sources of Capital Funding 53
Figure 22: Perceived Coverage of WSF Capital Needs 53
Figure 23: Perceived Significance of Capital Funding Problem 54
Figure 24: Suggested Source of Capital Funding 55
Figure 25: Capital Funding from Alternative Revenue Sources 55
Figure 26: Support for Capital Funding Sources 56
Figure 27: Farebox Recovery Goal 57
Figure 28: Reasonable Annual Fare Increase to Achieve Farebox Recovery Goal 57

Figure 29: Expected Use of Reservation System 63
Figure 30: Reservation System Feature Importance 63
Figure 31: Impact of Better Transit Services on Travel Behavior 64
Figure 32: Power Options of Attributes on Drivers' Behavior 66
Figure 33: Impact on Behavior: Across the Board Fare Increases (Total Trips) 67
Figure 34: Impact on Behavior: Increase in Only Peak Drive-on Fares (Total Trips) 68
Figure 35: Impact on Behavior: Increases in Wait Time for Peak Drive-On (Total Trips) 69
Figure 36: Impact on Behavior: Increases in Wait Time for Peak Drive-On (Discretionary) 70
Figure 37: Impact on Behavior: Increases in Wait Time for Peak Drive-On (Non-Discretionary) 70
Figure 38: Impact on Behavior: Base vs. Best Case Scenario 71
Figure 39: Impact on Behavior: 10% Across the Board Increase 72
Figure 40: Impact on Behavior: 15% Peak Drive-On Increase, 5% Off-Peak/Walk-On Increase 73
Figure 41: Perceived Summer Value 77
Figure 42: Ferry Attribute Satisfaction vs. Importance 79
Figure 43: Current Sources of WSF Information 80
Figure 44: Suggested Sources of WSF Information 80
Figure 45: Car Size Fare Strategies Quick Poll 83
Figure 46: Most Negative Impact on Ridership Quick Poll 83
Figure 47: Ferry Names Quick Poll 84
Figure 48: Ferry Privatization Quick Poll 84
Figure 49: Telecommunication Quick Poll 84
Figure 50: Unplanned Fuel Cost Coverage Quick Poll 85
Figure 51: Planned Change in Summer Travel Quick Poll 85

List of Tables

Table 1: Freight Trips per Travel Period 26
Table 2: Off-Peak/Peak Pricing Effects on Travel Behavior 47
Table 3: Current WSF Status/Needs 54
Table 4: Impact of Peak/Off-Peak Pricing Changes 62
Table 5: Ferry Satisfaction Tracking 77
Table 6: Typical Respondent Profile 88

STUDY BACKGROUND & METHODOLOGY/KEY FINDINGS

Study Background & Methodology

In 2010, the Washington State Transportation Commission (WSTC) changed the process of how research is conducted regarding Washington State Ferries (WSF). In the past, stand-alone research projects were executed, but many of the issues facing ferry operations are of a longitudinal nature (changes over time). The decision was therefore made to create the Ferry Rider's Opinion Group (F.R.O.G.), an online community where ferry travelers have an ongoing opportunity to weigh in on ferry issues through surveys and quick polls (single questions).

The following legal direction was given to the Washington State Transportation Commission regarding the scope and general methodologies to be followed in its research efforts:

RCW 47.60.286

(1) The commission shall, with the involvement of the department, conduct a survey to gather data on ferry users to help inform level of service, operational, pricing, planning, and investment decisions. The survey must include, but is not limited to:

(a) Recreational use;
(b) Walk-on customer use;
(c) Vehicle customer use;
(d) Freight and goods movement demand; and
(e) Reactions to potential operational strategies and pricing policies described under RCW 47.60.327 and 47.60.290.

(2) The commission shall develop the survey after providing an opportunity for ferry advisory committees to offer input.
(3) The survey must be updated at least every two years and maintained to support the development and implementation of adaptive management of ferry services.

With these goals and directions in mind, the 2010 Ferry Customer Survey was created. Descriptions of the specific survey segments and methodologies within the Commission's research initiative are outlined in the following pages.

The 2010 WSTC research initiative, with regard to the Washington State Ferries, consisted of the following surveys*:

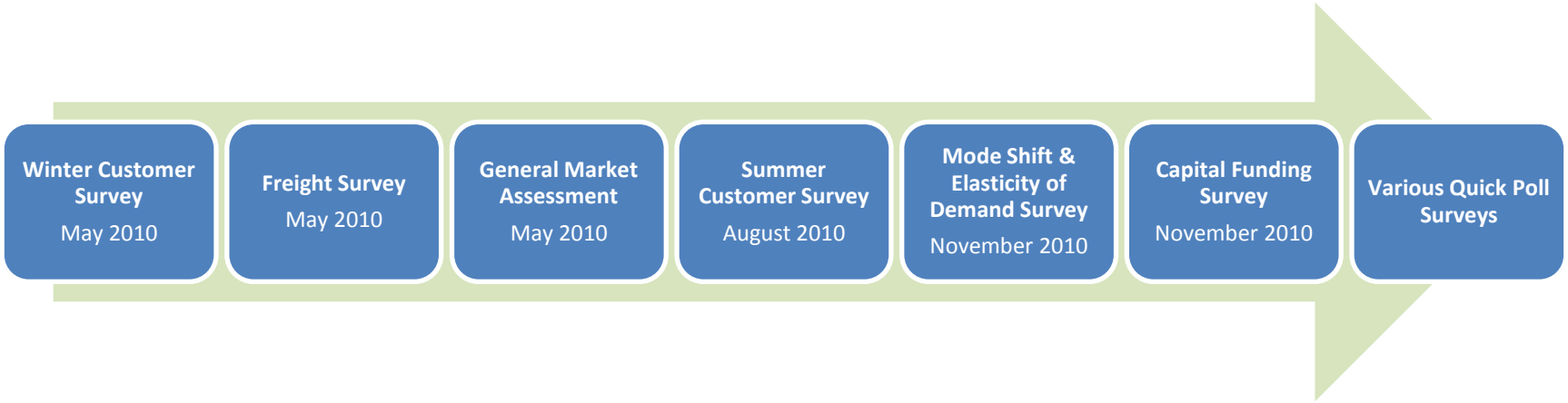
- Winter customer survey (May)
- Summer customer survey (August)
- Freight survey (May)
- General market assessment (May)
- Mode shift and elasticity of demand survey (November)
- Capital funding (November)
- Various quick poll surveys
- Fare Strategy Survey (February 2011; full report to follow survey completion)

In general, respondents in each phase of the initiative participated via either a telephone interview (General Market Assessment and Freight Survey) or a self-administered, online survey (Winter/Summer Customer Surveys, Mode Shift and Elasticity of Demand Survey, Capital Funding, Fare Strategy, and Quick Polls). In order to capture infrequent and recreational riders, Market Decisions' staff intercepted non F.R.O.G. panel members onboard the ferries for both the Winter and Summer Customer Surveys. During the intercepts, paper versions of the web surveys were distributed to riders, which were later returned via mail to MDC for data processing. For all projects (except the Freight Survey and Quick Polls), final data was weighted in order to better represent actual ferry rider population and/or overall ferry rider characteristics. Specific sample sizes, error intervals and methodologies can be found in the report for each individual study. In addition, weighting schemes are described in the final section of this report.

*When viewed electronically in the accompanying CD, each of the listed surveys is linked to the full summary report of the individual study.

General Overview of Study Efforts

The 2010 Ferry Customer Survey is a multi-phase research process consisting of the segments outlined below:



Respondents to each survey were intercepted ferry riders, panel members, or members of the general public with regard to the specific survey objectives. The panel members voluntarily joined the Ferry Rider's Opinion Group (F.R.O.G.), created in 2010 as part of the Ferry Research Initiative to give riders a way to provide ongoing feedback regarding Washington State Ferries.

Topics of significant importance covered throughout the research process include fare strategies, reservation systems, demand flexibility and funding. During each phase of the research process, data was collected, analyzed and reported by Market Decisions Corporation. In addition, high-level overviews of key findings are reported in aggregate in this executive summary report. More detailed information regarding each research phase, as well as access to specific technical reports, is available in the following pages.

Overview of Technical Reports

Results of each phase of the research process are documented in detail in the technical report as outlined below. The detailed technical reports are located on the enclosed CD. When viewed electronically, quick access to a particular technical report is available by clicking the study name prior to its description.

Winter Customer Survey

The first phase of the research process involved an in-depth survey of ferry riders with regards to several important issues including pricing, tariff and discount strategies, as well as overall satisfaction with a number of ferry services. A total of 4,173 ferry riders responded to the survey in April-May 2010.

Freight Survey

In May 2010, 101 WSF freight customers were surveyed. Topics covered include reservation systems, travel flexibility and freight pricing strategies.

General Market Assessment

In May 2010, a general market assessment was conducted. A total of 1,200 Puget Sound area residents were queried about general ferry utilization, WSF's contribution to the overall economy and tourism/recreation, as well as operational and capital funding.

Summer Customer Survey

Ferry riders were again asked to provide their opinions with regard to several important ferry topics, with the summer survey focusing mainly on recreational riders. Issues addressed include reservation systems, tariff and discount strategies, as well as overall satisfaction with a variety of ferry services. In total, 4,315 ferry riders completed the Summer Customer Survey.

Mode Shift Survey

In October 2010, F.R.O.G. panel members were asked about elasticity of demand, specifically, their ability and willingness to alter travel habits based on potential changes that may be implemented by WSF. Overall, 1,317 completed surveys were received.

Capital Funding Survey

In November 2010, 1,951 F.R.O.G. panel members were asked to share their understanding of, and opinions regarding, WSF's current capital funding situation. Particular interest was paid to riders' attitudes towards which taxes and other sources should be used for capital funding.

Various Quick Polls

Throughout the year, F.R.O.G. panel members were asked to weigh in on the following issues using a quick, one question survey:

- Car Size Fares (n=4,179)
- Fare vs. Service (n=2,828)
- Ferry Names (n=2,014)
- Ferry Privatization (n=2,940)
- Fuel Surcharge (4,225)
- Summer Travel (n=2,538)
- Telecommunicating (n=2,862)

In addition to technical reports, a variety of supporting and supplemental information is available for each phase of the research process. This information includes the survey questionnaires, raw data files (in SPSS), data tables, as well as any other related documentation such as marketing materials and special presentations. These files, as well as the following additional information, can be found on the accompanying CD provided by Market Decisions.

Additional Information

If the links below do not work correctly, you can access the information using the following steps: 1. Right click on the "start" button in the lower left corner of your screen; 2. Click on "Explore"; 3. Click on your "disc" drive; 4. Double click on the folder "01 WSTC Final Deliverables (PDF)"; 5. The folders should now be displayed.

- Profiling Questionnaires
- Special Presentations
- Marketing Materials
- Detailed Panel Methodology

All research was conducted by Market Decisions Corporation, with input from the WSTC Research Team. For questions regarding this research, or to request any additional information not included in this report or the accompanying CD, please contact the WSTC offices at (360) 705-7070.

Executive Summary - Key Findings

Key Findings Of the 2010/11 Ferry Study Program:

Capital Needs

- Overall, among ferry riders, there is great deal of misunderstanding regarding both operational cost recovery and capital funding issues. Only 43% correctly identified the source of WSF funding for daily operations and only 30% correctly identified the source of WSF capital funding.
- Seventy-one percent (71%) of ferry riders believe that capital funding is a major problem. Two fifths (39%) say the $4 billion needed for capital funding is exaggerated, while 35% believe that figure is probably accurate.
- Within the general public in the Puget Sound basin, 32% of citizens feel everyone statewide should pay for WSF capital improvements, while 30% say it should be just Puget Sound residents, and 26% say it should only be ferry users who pay for capital improvements.
- Ferry riders feel that each dollar of WSF capital funding should come from ($0.40) statewide taxes (gas/sales), ($0.17) local ferry-served community taxes, ($0.15) increased ferry fares, ($0.09) lowering operating costs by reducing service, and ($0.19) other sources.
- Nearly two thirds (62%) of ferry riders support increasing the fare box recovery amount to help fund capital needs.

Congestion Management

- Similar to the 2008 elasticity of demand findings, peak vehicle drivers appear fairly price inelastic up to a 25% fare increase, indicating that to impact peak drive-on behavior the fare increase has to be large.
- Only 1 percentage point more peak vehicle drivers “would not use” the ferry system if peak vehicle fares went up 15%, while walk-on fares and off-peak vehicle fares went up by 5%.
- By increasing only peak vehicle fares by 25%, there will be an 8 percentage point decrease in peak period vehicle usage.
- More impactful than a 25% increase in fares is an additional one/two ferry boat wait for peak vehicle drivers, this shows the relative importance of service (runs) over fares to them.
- The higher the surcharge/premium for traveling during peak periods, the more truck trips freight companies would be shifted to off-peak hours. A premium of 50% over current freight fares would result in over 1 in 4 trucks being moved to off-peak times.

Rider Profile

- Commuters represent only 3 in 10 (29%) of the individual ferry riders, but represent 1 in 2 (49%) of the number of rides taken. Recreational, personal business, and to see friends are the major trip purposes of the remainder of ferry riders (F.R.O.G. members) and general public infrequent users. These facts point to the wide diversity in ferry ridership by trip purpose.
- There has been a significant decline in the number of general citizens in the greater Puget Sound basin who reported ever riding WSF from 2008 to 2010 (91% vs. 85% respectively).

Fare Surcharges

- Just over one third support the adoption of the proposed fuel surcharge. Another one third are "very against" the implementation of a fuel surcharge.
- Fifty-two percent (52%) of riders support charging an additional 10% over current summer single-fare prices during July and August (for total surcharge of 35% / 45% San Juan Islands during those months) as a way to manage wait times.

Key Findings by Major Area of Investigation:

Freight Users:

- Approximately half (49%) of freight customers report that wait time during peak travel is either a major (16%) or moderate (33%) issue.
- Fifty-two percent (52%) of freight customers would likely utilize a commercial reservation system if the deposit was only 25%. The likelihood drops to only 44% with a 100% deposit, indicating the strength or desire for such a program.
- The higher the surcharge/premium for traveling during peak periods the more truck trips would be shifted to off-peak hours. A premium of 50% over current fare would result in over 1 in 4 trucks being moved to off-peak times.
- Though more than half of all freight customers indicate they have little to no flexibility in scheduling their trips, 25% of trips would be moved in order to take advantage of a proposed 50% freight discount for sailings between the hours 9pm-5am.
- One in 5 (22%) freight customers have increased their utilization of WSF, while 1 in 2 (52%) have kept their usage steady.
- The majority (76%) feel that WSF provides either a “very good” or “good” value to their company.

General Ferry Travel Habits/Activities:

- There has been a significant decline in the number of general citizens in the greater Puget Sound basin who reported ever riding WSF from 2008 to 2010 (91% vs. 85% respectively).
- The WSF system is perceived by 68% of the general public in the Puget Sound region to be very important to the general economy and growth of the region and by 60% of the general public to be very important to encouraging tourism.
- Commuters represent only 3 in 10 (29%) of the individual ferry riders, but represent 1 in 2 (49%) of the number of rides taken. Recreational, personal business, and to see friends are the major trip purposes of the remainder of ferry riders (F.R.O.G. members) and general public infrequent users. These facts point to the wide diversity in ferry ridership by trip purpose.
- Traveling for the purpose of commuting varies greatly depending on the route (from 79% on Seattle-Bainbridge to 7% Anacortes-Sidney route for the summer period). This fact would require WSF programs and fares be tailored to route or sheds rather than system-wide.
- WSF riders generally board the ferry as either a driver (45% winter / 38% summer) or passenger (23% winter / 29% summer) in a personal car (walk-on is 27% winter, 26% summer). Over half of the vehicles used to board the ferry are 20’ in length or less.
- Since they first began using WSF, roughly half of all riders report they have increased their ridership frequency.

Recreational Ferry Travel Habits/Activities:

- One quarter of riders have increased the frequency of their recreational, social or special event ferry trips from 2009, while two thirds have neither increased nor decreased the amount of rides for these purposes.
- Visiting family/friends is the most commonly mentioned reason of riders' last recreational or social trip using WSF.
- Overall, summer riders feel that WSF is a good (61%) or very good (14%) value.
- The vast majority of recreational riders (82%) indicated they "definitely would" consider WSF for future recreational or social trips.

Attitudes towards Tariff Changes:

- Overall, among ferry riders, there is great deal of misunderstanding regarding operational cost recovery. Only 43% correctly identified the source of WSF funding for daily operations.
- Six in 10 (57%) general public citizens in the Puget Sound basin think daily operating expense of WSF should be funded through a mix of ferry fares and statewide taxes, while 33% feel ferry riders alone should pay the costs.
- Half (50%) of ferry riders agree that two thirds is an appropriate fare box recovery amount to pay, while 35% say it should be lower and 15% say it should be higher.
- Just over one third support the adoption of the proposed fuel surcharge. Another one third are "very against" the implementation of a fuel surcharge.
- Ferry riders are split towards implementing the summer surcharge on just the single-trip vehicle fare only OR on all other fare types including multi-ride fares.
- Fifty-two percent (52%) of riders support charging an additional 10% over current summer single-fare prices during July and August (for total surcharge of 35% / 45% San Juan Islands during those months) as a way to manage wait times.
- Forty-four percent (44%) of riders support a congestion price increase of +5% for peak sailings if there was a -5% discount for off-peak sailings.

Attitudes towards Capital Funding:

- Overall, among ferry riders, there is great deal of misunderstanding regarding capital funding sources. Only 30% correctly identified the source of WSF capital funding.
- Seventy-one percent (71%) of riders believe the capital funding is a major problem requiring either action immediately (30%) or with the next 2-5 years (41%).
- Two fifths (39%) say the $4 billion needed for capital funding is exaggerated, while 35% believe that figure is probably accurate.
- Within the general public in the Puget Sound basin, 32% of citizens feel everyone statewide should pay for WSF capital improvements while 30% say it should be just Puget Sound residents, and 26% say it should only be ferry users who pay for capital improvements.
- Riders feel that each dollar of WSF capital funding should come from ($0.40) statewide taxes (gas/sales), ($0.17) local ferry-served community taxes, ($0.15) increased ferry fares, ($0.09) lowering operating costs by reducing service, and ($0.19) other sources.
- Nearly two thirds (62%) of ferry riders support increasing the fare box recovery amount to help fund capital needs.
- Almost half of riders would "completely support" an increase of $.10 per fare, if the money collected were dedicated to funding capital improvements.
- To help fund capital improvements, 39% of ferry riders support changing the multi-ride ticket program so that all fare increases and surcharges (summer, fuel, etc.) apply to it too (i.e., the multi-ride ticket would always be 20% less than the single fare ticket throughout the year as any seasonal fare increases and surcharges would also be added to it).
- Three in ten (32%) riders support charging an additional $1-5 per vehicle ticket, depending on route length, and $0.50 per passenger ticket to help fund capital improvement needs.
- An increase in the statewide gas tax received the most support (60% would support an increased gas tax) of proposed capital funding methods by ferry riders, while a surcharge on ferry fares (34%) and an increase of the state's sales tax (29%) gained the least support.
- Riders do not support the implementation of 25% higher fares for vehicles 14' or 16' in length or longer.
- Almost three quarters (72%) of riders feel that the current ferries are in need of either major repair or replacement. In addition, nearly two thirds agree that the ferry system is in need of more capacity (new boats and/or sailings).

Relieving Peak Vehicle Congestion:

- **Elasticity of Peak Vehicle Travel:** Similar to the 2008 elasticity of demand findings, peak vehicle drivers appear fairly price inelastic. In other words, a 1% fare increase to peak vehicle drivers will not cause a 1% decline in overall ferry ridership.
    - Only 2 percentage points more "would not use" the ferries if a 25% across the board fare increase was enacted.
- **Congestion Pricing Simulation:** Only 1 percentage point more peak vehicle drivers "would not use" the ferry system if peak vehicle fares went up 15%, while walk-on fares and off-peak vehicle fares went up by 5%.
    - Four percentage points more peak vehicle drivers would switch from driving on at peak to either walking on at peak or driving on off-peak if the peak vehicle fares went up 15% while walk-on fares and off-peak vehicle fares went up by 5%.
- **Increase peak drive-on wait time simulation:** More impactful than a 25% increase in fares is an additional one/two ferry boat wait for peak vehicle drivers, this shows the relative importance of service (runs) over fares to them.
    - Increasing the wait time experienced by peak vehicle drivers by one or two sailings could decrease peak vehicle traffic by 10 to 13 percentage points with the majority switching from driving on at peak to walking on at peak and driving on during an off peak period.
- **Increase in only peak vehicle fares simulation:** By only increasing peak vehicle fares by 25%, there is an 8 percentage point decrease in peak period vehicle usage.
    - With this scenario, there is also an increase in off-peak drive-on behavior with little change in the "would not travel" percentage.
- **Across the board fare increases simulation:** Increasing all mode fares by the same percentage doesn't significantly change drive-on behavior.
    - The greatest impact on an across the board increase would be fewer discretionary than non-discretionary trips (5 vs. 3 percentage point decrease in overall ferry usage respectively).
- The higher the surcharge/premium for traveling during peak periods, the more freight trips would be shifted to off-peak hours by freight companies. A premium of 50% over current freight fares would result in over 1 in 4 trucks being moved to off-peak times.

Satisfaction, Value and Miscellaneous Ferry Issues:

- Three quarters (75%) of riders are satisfied with WSF, and the same number believes that the ferries are a good value during the summer season.
- Overall satisfaction (75% satisfied) is up slightly from the 2008 study (68%).
- Riders rate "cleanliness of vessels" and "minimal arrival time prior to departure as two of the most important factors in their ferry experience. They also rated their satisfaction with both of these factors below the level of importance meaning that both do not meet ferry riders' expectations.
- Most ferry riders get information regarding WSF through the ferry website. Riders also indicated that they would take advantage of WSF information on highway advisory radio as well as text messages from WSF.

FREIGHT USERS

Freight Users - Summary

Contains information regarding:

- Frequency of use
- Crossings per month & per season
- Routes used for freight travel
- Factors influencing ferry usage
- Use of the San Juan Islands reservation system
- Expected use of a system-wide reservation system
- Congestion pricing & influence on scheduling
- Changes in ferry use
- Perceived value of WSF

Information gathered from the following surveys*:

Freight Customer Survey

Managers responsible for scheduling freight trips with WSF

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings

Wait Times Problem

- Approximately half (49%) of freight customers report that wait time during peak travel periods is either a *major* (16%) or *moderate* (33%) issue.
  - Among freight customers using WSF during peak hours, 52% experience excessively long waits; average 77 minutes/mean 60 minutes.

Commercial Reservations System Usage

- Approximately half (45%) *always* (34%) or *often* (11%) use the commercial reservation system. However, 45% never use the reservation system.
  - One quarter (26%) would use the ferries more often if there was a commercial reservation system in place.

Potential Commercial Reservation System

- The lower the deposit required by a commercial reservation system, the higher the likely utilization – 100% deposit - 44% of freight customers would likely use; 75% deposit - 43% likely; 50% deposit - 46% likely and 25% deposit - 52% likely to use the system.

Congestion Pricing

- Just over half (54%) ***strongly disagree*** that freight customers should pay a premium to travel during peak hours.
  - Only 11% ***strongly agree***.
- The higher the surcharge/premium for peak hour travel, the more truck trips would be shifted to off-peak hours.
  - If the premium was 3 times the current fare, freight customers report that, on average, 39% of their truck trips would be shifted to off-peak hours.
  - It should be noted that more than half of freight customers would/could not move their truck trips (52%-58% depending on surcharge).
- A discount for traveling during the evening/early morning is somewhat appealing to freight customers. They are willing to move 25% of their freight trips to the 9 p.m. – 5 a.m. time frame for a 50% fare discount.
  - However, it should be noted that 63% of freight customers couldn't or wouldn't change their travel behavior.

Utilization/Perception of WSF

- One quarter (22%) of freight customers have increased their utilization of WSF and 52% have kept their usage steady.
  - The main reasons for taking fewer ferry trips are: 54% change in delivery schedule, 25% cost of fare too high, 16% too much time between sailings and 16% drive around.
- It should be noted that 18% of freight customers think that WSF is a very good value and an additional 58% perceive it to be a good value.
  - Only one in six (16%) perceive the value to be poor (13% poor and 3% very poor).

Travel Flexibility

- Two in five (39%) freight customers report having some flexibility in time of day/day of week that trips are scheduled.
  - However, 28% have no flexibility when it comes to time of day and 40% have no flexibility for day of week.

Current Ferry Usage

- Half of freight customers use WSF at least several times a week.
- On average, freight customers take 14-18 ferry trips per month during October – March and during spring and summer, the average is 28 crossings per month.
- The route most utilized by freight customers is Edmonds/Kingston (26%) followed by Mukilteo/Clinton (11%) and Seattle/Bainbridge (11%).

Freight Users Detailed Findings

Ferry Usage by Freight Customers

Questions were asked of freight customers regarding their company's general use and ridership characteristics on the Washington State Ferries. Areas of particular interest included frequency of use, change in use over time, routes taken and ridership during specific times of the day.

- Freight traffic is significantly higher during the spring/summer, with an average of 28 trips per month (compared to 18 during fall/winter).
- The most frequently used route for transporting freight is Edmonds/Kingston (41%), and it is also the single most used route (26%).
- The majority (74%) of freight customers have either increased or kept their ferry usage the same since they started using WSF.
- Across all routes, the majority of freight travel takes place during peak hours or midday (below left).
- Three in five (60%) transport goods or services using WSF weekly (below right).

Average Trips Taken by Time Slice			
	Peak	***Midday***	***Night***
System wide	**8.2**	**9.0**	**1.4**
Seattle / Bainbridge	17.4	11.3	1.0
Seattle / Bremerton	2.4	2.4	0.0
Edmonds / Kingston	10.7	23.7	0.4
Mukilteo / Clinton	6.8	4.3	1.8
Fauntleroy / Vashon	3.5	3.5	0.0
Fauntleroy / Southworth	1.7	1.7	0.0
Point Defiance / Tahlequah	1.0	1.0	0.0
Keystone / Port Townsend	3.0	1.2	1.3
Anacortes / San Juans	9.2	1.9	3.4
Interisland San Juans	0.5	0.0	0.0
Vashon / Southworth	0.8	14.3	0.0

Table 1: Freight Trips per Travel Period

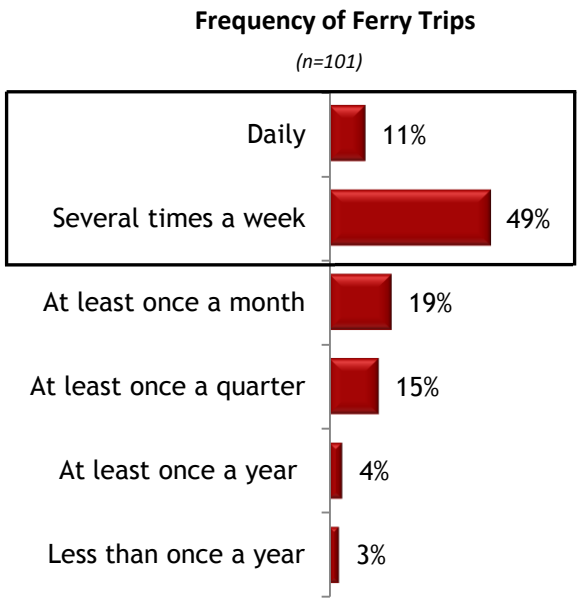


Figure 1: Frequency of Freight Trips

Vehicle Reservations & Fare Changes

In addition, questions were asked with regard to use of current reservation systems, as well as gauge interest and support for a system-wide reservation system for freight users. Specific attributes of the proposed reservation were tested, as well as gaining an understanding of the impact and potential support of pricing methods to manage congestion.

- Use of the current San Juan Islands or Port Townsend/Coupeville reservation system is mixed among freight users, with 45% either "always" or "often" using the commercial reservation system, and 45% "never" using the system.
- Most (88%) report that they do not use WSF less often as a result of not having a commercial reservation system.
- Of the proposed reservation system, expected use among freight customers increased as the required deposit for a reservation decreased (below left).
- More than half (54%) "strongly disagree" that freight customers should pay a premium to travel during peak hours and receive a discount for off-peak travel.
- In an effort to relieve congestion, nearly 40% of freight trips would be shifted to off-peak times if a peak surcharge of 2-3 times the current fare was implemented during peak hours (below right). It should be noted that more than one half of freight customers would/could not move their truck ferry trips, and report their scheduling as having little to no flexibility.
- If a 50% freight discount were available from 9pm-5am, about 25% of trips would be moved to that period.

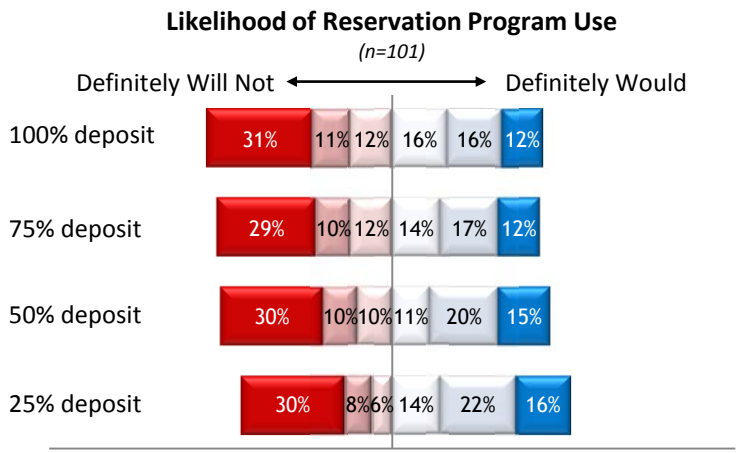


Figure 2: Expected Freight Reservation Program Use

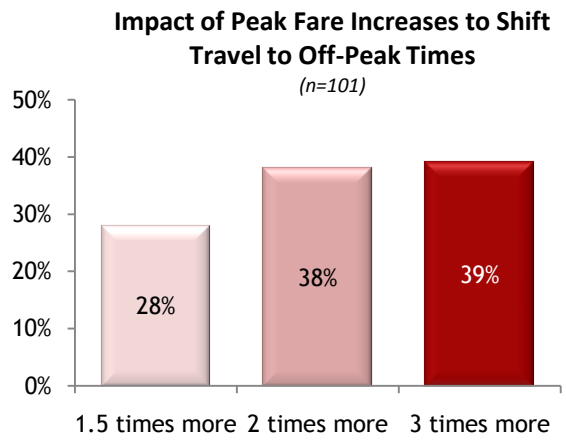


Figure 3: Impact of Peak Fare Increase on Freight Use

Perceived Value, Flexibility and Other Issues

Freight customers were also asked to comment on the value of WSF and other factors influencing their use of the ferries. These factors included the decision to use WSF, scheduling flexibility and wait times. Many of these questions were open-ended responses to truly capture the opinions and experiences of the customers.

- Three quarters (76%) say that WSF provides either a "very good" or "good" value to their company.
- Of the factors influencing which sailing to take, the overarching theme is to be able to meet customers' needs/wants by having the freight there when the customer requests it (48%; below left).
- More than half of freight users report having little to no flexibility in when they schedule their trips. Just 8% say they have "complete flexibility" when scheduling their freight travel with the ferries.
- Roughly half (49%) of all freight customers report that wait times during peak travel periods are either a "major" or "moderate" issue (below right), with 52% having experienced excessive wait times during peak hours. The route most likely to be perceived to have excessively long wait times is Anacortes/San Juan Islands.
- Freight customers feel that the two most prevalent issues/challenges facing WSF are the need for more ferries and reducing wait times/delays. However, 30% feel that WSF is doing a good job and no changes are required.

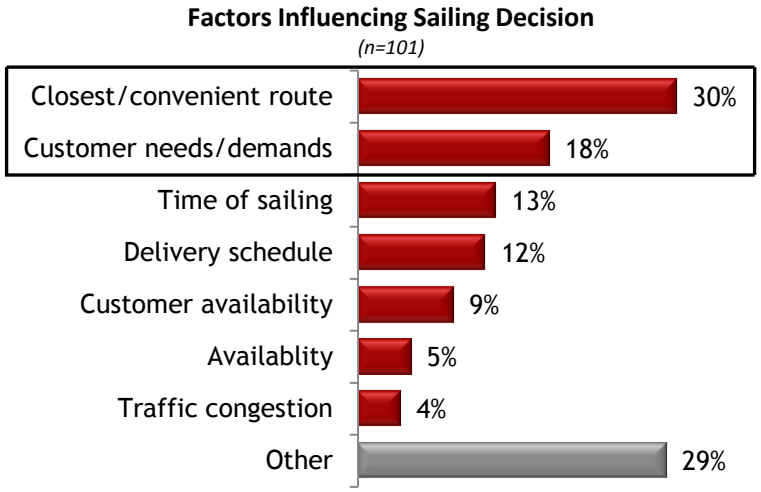


Figure 4: Factors Influencing Freight Sailing Decision

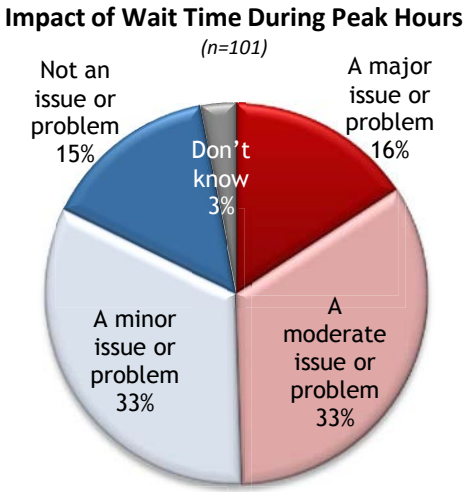


Figure 5: Impact of Wait Times on Freight Travel

GENERAL FERRY TRAVEL HABITS/ACTIVITES

General Ferry Travel Habits/Activities - Summary

Contains information regarding:

- Routes taken
- Frequency of drive-on & routes taken during peak times
- Trip purpose
- Boarding method
- Vehicle type/size of drive-on riders
- Ticket type
- Change in ferry ridership

Information gathered from the following surveys*:

Winter Ridership Survey

F.R.O.G. panel members and random riders/rides

Summer Ridership Survey

F.R.O.G. panel members and random riders/rides

General Market Assessment Survey

Random sample of Puget Sound residents

Mode Shift

F.R.O.G. panel members

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings

General Ferry Ridership

- People throughout the Puget Sound basin who report ever riding the ferry has declined significantly from 2008 to 2010 (91% vs. 85%, respectively).
  - As was the case in 2008, 7% of Puget Sound residents have stopped riding WSF completely.
- In general, Westside residents use WSF for a variety of purposes, whereas Eastside residents are more likely to take a trip on WSF for tourism/recreation than any other purpose.
  - This is in line with results from 2008.
- Seattle/Bainbridge, Edmonds/Kingston and Mukilteo/Clinton are the most travelled ferry routes during both the summer and winter months.
  - Summer ridership is significantly higher than winter ridership on the Fauntleroy/Southworth, Port Townsend/Coupeville, Anacortes/San Juan Islands and Inter San Juan Islands routes.
- The primary factors in summer that determine whether to take the ferry or drive around are faster travel time by ferry (47%) and long waiting lines waiting to catch the ferry (44%) according the ferry riders.

- The percentage of walk-on passengers has increased significantly in the summer compared to the winter period (33% vs. 27%).
- In general, Westside residents in the Puget Sound basin take the same number of trips on WSF throughout the year whereas Eastside residents increase their usage May through September.

Commuters

- The Seattle/Bremerton (79%), Seattle/Bainbridge (72%) and Fauntleroy/Southworth (72%) have the highest percentage of commuting trips per month during the summer travel period.
  - All routes, with the exception of Southworth/Vashon, have a higher percentage of commuting trips in the winter months.
  - Anacortes/Sidney (71%) and Port Townsend/Coupeville (60%) have the highest percentage of recreational or social trips per summer months, while Seattle/Bremerton (22%) and Fauntleroy/Southworth (21%) have the lowest.

- Although a smaller proportion (29% this year, 25% in 2008) of summer riders primarily ride to commute to and from work than in the winter wave (39% this year, 36% in 2008), the number of commuters is similar because total ridership is higher in summer.

Impact of WSF

- The perceived importance by the general public in the Puget Sound basin of WSF on the general economy and growth of the region has declined slightly from 68% in 2008 to 63% in 2010 "very important."
  - Westside residents in general place significantly more importance on WSF than Eastside residents (77% vs. 61% "very important").
- Residents throughout the Puget Sound basin were asked about the importance of WSF with regards to encouraging tourism. Sixty percent (60%) rate WSF as "very important."
  - Again, Westside residents in general give a significantly higher rating than Eastside residents (69% vs. 59% "very important").

Ridership Frequency

For nearly all surveys, riders were asked to provide information regarding the routes they have, or have most recently, ridden. In addition, questions were asked concerning the nature and details of their trip, as well as any changes in ridership that may have occurred.

- A significantly lower percentage of the general public say they have ever ridden WSF in 2010 (85%) compared to 2008 (91%).
- One fifth (21%) of the Puget Sound residents surveyed have taken their last WSF trip within the past 30 days in 2010. More than one third (38%) report their last trip on WSF was 1 year ago or longer. Stated differently, Puget Sound residents ride less frequently than F.R.O.G. panel members.
- Nearly half (48%) of riders report that the frequency with which they ride the ferries has increased since they first started using WSF.
- One third (37%) of respondents' last trip was scheduled to depart between 6:00-7:59am, while another 20% traveled between 3:00-5:59pm (below right).

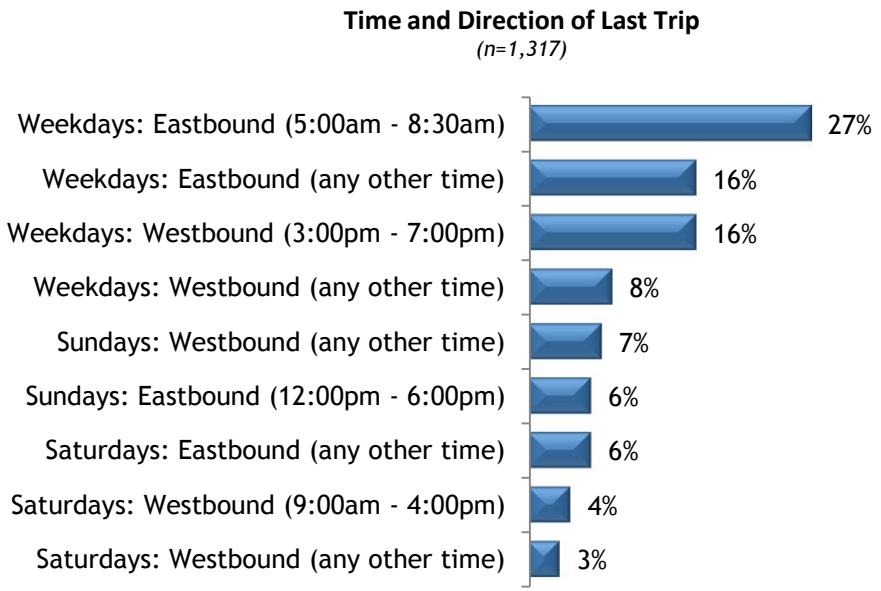


Figure 6: Time & Direction of Last Trip

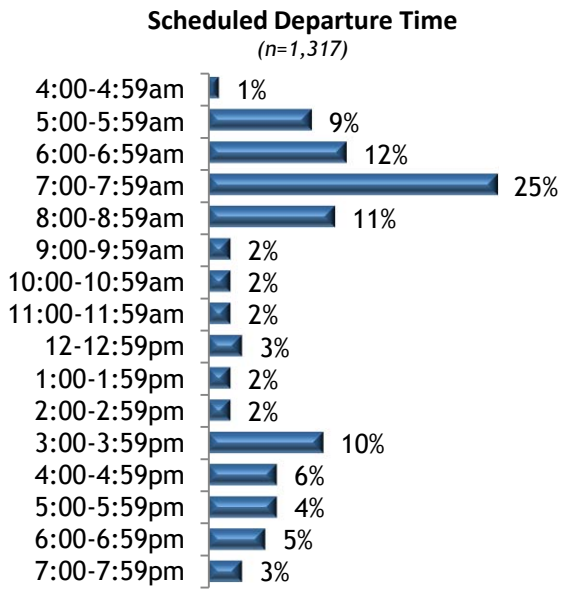
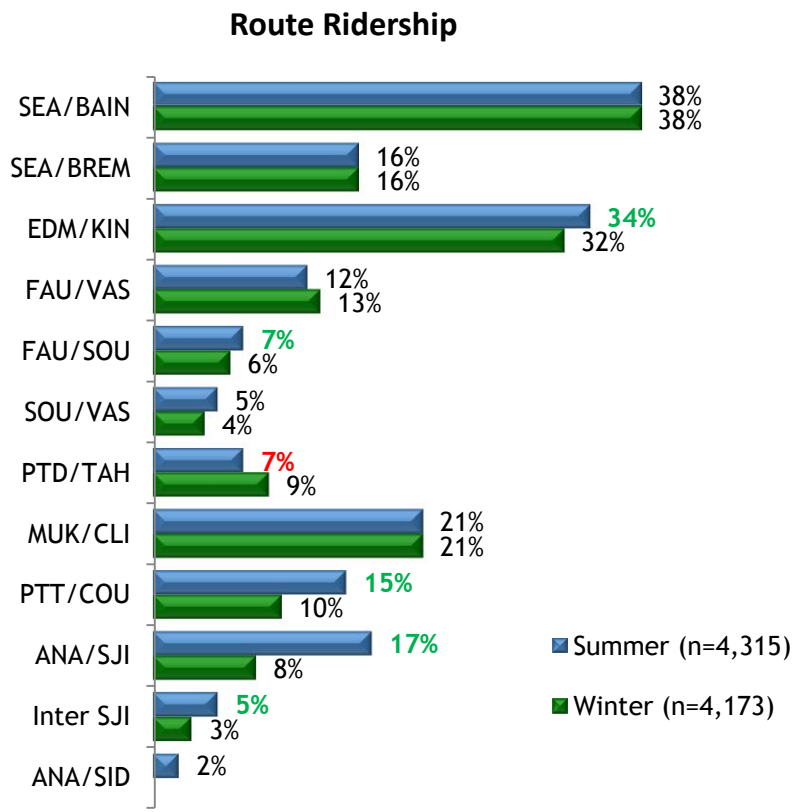


Figure 7: Scheduled Departure Time of Last Trip

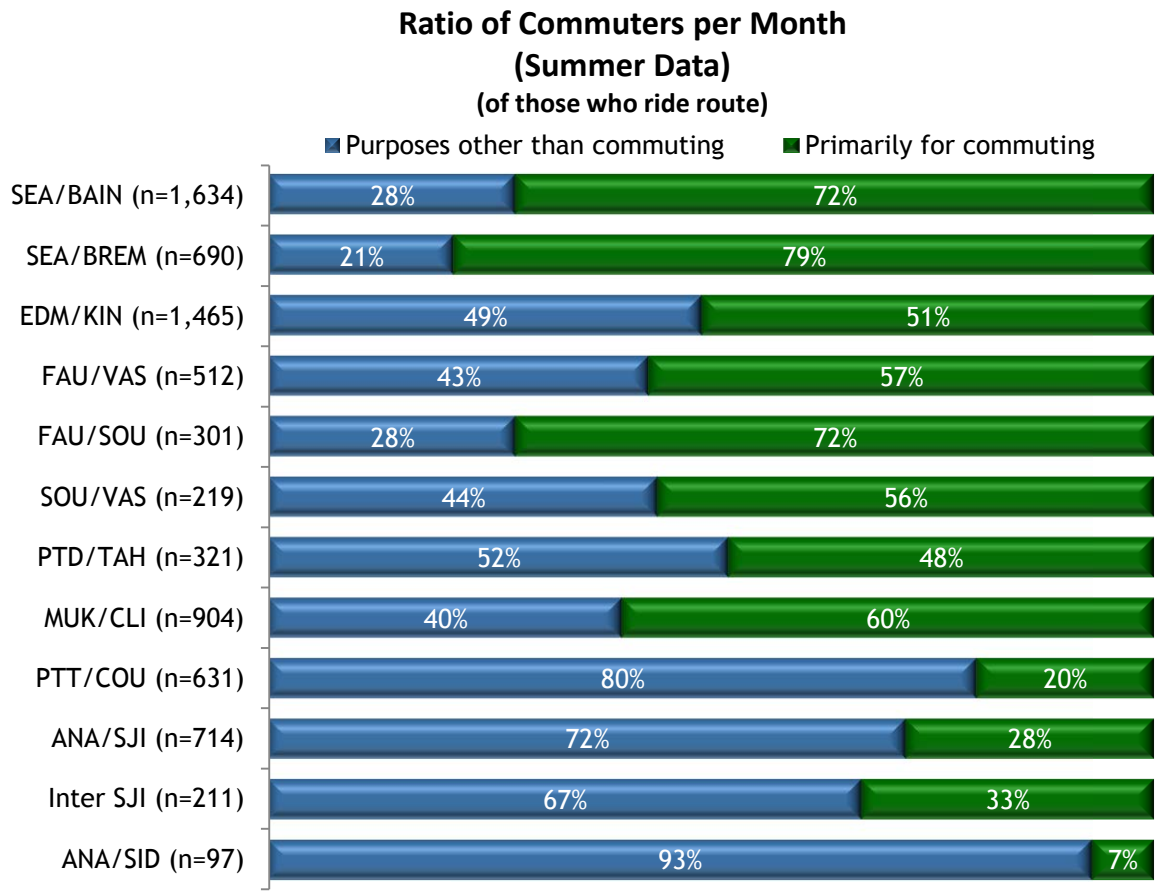
- For both the winter and summer surveys, the Seattle/Bainbridge (38%) and Edmonds/Kingston (32%, 34%) routes have the highest ridership frequency. Mukilteo/Clinton (21%) also garners a large amount of ridership. For many routes, the average round trips taken per rider are significantly lower in the summer months (below). In general, these findings are consistent with those from other studies.



Avg. # of round trips per month per rider	
Summer	Winter
11.6	11.2
11.5	13.1
6.5	7.6
12.2	13.5
10.1	13.4
5.4	5.6
6.5	6.5
12.6	13.4
2.5	3.0
3.6	4.2
4.9	4.0
1.4	n/a

Figure 8: Route Ridership (Seasonal Comparison)

- Traveling for the purpose of commuting varies greatly depending on the route (below). Almost all routes have a higher percentage of commuting trips in the winter months, though the actual number of commuting trips is similar to the summer travel period.



% Winter Commuting
74%
85%
70%
71%
85%
52%
52%
67%
40%
40%
48%
n/a

Figure 9: Ratio of Commuters per Month (Seasonal Comparison)

Miscellaneous Trip Characteristics

Other issues examined regarding riders' trip characteristics include boarding method and ticket type, as well as the specific purpose for that specific trip or future ferry rides. Information gathered from several studies reveals that:

- Two thirds (67%) of riders board the ferry in a personal car, either as a driver or passenger, while about a quarter (26%) walk on. Over half (53%) of the vehicles driven onto the ferry are less than 20' in length.
- Generally, nearly three quarters of ferry riders travel on either a multi-ride frequent user ticket (35%) or a single-ride ticket (38%).
- Travel to/from work remains the most common reason for ferry travel. Although the percentage of commuters is smaller during the summer, the total number of commuters is comparable due to an increase in total ridership during the summer. Commuters account for less than 1 of 3 ferry riders (2 of 5 in winter), but account for nearly half of the volume (below).

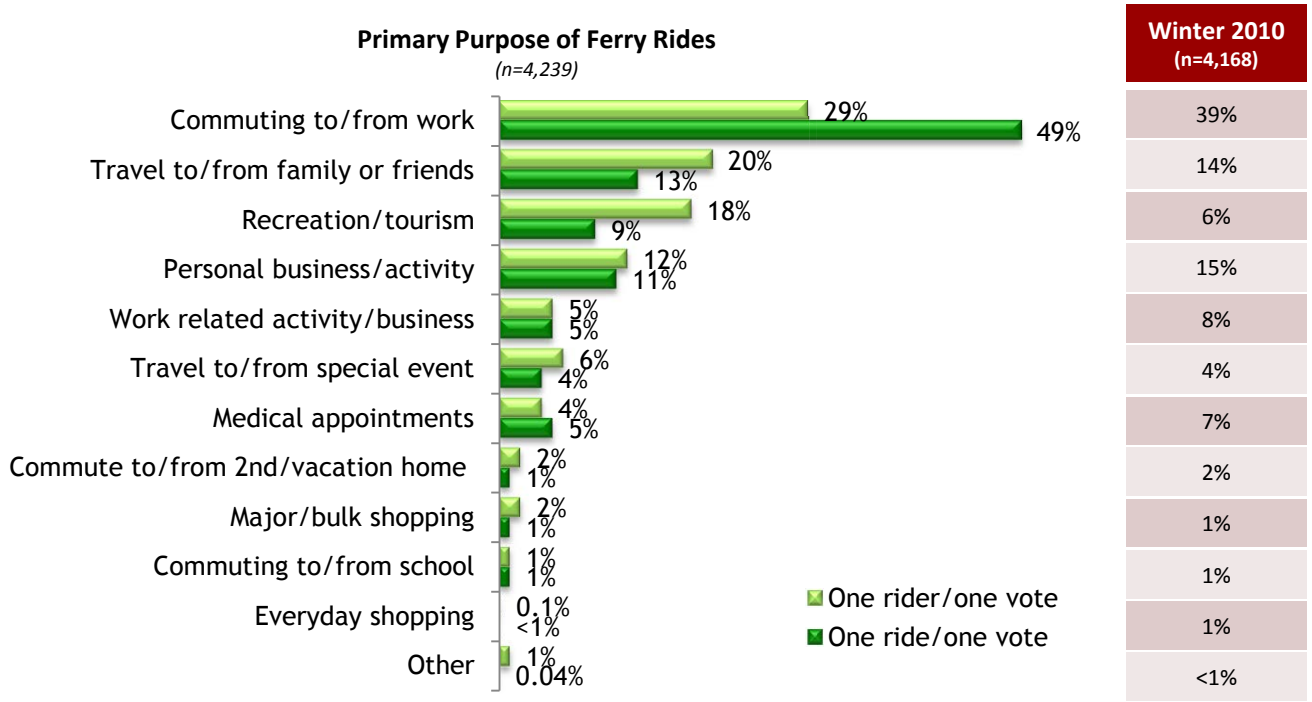


Figure 10: Figure 10: Primary Purpose of Ferry Travel (Seasonal Comparison)

RECREATIONAL FERRY TRAVEL

Recreational Ferry Travel - Summary

Contains information regarding:

- Changes in recreational ferry use
- Routes taken
- Boarding Method
- Recreational trip purpose
- In-state vs. multi-state/nation travel
- Significance of ferry fare
- Reason for ferry selection
- Likelihood of future use of WSF for recreational travel

Information gathered from the following surveys*:

Summer Ridership Survey

F.R.O.G. panel members and random riders/rides

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings:

Recreational Travel Volume

- Respondents indicate that the number of ferry rides for recreation, social or special event purposes are largely unchanged compared to last year.
  - Visiting family and friends is by far the most frequently mentioned purpose of riders' last recreational or social trip.
  - One quarter of riders have increased the frequency of their recreational, social or special event ferry trips from 2009, while two thirds have neither increased nor decreased the amount of rides for these purpose.
  - As one would expect in the summer months, the number of ferry riders reporting the purpose of their last ferry ride as recreation/tourism or travel to/from family and friends have both increased significantly compared to the winter survey (18% vs. 6% and 20% vs. 14%, respectively).

Perceived Value of WSF Recreational Travel

- Overall, riders feel that WSF is a good value during the summer season; though only 14% rate it as a "very good value."
  - Generally, respondents from the Port Townsend/Coupeville route are significantly more likely to give WSF positive value ratings than riders of other routes.
  - Nearly one third of recreational riders could not offer any suggestions regarding areas in which they would like to see WSF improve, however the most common suggestion was the addition of more runs.

Instate or multi-state Travel

- Only 13% of recreational riders report that their last trip was part of a larger multi-state or multi-nation trip.
  - Those on the Port Defiance/Tahlequah route tend to be significantly more likely than others to have taken a ferry ride as part a multi-state or multi-nation trip.

Reason for Using Ferry for Recreational Travel

- When asked why they chose WSF over other ways of commuting to their destination, the most commonly mentioned response among recreational riders was because it is the fastest/most direct way.
  - Those on the Seattle/Bremerton and Fauntleroy/Southworth routes tend to be significantly more likely than other riders to have chosen the ferry due to reasons related to enjoyment.
- Those on the Port Townsend/Coupeville route tend to be significantly more likely to give WSF positive value ratings than riders of other routes.
- Visiting family/friends is the most commonly mentioned reason of riders' last recreational or social trip using WSF.
- The vast majority (82%) of recreational riders indicate they "definitely would" consider WSF for future recreational or social trips.

Recreational Trip Characteristics

In order to better understand recreational riders, respondents of the summer survey were asked several questions regarding their social and recreational travel using WSF (i.e., non-commuting trips). Most questions were in reference to riders' most recent social or recreational trip, and were used to generate general characteristics of recreational ferry travel.

- By far, the most mentioned purpose of riders' last recreational or social trip was to visit the home of family/friends (47%, below right).
- Of recreational riders, 41% report that the ferry fare accounted for 25% or more of the total trip cost. Meanwhile, one third (33%) indicate that the fare accounted for less than 10% of the total cost.
- The majority (87%) of recreational riders stayed within Washington State on their last recreational or social trip.
- On their last social/recreational trip, most riders boarded the ferry via a small auto (61%, below left).
- The vast majority (81%) of recreational riders took two crossings on the same route during their last trip. In addition, the median duration of riders' last social/recreational trip is two days.

Boarding Method of Last Recreational/Social Trip
(n=3,868)

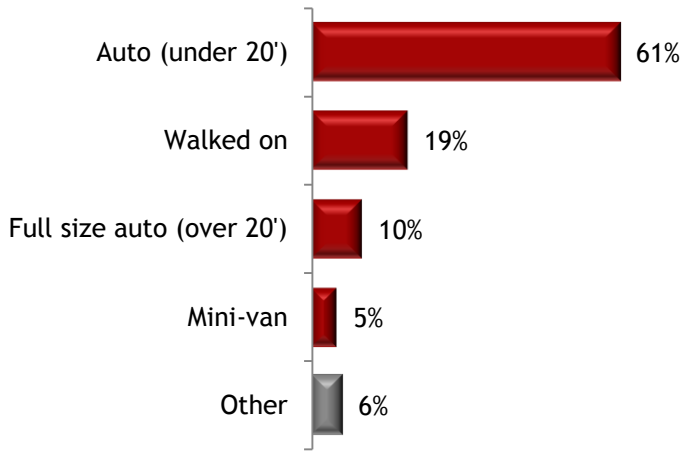


Figure 11: Recreational Boarding Method

Purpose of Last Recreational/Social Trip
(n=3,851)

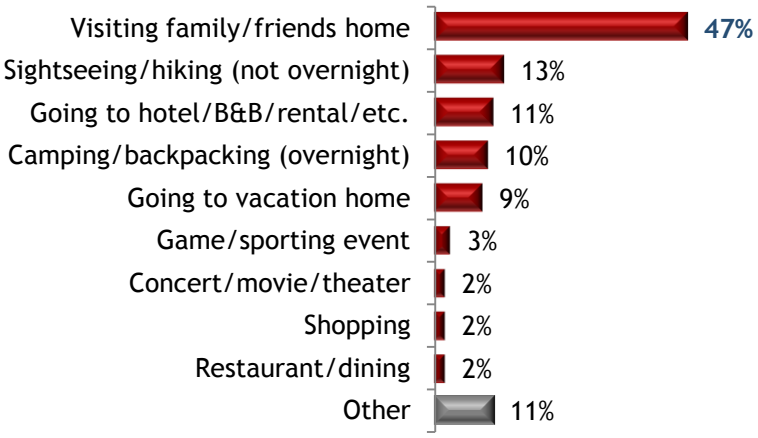


Figure 12: Recreational Trip Purpose

Recreational Ferry Usage

Respondents were also asked to identify the specific route they used and to gauge changes in their recreational ferry travel and their reasoning behind choosing to use WSF. Their answers to these questions are summarized below:

- Seattle/Bainbridge and Edmonds/Kingston are the most used routes for recreational/social travel (below right).
- When asked what best describes the reason for choosing WSF for their last recreational/social trip, riders most commonly mentioned that it was the fastest/most direct way or that there was no reasonable alternative (below left).
- Nearly all (98%) recreational riders say they are likely to consider WSF for recreational or social trips in the future, with 82% saying they "definitely will."
- When asked what WSF could do, other than lower fares, to increase recreational ferry trips, 21% mentioned increasing the number of ferry runs. Nearly one third (30%) did not identify an area in which WSF could improve.

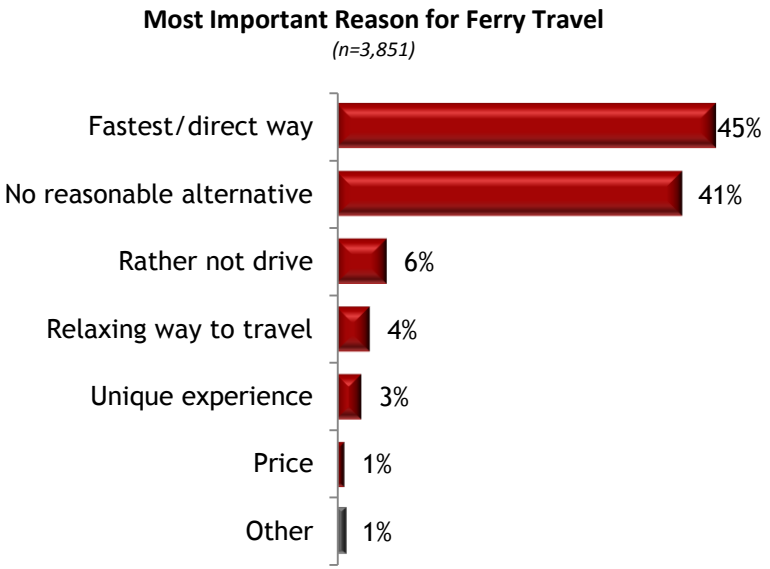


Figure 13: Reason for Ferry Selection

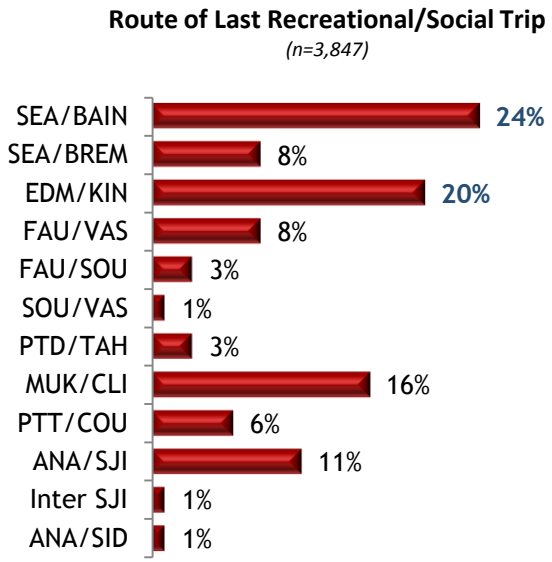


Figure 14: Recreational Route Taken

Change in Recreational Ridership

Those surveyed during the summer were asked to indicate any changes in their recreational, social or special event trips in which they used the ferry system between 2009 and 2010. In addition, respondents were asked to provide reasons for any increase or decrease of ferry use for any of these reasons.

- Two thirds say that the amount of social, recreational or special event trips in which they used the ferries has stayed the same compared to 2009, while nearly one quarter indicate travel for each has increased in the past year (below).
- Of those reporting an increase in recreational trips, "more activities/trips planned or more travel opportunities" (25%) and "experiencing more social interaction" (17%) were the top mentioned reasons for the increase.
- Of the 13% indicating a decrease in recreational trips, the most commonly mentioned reasons for the decrease include "too expensive" (35%), "economy/budget limitations" (17%) and "too much delay/dislike waiting in line" (14%).

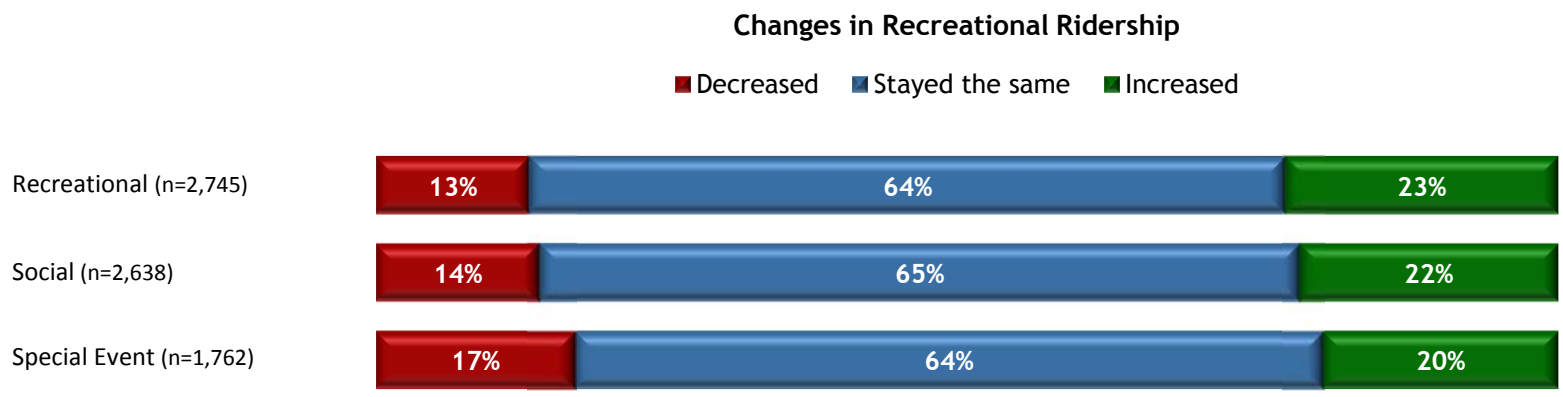


Figure 15: Changes in Recreational Ridership

ATTITUDES TOWARD TARIFF CHANGES

Attitudes towards Tariff Changes - Summary

Contains information regarding:

- Support for & implantation of higher non-resident fares
- Support for peak/non-peak price changes
- Single fare ticket pricing strategies
- Support for small car discounts
- Support & implementation of fuel surcharges
- Perceptions regarding operational costs
- Methods of raising new funds
- Reaction to privatization

Information gathered from the following surveys*:

Winter Ridership Survey

F.R.O.G. panel members and random riders/rides

Summer Ridership Survey

F.R.O.G. panel members and random riders/rides

Capital Funding Survey

F.R.O.G. panel members

Quick Poll – Fuel Surcharge

F.R.O.G. panel members

Quick Poll – Small Car Discounts

F.R.O.G. panel members

Quick Poll – Ferry Privatization

F.R.O.G. panel members

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings:

Understanding of Tariff Recovery

- Overall, among ferry riders, there is a great deal of misunderstanding regarding operational cost recovery.
  - Only 43% of ferry riders could correctly identify the major revenue source for covering WSF daily operational costs.
  - The same amount (43%) of ferry riders believe that the remaining operational costs not covered by fares are paid for by statewide gas taxes.

Funding of Operational Costs

- Almost three in five (57%) residents of the Puget Sound basin think that the daily operating expenses for WSF should be funded through a mix of ferry fares and statewide taxes.
  - Among those with the Puget Sound basin who think the daily operations should be funded through a combination of fares and taxes, those who have an opinion feel riders should pay 57% of the daily operating costs, on average.
  - On average, Puget Sound basin residents thinks that fares cover 44% of WSF's annual operating expenses (Eastside 43% vs. 51% Westside).

- On average, ferry riders who offered a guess at the percentage of ferry fare coverage, believe that ferry fares cover 58% of the WSF's annual operational costs.
- Half (50%) of ferry riders agree that two thirds is an appropriate amount; however, over one third (35%) feel that ferry fares should cover a lower percentage of operating costs and more gas tax dollars should be diverted from currently planned statewide transportation activities to support ferry operational costs.
    - However, it should be noted that 15% of ferry riders are willing to pay a higher percentage of operating costs.

- Westside residents in the Puget Sound basin are significantly more likely to think that fares should cover a smaller percentage than 2/3 of the operating costs (27% vs. 15%), where as Eastside residents think that fares should cover a greater percentage than 2/3 (26% vs. 13%) of operation costs.
    - Westside residents are significantly more likely to say "everybody" should pay and they are less likely to want "ferry users" to pay compared to Eastside residents.

Fuel Surcharge

- One third (36%) of all riders (winter and summer waves combined) are in support of a fuel surcharge to recoup some of the higher than expected fuel costs; 51% are against.
    - Summer riders are significantly more likely to support the fuel surcharge (40% vs. 33% winter).
- Just over one third (37%) of respondents support a fuel surcharge that is capped at 20% of the fare price, regardless of how much it covers the extra fuel costs;
    - Nearly half (46%) prefer applying the surcharge across all fares (both vehicle and passenger) equally.
    - Those who travel primarily for work or school are more strongly opposed to the fuel surcharge than those who travel for other purposes.

Higher Fares for Non-Residents

- One quarter (25%) of ferry riders are in support of introducing a higher fare on single trips for out-of-state ferry passengers, proposing an average fare increase of 21% for non-residents.
    - Of those in support of the program, three fifths (61%) remain supportive given the extra time that may be needed to verify residency.
- As expected, significantly fewer summer riders support the higher fares for non-residents, which is likely due to the larger number out-of-state recreational travelers completing the survey.

Summer Surcharge

- Ferry riders don't have a strong preference for or against summer surcharges. Ferry riders lean towards implementing the summer surcharge on either the single-trip vehicle fare only OR on all other fare types (includes multi-ride fares), but not a small increase on both.
    - A different way of stating this is, more than half of ferry riders want the surcharge shared by all riders.

Fare Strategies

- Almost two thirds (73%) of riders support a higher price for a single trip and 64% agree that summer single-fare tickets should be priced higher than winter single-fare tickets.
    - Those riders who travel more often are more supportive of a higher price for a single trip.
    - In general, support is higher for ferry riders in districts more proximate to Puget Sound (i.e., people are more reliant on ferries for transportation).
- Half (52%) of riders support charging an additional 10% over current summer single-fare prices during July and August as a way to manage wait times, while 33% oppose.
    - Nearly half (44%) of riders support a price increase of 5% during the peak summer period and a price decrease of 5% in non-peak seasons.
    - The greatest impact on rider behavior occurs at an increase of roughly 14%.

Support for Fare Discounts and Surcharges

In order to accurately gauge public support for potential pricing strategies, riders were asked several questions regarding pricing changes that either have been, or could be implemented to attempt to manage wait times and the flow of annual income. Many questions were asked only of those completing the summer survey, but questions were also asked through F.R.O.G. quick polls. The reason for asking these questions during the summer wave was that those would be the riders most likely impacted by the fare increases.

- Two thirds (73%) of summer riders feel that a single-fare ticket should be priced higher than the same trip for a frequent rider/multi-ride card holder.
- A slightly smaller amount of riders (64%) agree that a single-fare ticket should be priced higher during the summer months than the same ticket in winter months. Of these, half (52%) believe that WSF should charge an additional 10% over current summer single-fare ticket prices as a way to manage wait times during the months of July/August.
- Only one quarter of riders support introducing higher fares for out-of-state ferry passengers (next page, fig. 16). Support is significantly lower for riders during the summer months. Of those who support the increase, riders propose non-residents be charged, on average, 21% more than residents.
- Nearly half (44%) would support congestion pricing strategies if they involved only 5% fee changes between peak and off-peak ticket pricing during the summer season (next page, fig. 17).
    - With a 5% peak fare increase in the summer, 52% wouldn't change behavior. However, at a 25% increase, significantly fewer (32%) people wouldn't change behavior, meaning that the bigger the peak fare increase during the summer, the more likely riders are to change behavior.
- A quick poll of both panel and non-panel members indicates that 57% of riders support a small car (<20') discount, while slightly increasing fares for all other vehicle categories as a way to manage vehicle demand and congestion.

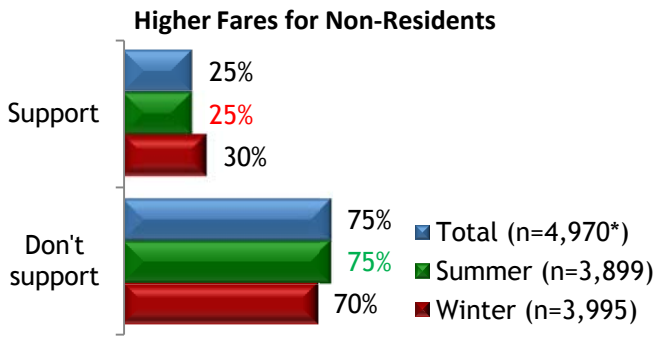


Figure 16: Non-Resident Fare Increase *Differs due to weighting

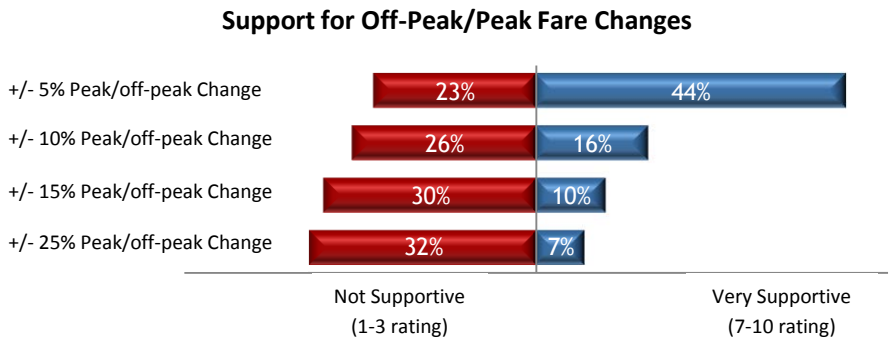


Figure 17: Peak Fare Pricing Change Support

Impact of Peak Time Price Increases*	5% Change *(n=2,713)*	10% Change *(n=2,713)*	15% Change *(n=2,713)*	25% Change *(n=2,713)*
I wouldn't change anything	52%	46%	39%	32%
Fewer vehicle trips during peak times; more during off-peak times	**27%**	**35%**	**42%**	**48%**
About the same trips during peak times; walk on more often	5%	5%	4%	3%
More vehicle trips during peak times	1%	1%	1%	1%
No impact; I don't take vehicle trips during peak times	14%			
No impact; this is the only ferry trip of the summer	1%			

Table 2: Off-Peak/Peak Pricing Effects on Travel Behavior

*Scenarios indicate price increases during the peak times, and decreases in the off-peak times

Attitudes Toward Proposed Fuel Surcharges

Currently, fare prices are not structured to cover increasing fuel costs. Riders were asked to indicate their support of a fuel surcharge to help recover some of the higher than expected fuel costs.

- Overall, 36% of riders surveyed during both the summer and winter months support the implementation of the fuel surcharge, with nearly one third (31%) "very against" the use of a surcharge to lessen the blow of high fuel costs.
- When asked at what point the potential fuel surcharge should be capped, the most common response was 20% of the fare price, regardless of how much of the additional fuel costs it covers. Only 11% feel there should be no maximum and the surcharge should cover all of the added cost of fuel.
- Finally, nearly half (46%) of all riders feel that if implemented, the fuel surcharge should be applied equally across all fares, both for vehicle and passenger tickets.
- F.R.O.G. panel members who responded to a quick poll believe that unplanned increases in fuel costs should be covered by transferring additional gas tax state subsidies to ferries (41%) or by adding a fuel surcharge of up to 20% (12%). Nearly one quarter (21%) feel the increases should be covered by some combination of sources.

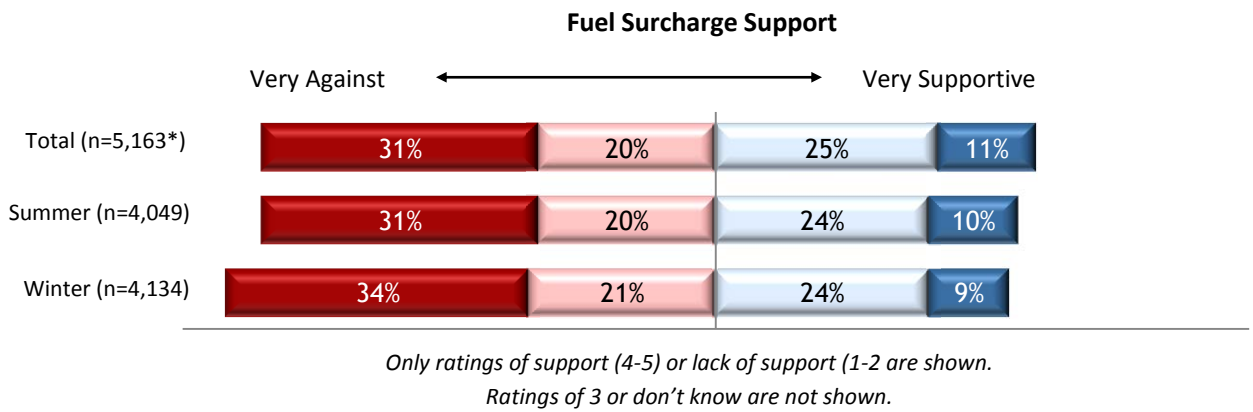


Figure 18: Fuel Surcharge Support

*Differs due to weighting

Operational Costs and Privatization

Respondents were asked to first indicate their perception of operational cost sources. Secondly, their opinions were solicited as to how the remaining funds are raised to cover costs, as well as new methods of raising funds, the most dramatic of which would be full privatization of the ferry system.

- When asked, only 43% of riders correctly identified the source of WSF's daily operational costs (below left), while winter survey riders underestimated the total percentage of operational costs covered by ferry fares by an average of 8% (actual coverage 66%).
- Half (50%) of riders feel that the current two thirds of operational costs covered by fares is an appropriate amount. One third (35%) feel that fares should cover a lower percentage of WSF's total operational costs.
- Two in five (43%) riders believe the remaining operational costs are covered by funds raised from the statewide gas tax (below right).
- When presented with the idea of privatizing the currently state-run ferry system in a quick poll, over half (54%) have a negative initial reaction, and feel that it is a bad idea. Nearly one quarter (21%) feel that privatization of the system makes sense.

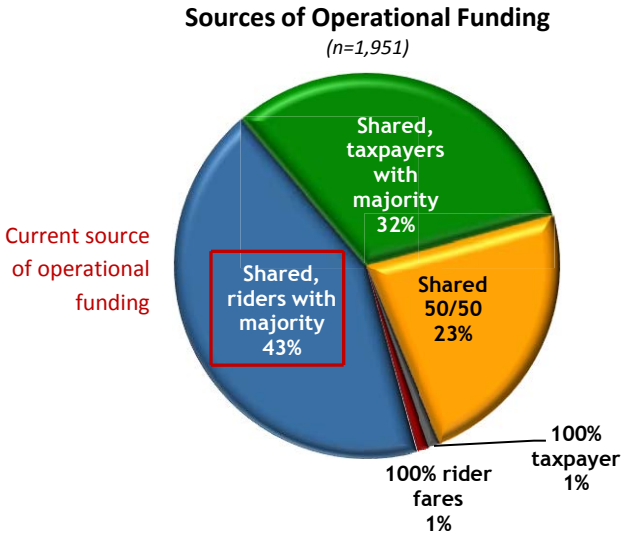


Figure 19: Perceived Sources of Operational Funding

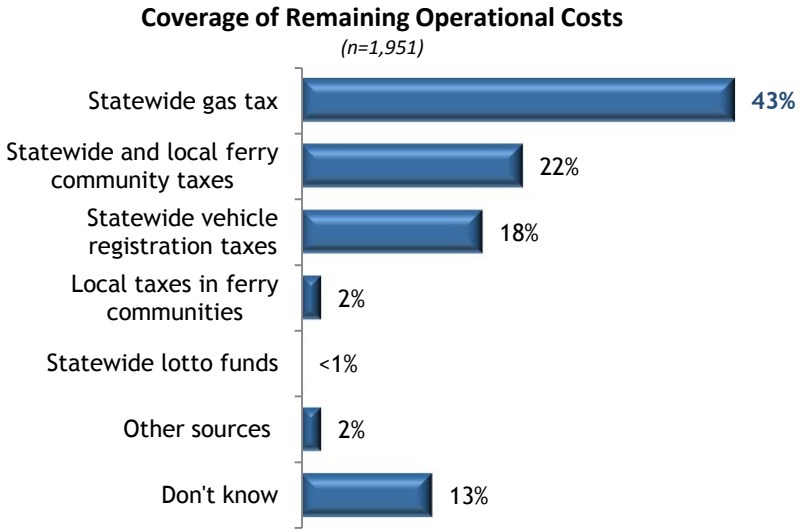


Figure 20: Perceived Sources of Operational Funding After Fares

ATTITUDES TOWARD CAPITAL FUNDING

Attitudes towards Capital Funding - Summary

Contains information regarding:

- Sources of capital funding
- Preferred distribution of sources of capital funding
- Recommended use for capital funding needs
- Support for capital funding methods
- Support for fare recovery methods
- Fare increases for larger vehicles

Information gathered from the following surveys*:

Capital Funding Survey

F.R.O.G. panel members

General Market Assessment

Random sample of Puget Sound residents

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings:

Who Should Fund WSF Capital Need

- General residents in the Puget Sound basin are divided in roughly thirds when it comes to who should pay for capital investments (33% everyone; 30% Puget Sound residents; 26% ferry users).
- Sixty percent (60%) of ferry riders support increasing the statewide gas tax to fund the capital needs of the ferries; 35% "completely support" such an increase.
    - Forty-four percent of ferry riders support increased vehicle registration fees; 37% a new tax in Western Washington ferry-served communities, and 33% a new statewide tax dedicated to funding ferry capital needs.
- Ferry riders believe that $.40 of each WSF capital funding dollar should come from an increase in statewide taxes, such as gas or sales tax; $.17 should come from local taxes in ferry-served communities, $.15 from increased fares, $.09 from lowering operating costs by cutting service, and $.19 from miscellaneous other sources.
- According to ferry rides, increasing the statewide sales tax and introducing a fare surcharge to fund capital needs have the lowest support.

Riders Understand of the Capital funding Problems

- Overall, among ferry riders, there is a great deal of misunderstanding regarding the state of WSF capital funding.
  - Only 43% of ferry riders correctly identify the major revenue source to cover WSF daily operational costs and even fewer (30%) correctly identify the source of WSF capital funding.
  - Two in five (43%) of ferry riders believe that the remaining operational costs not covered by fares are covered by statewide gas taxes and 32% believe that coverage for WSF's capital needs comes from statewide gas taxes.
  - One quarter (24%) of ferry riders believe capital funds are never diverted to cover operational costs and one third (33%) don't know for sure.
  - One third (34%) of ferry riders believe the WSF has no spare boats, however, 15% say they have 1 spare boat and 17% say 2 spare boats.
- More than one third (39%) of ferry riders say the $4 billion needed for capital funding is over-exaggerated; however, 35% believe that the quoted deficit is probably accurate.
- Seven in ten (71%) ferry riders feel that funding for WSF's capital needs is a major problem, with 30% believing it needs to be dealt with immediately and the balance stating that it needs to be addressed in the next 2-5 years.
  - Roughly three fourths (72%) of ferry riders agree that the existing ferries are in need of major repairs or replacement and 62% think WSF needs more boats.

Recover Rate Increase

- Nearly two thirds (62%) of ferry riders support increasing the fare coverage of operational costs –
  - 24% say the recovery rate should be 70%,
  - 22% say 75%,
  - 8% say 80%,
  - 2% say 90%,
  - 3% say fares should cover all operating costs; and
  - 38% do not support any increase above the current 65% recovery rate.
- Of those ferry riders who support an increase in the recovery rate, 63% suggest as reasonable raising fares an additional 3% per year until the higher recover rate they suggested is achieved.

Fare Surcharges for Capital Funding

- Nearly half (45%) of ferry riders would completely support charging an additional $.10 per fare with the monies collected being dedicated for capital improvements.
- Support for changing the vehicle length surcharge threshold from over 20' to over 14' – 16' is low, with 52%-60% indicating their lack of support for such policies.

Public Perceptions of Capital Funding

Before being exposed to the actual sources and distribution regarding capital funding and operational expenses, respondents were asked to indicate how they believe WSF raises capital funding and distributes funds. In addition, riders were later asked their opinions regarding WSF's current capital funding situation.

- Less than one third (30%) correctly identified the source of WSF capital funding as being completely financed by taxpayer dollars (below left).
- One third (32%) of riders believe that coverage of WSF's capital needs comes from statewide gas taxes, while 26% believe those needs are covered by a combination of statewide and local ferry community taxes (below right).
- One quarter (24%) of riders think that capital funds are never diverted to cover operational costs. Another third (33%) don't know for sure whether WSF diverts capital funds.
- When exposed to the current capital funding problem ($4 billion in needed additional funding over 22 years), 39% feel the need for capital funding is over exaggerated. However, one third (35%) believe the deficit is probably accurate.

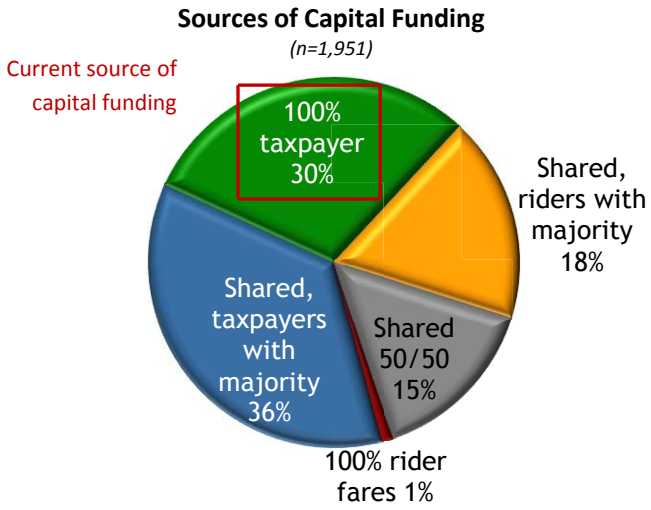


Figure 21: Perceived Sources of Capital Funding

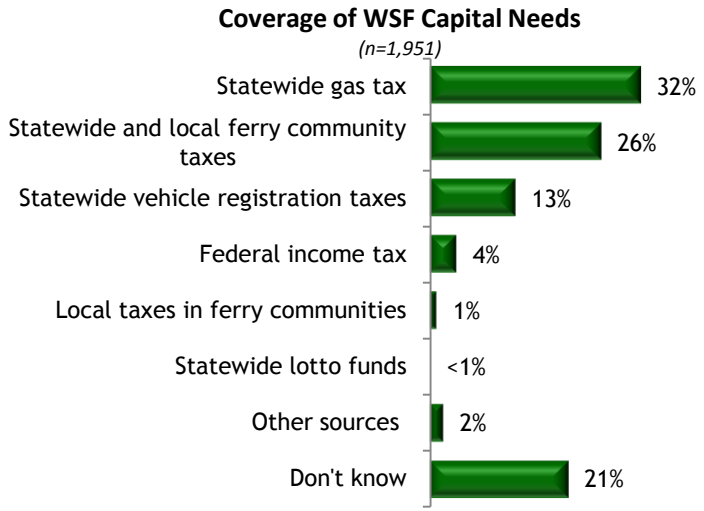


Figure 22: Perceived Coverage of WSF Capital Needs

Perceived Depth of Capital Funding Issues

Riders were asked to answer several questions regarding WSF's current capital funding situation, as well as more general topics relating to the ferry system and the use of capital funds. It was found that:

- A large portion of ferry riders (71%) feel that funding for WSF's capital needs is a major problem, with one third (30%) thinking it needs to be dealt with immediately and 41% stating that it needs to be addressed within the next 2-5 years (below left).
- Roughly three fourths (72%) agree that the existing ferries are in need of major repairs or replacement. Additionally, 62% feel that the ferry system is in need of more capacity, including more boats and/or sailings (below right).
- Riders feel that the routes in most need of more boats to accommodate traffic include:
  - Edmonds/Kingston (26%)
  - Port Townsend/Coupeville (25%)
  - Seattle/Bremerton (20%)
  - Seattle/Bainbridge (20%)
- Routes indicated as in need of terminal work to provide more efficient service are:
  - Seattle/Bainbridge (27%)
  - Mukilteo/Clinton (24%)
  - Edmonds/Kingston (23%)

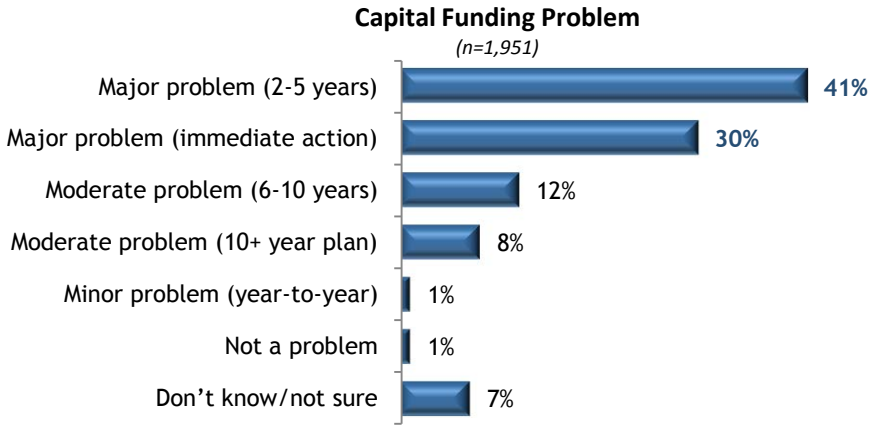


Figure 23: Perceived Significance of Capital Funding Problem

Current WSF Status *n=1,951*	% Agreeing
The existing ferries are in need of major repairs or replacement	72%
Many of the current service interruptions are the result of the lack of WSF capital funding	63%
There are ferry terminals that need to be enlarged and/or redesigned to provide more efficient service	63%
The ferry system is in need of more capacity/more boats/more sailings	62%

Table 3: Current WSF Status/Needs

Capital Funding Methods & Distribution

Riders were asked their opinions regarding potential new sources of capital funding. Overall support and suggested distribution of incoming capital funds were derived for each of the proposed methods.

- Of the general public, 57% think that WSF's daily operating expenses should be funded through a mix of ferry riders and statewide taxes (below left). Among these, it is believed that the ferry riders should pay, on average, 57% of the daily operating expenses.
- When asked to distribute the cost of capital funding among different sources, ferry riders believe that 40% (or $.40 of each capital funding dollar) should come from an increase in statewide taxes, such as gas or sales tax (below right).
- Three in five (60%) riders would recommend increasing the statewide gas tax in order to fund the capital funding needs of WSF. Only 20% would recommend increasing the statewide sales tax, while 6% feel that no increases should be implemented.

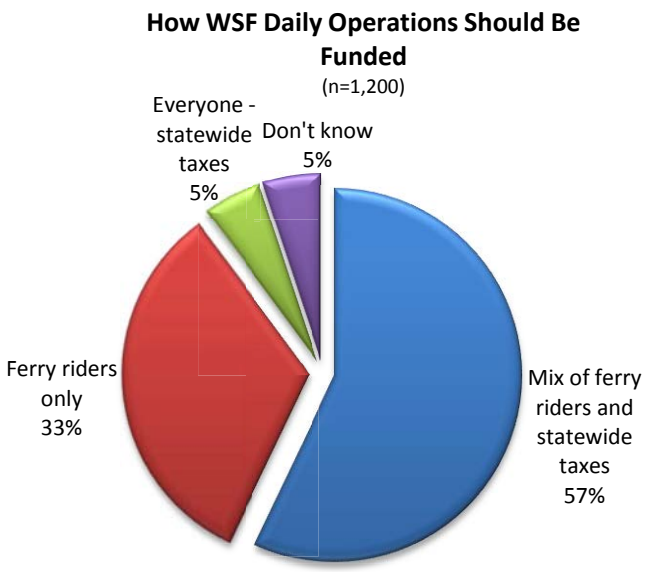


Figure 24: Suggested Source of Capital Funding

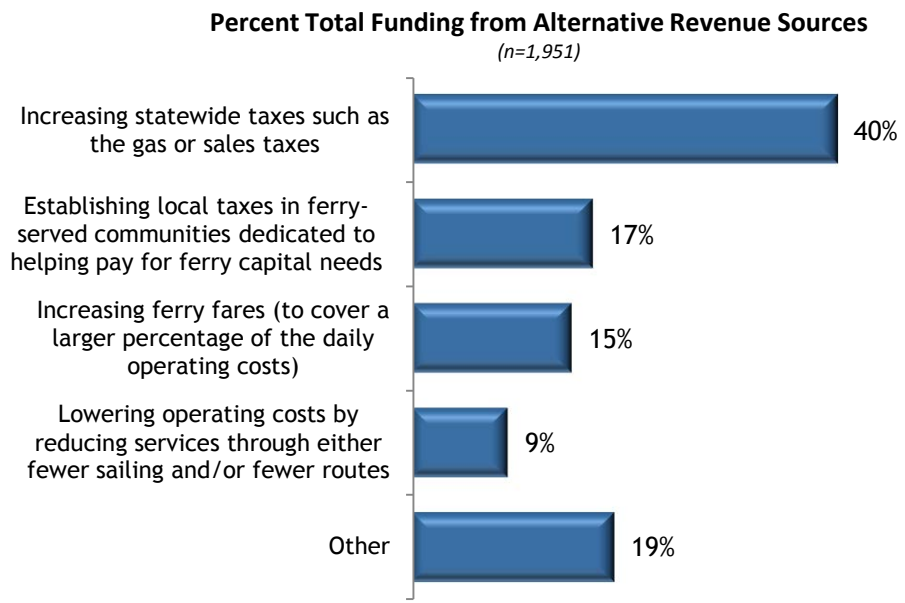


Figure 25: Capital Funding from Alternative Revenue Sources

Capital Funding Recommendation & Support

Riders were also asked to indicate if they would recommend the use of certain sources to fund the capital needs of the ferries, and then rate their overall support of several different capital funding methods.

- Three in five (60%) riders would recommend increasing the statewide gas tax in order to fund the capital funding needs of WSF. Only 20% would recommend increasing the statewide sales tax, while 6% feel that no increases should be implemented.
- Of the proposed capital funding methods, increasing the statewide gas tax garnered the most support, while a surcharge on ferry fares and an increase of the state's sales tax received the lowest support from ferry riders (below).

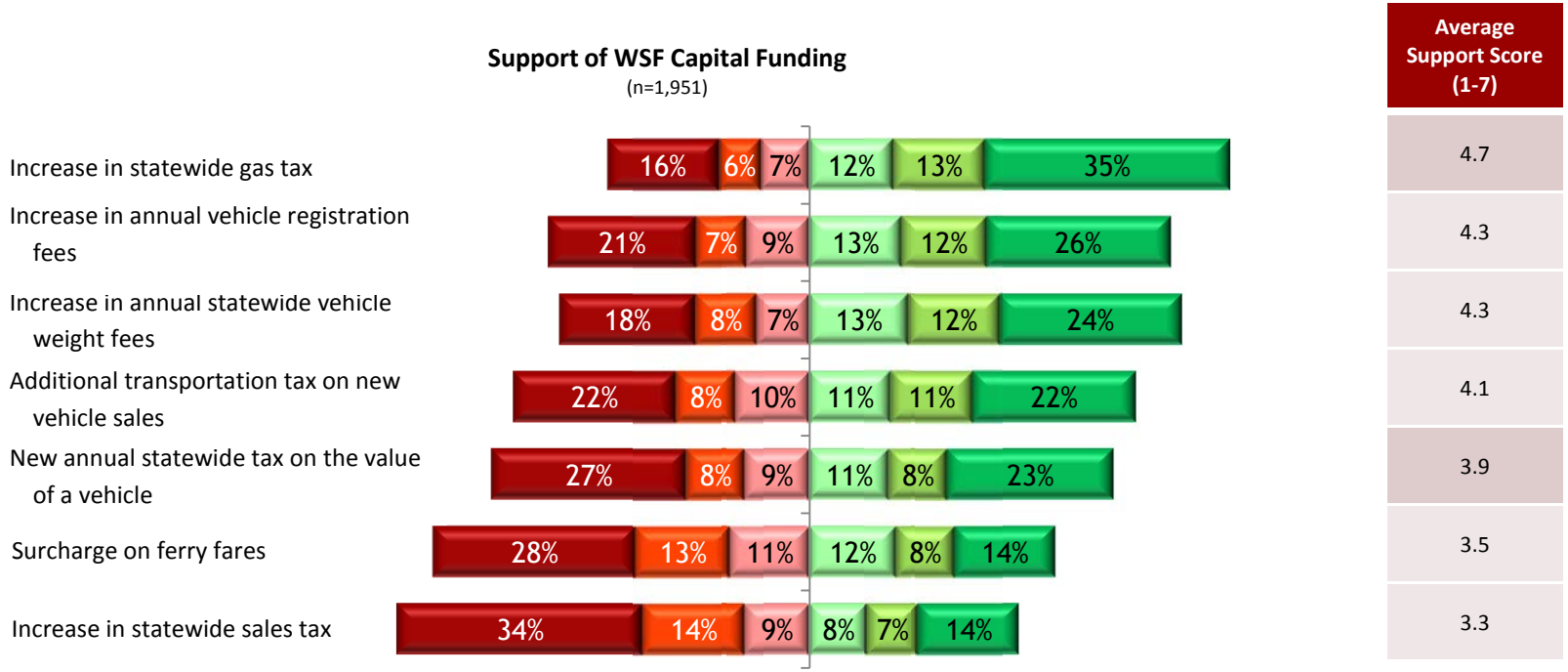


Figure 26: Support for Capital Funding Sources

Capital Funding & Fare Recovery

One of the strategies to help cover more of WSF's operational costs is fare increases or differentiated pricing schemes. Fare recovery refers to the coverage of operational costs by fare revenues in order to free up money for capital projects. Respondents were asked to rate their support and preferred implementation method of the proposed fare recovery options. In addition, riders' support was determined for fare pricing changes based on vehicle size, as a way to reduce the need for more or larger boats.

- One third (32%) of Puget Sound residents feel that capital investment funds should be raised from everyone in the state. Another 30% feel only Puget Sound residents should fund capital investments, while 26% selected only ferry users.
- Over half (59%) of riders agree that fares should be increased to cover more of the daily operating costs incurred by WSF (below left).
- Of those riders who support an increase in recovery rate, the average suggested annual fare increase is 4.3%. Two thirds (64%) of riders feel a 3% fare increase per year would be reasonable (below right).
- Nearly half (45%) of riders would "completely support" a $.10 per fare increase (69% overall support), with the monies collected being dedicated to funding capital improvements. Just 21% do not support the implementation of the $.10 per fare price increase.
    - Rider support is significantly lower for other fare recovery strategies, such as a multi-rider ticket always costing 20% less than a single fare ticket (22%) or charging an additional $1-5 per vehicle ticket or $.50 per passenger ticket (16%).
- Support among riders for introducing a 25% higher fare for vehicles 14' or 16' or longer is low (22% and 28%, respectively).

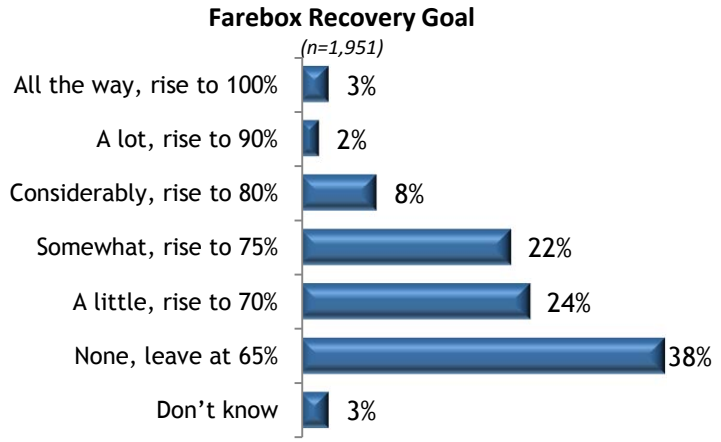


Figure 27: Farebox Recovery Goal

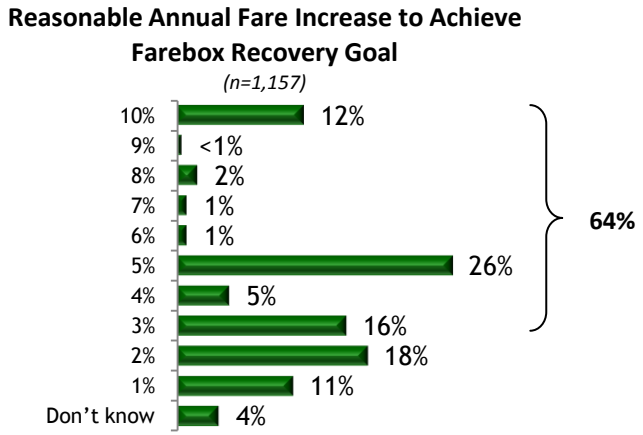


Figure 28: Reasonable Annual Fare Increase to Achieve Farebox Recovery Goal

RELIEVING PEAK VEHICLE CONGESTION

Relieving Peak Vehicle Congestion - Summary

Contains information regarding:

- Ability/willingness to change travel habits
- Impact of better transit services on boarding method
- Impact of discounts/tariffs on travel habits
- Reservation program support
- Expected use of reservation program
- Most important features of proposed reservation program

Information gathered from the following surveys*:

Winter Ridership Survey

F.R.O.G. panel members and random riders/rides

Summer Ridership Survey

F.R.O.G. panel members and random riders/rides

Mode Shift

F.R.O.G. panel members

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings:

Impact of Key Attribute on Relieving Peak Vehicle Congestion

- When peak vehicle drivers evaluated the responses to the mode shift trade-off exercise, three in four (73%) selected the same mode in 10 or more of the twelve choice sets and 40% selected the same mode option in all twelve sets. Meaning that many peak vehicle drivers are not likely to change peak drive-on behavior under the conditions tested.
- **Boarding mode:** Boarding mode has the greatest impact on peak vehicle drivers' decisions regarding how and when they travel on the ferry. The four general boarding modes tested were 1) Continuing to drive-on at peak, 2) Switching to walk-on at peak, 3) Switching to driving on before the peak period or 4) Switching to driving on after the peak.
    - Overall, behavior is dominated by the impact of the general boarding mode used - it carries twice the weight of any other attribute tested.
    - Boarding mode shows a higher impact for discretionary than non-discretionary trips, which likely indicates that commuters see fewer options for mode shift than people travelling for other purposes.
- **Mode fare** charged is a greater consideration to discretionary than non-discretionary peak vehicle drivers indicating that they are less price sensitive.

- The impact of the mode fare charged is approximately equal to whether you will have additional wait time if you drive-on at peak, indicating that price is not the only driver of behavioral change for on-peak vehicle drivers.

- **Time of Sailing:** More impactful than a 25% increase in fares is an additional one/two ferry boat wait for peak vehicle drivers.
  - By increasing the wait time to one or two sailings during peak hours, there could be a 10-13% point decline in peak drive-on behavior with the majority switching to walk-on and off-peak drive-on. This shows the relative importance of service (runs) over fares to peak vehicle drivers.

Elasticity of Fares for Peak Vehicle Drivers:

- Similar to the 2008 elasticity of demand findings, peak vehicle drivers appear fairly price inelastic. In other words, a 1% fare increases will not cause a 1% decline in overall ferry ridership.
  - Only 2 percentage points more "would not use" the ferries even if a 25% across the board fare increase was enacted.

Impacts of Different Simulations on Peak Vehicle Demand

- **Across the board fare increase simulation:** Increasing all vehicle and walk-on fares for peak or off-peak travel by the same percentage doesn't significantly change peak vehicle drive-on behavior.
  - A 10% across the board fare increase doesn't impact travel behavior significantly, as the study found only a 1 percentage point decrease in peak vehicle usage.
  - A 25% across the board fare increase would produce a 3 percentage point decrease in total ridership.
  - More discretionary peak vehicle drivers would stop using the ferries than their non-discretionary counterparts if there is a 25% across the board fare increase (5 vs. 3 percentage point decrease in ferry ridership respectively).

- **Increase in only peak drive-on fares simulation:** A 25% increase in only peak vehicle fares will create an 8 percentage point decrease in peak period vehicle usage.
  - When faced with a 25% peak vehicle fare increase, peak vehicle drivers will switch to off-peak vehicle travel rather than stop using the ferries.
  - There is little change in both walk-on at peak and the "would not travel by ferry" percentage with a 25% peak vehicle fare increase.
  - The increase in "would not ride" is similar for both discretionary (2 percentage point increase) and non-discretionary (1 percentage point increase) riders when only peak drive-on fares are increased.

- **Increase peak drive-on wait time simulation:** More impactful than a 25% increase in fares is an additional one/two ferry boat wait for peak vehicle drivers.
    - Increasing the wait time experienced by peak vehicle drivers by one or two sailings could decrease peak vehicle traffic by 10 to 13 percentage points with the majority switching to walk-on and off-peak drive-on.
    - This shows the relative importance of service (runs) over fares to peak vehicle drivers.
- **Congestion Pricing Simulation:** Peak vehicle drivers would not stop using the ferry system, but 4 percentage points more would switch to walk-on/off-peak travel if the peak drive-on fares went up 15% while walk-on and off-peak fares went up by 5%.
    - The decrease in drive-on at peak behavior is greatest among discretionary vs. non-discretionary riders (4 vs. 2 percentage point decline).

Impact of Off-Peak/Peak Fare Changes

- As expected, more respondents say they would take fewer trips during peak times and more during off-peak travel times as the pricing differential grows between the periods.
    - Almost half (48%) of all riders indicated that they would do so at the -/+25% price change (off-peak/peak) point.
    - More than half (52%) say their travel habits would remain unchanged if a -/+5% pricing change were implemented between off-peak and peak.
- On average, a 1% increase in fares spread between on and off-peak will reduce peak-period vehicle travel by 1.4%.

Reservation System

- Rider support for the proposed reservation system is split, with 49% in favor and 51% opposed.
- If a reservation system were in place, 29% of riders say they expect to use the system rarely (a few times per year or for recreational purposes only).
    - Nearly one quarter (22%) indicate they would expect to use the reservation system every time they rode the ferry.
- Availability of enhanced information/signage before arriving at the terminal is the most important feature of a potential reservation system (73%).

Transit Connections

- More than one third (36%) of ferry riders would change their peak walk-on behavior if "better transit services and more reliable connections" were available. For those riders who would change, peak walk-on trips would be increased by an average of 37%.
    - Walk-on riders are more likely than drive-on riders to alter the behavior and walk on more often if better transit connections were available.
    - One quarter of ferry riders currently "always walk on" during peak periods.

Impact of Off-Peak/Peak Fare Changes

Riders were asked to indicate their potential reaction and changes in travel habits to several pricing scenarios that could be put in place to help relieve peak-time traffic and wait times. The table below outlines riders' reactions to the proposed pricing changes. The percentage changes represent a price increase during peak travel times, with a corresponding percentage price decrease during off-peak travel times.

- On average, a 1% increase in fares spread between on and off-peak will reduce peak-period vehicle travel by 1.4%.
- Over half (52%) indicate they would not change anything about their travel habits if a -/+5% pricing change was implemented between off-peak and peak.
- As the pricing differential grows between peak and off-peak times, more respondents say they would take fewer trips during peak times, and more during off-peak times. Nearly half (48%) selected this option at the -/+25% price change (off-peak/peak) point.

Support Off-Peak/Peak Fare -/+ Changes during period*	-/+5% Change (n=2,713)	-/+10% Change (n=2,713)	-/+15% Change (n=2,713)	-/+25% Change (n=2,713)
I wouldn't change anything	52%	46%	39%	32%
Fewer vehicle trips during peak times; more during off-peak times	**27%**	**35%**	**42%**	**48%**
About the same trips during peak times; walk on more often	5%	5%	4%	3%
More vehicle trips during peak times	1%	1%	1%	1%
No impact; I don't take vehicle trips during peak times	14%			
No impact; this is the only ferry trip of the summer	1%			

Table 4: Impact of Peak/Off-Peak Pricing Changes

*Scenarios indicate price increases during the peak times, and decreases in the off-peak times

Reservation System Support & Feature Importance

Riders completing the summer survey were asked for their opinions regarding a potential reservation system that could be implemented by WSF. Riders provided their thoughts on overall support as well as the specific features they would prefer to be included in the development of a ferry reservation system.

- Riders are split in their support for a reservation system, with 49% in favor and 51% opposed to the implementation of the program.
- When asked how often they would use the reservation system if it were in place, the top mentioned (29%) response was rarely – a few times per year or for recreational trips only – by riders (below left) while the next group mentioned every time (22%).
- Riders feel that enhanced information/signage being available before arriving at the terminal (73%) is the most important feature of the proposed reservation system (below right).
- The least popular features of the program include non-commuter sailings available for reservation 6 months in advance (25%) and a maximum of 90% of capacity available for reservation during peak travel periods (33%).

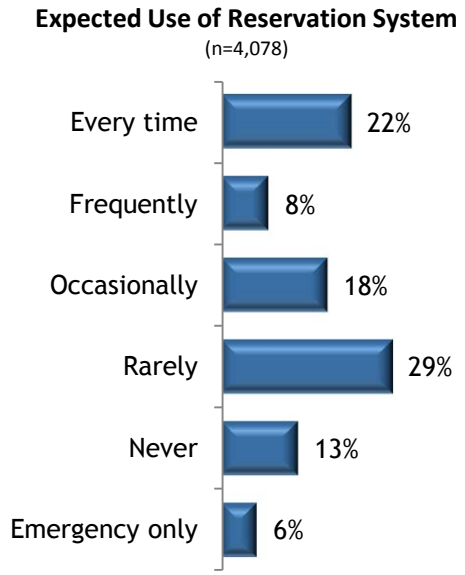


Figure 29: Expected Use of Reservation System

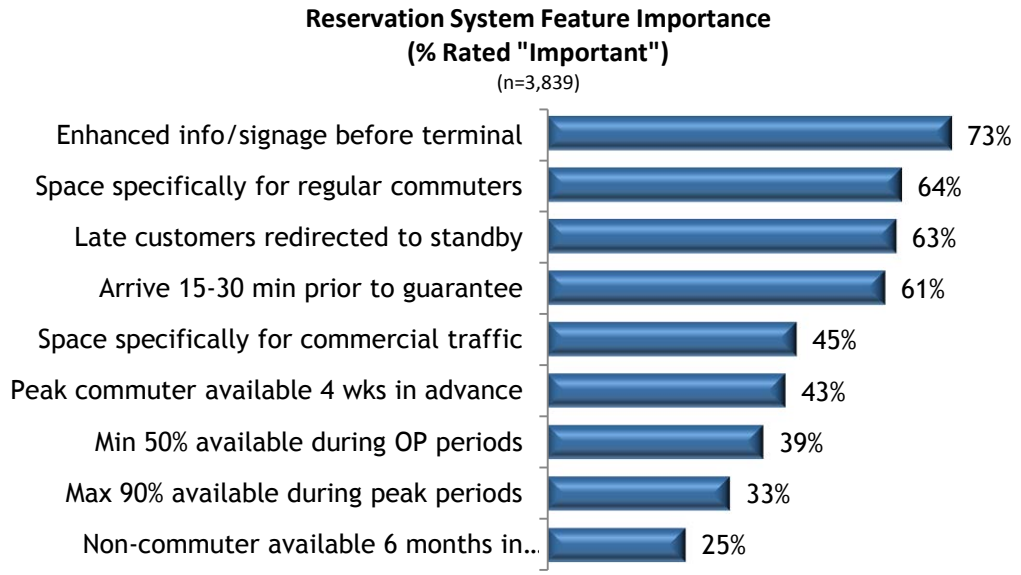


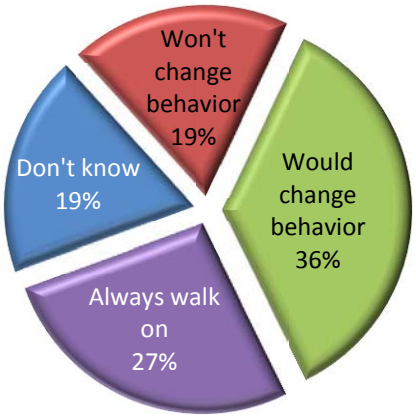
Figure 30: Reservation System Feature Importance

Transit Services Impact on Peak Travel

In an attempt to better understand factors influencing riders' overall frequency of ridership, questions were asked regarding transit services and their impact on travel during peak times.

- More than one third (36%) of ferry riders, who travel during peak hours, would change their boarding behavior if "better transit services and more reliable connections" were available (below left).
- Walk-on riders are more likely than drive-on riders to alter the behavior and walk on more often if better transit connections were available.
- Over half (57%) of ferry riders relate better terminal to destination connections and better transit schedules to "better transit services and more reliable connections."
    - It appears that more improvements are needed on destination side than the "home" side ("Better home to terminal connections" are mentioned by 35%).

Impact of Better Transit Services & More Reliable Connections on Peak Trips
(n=3,502)



- **On average, ferry riders would increase their peak walk-on trips by 37% if "better transit services and more reliable connections" were available.**
- **Of these trips, 47% would be for commuting purposes.**

Figure 31: Impact of Better Transit Services on Travel Behavior

Mode Shift – Background and Methodology

The key question addressed by the mode shift research is how do ferry riders trade-off boarding mode, time of sailing, and price. To answer that question, a choice-based conjoint exercise was utilized and a market simulator developed to forecast rider behaviors. A simulator based on choice-based conjoint analysis is a statistical technique used in market research to determine how people value different features that make up an individual product or service. The choice-based conjoint exercise employed to build the simulator included the following variables:

- Ferry fares – Different levels (ranging from +25% to -20%) from current fares for driving on during peak (congested periods), driving on before/after peak, and walking on during peak;
- Wait time before boarding for on-peak drive-on trips, with levels of the same as the respondent's reference trip, one sailing more, and two sailings more;
- Wait time before boarding for walk-on and off-peak of 5 minutes;
- Departure time for walk-on trips, with levels of the same as the respondent's reference trip, one sailing earlier, and two sailings earlier; and
- Departure time for off-peak drive-on trips, either the first sailing before or the first sailing after the peak period.

For the walk-on option, different levels of origin and destination-side travel were included:

- Origin side: Dropped off at the terminal, parking at either $4 or $8/day, or shuttle to a transit center.
- Destination side: Free shuttle to transit or parking for a 2nd car at either $4 or $8/day.

Interestingly, but not unexpected, a large proportion of respondents (73%) selected the same mode option in 10 or more of the twelve choice sets; 40% selected the same mode option in all twelve sets. There are two plausible explanations for these results:

- Ferry riders who drive on during peak hours either cannot or won't change their travel behavior, or
- The changes tested were within the riders' tolerance levels (i.e., there wasn't a big enough reward or pain inflicted, so riders stayed with current behavior).

The following pages present the findings of the Mode Shift Survey, including riders' willingness and likelihood to alter travel behavior based on several different scenarios.

Impact of the Attributes Tested on Peak Vehicle Drivers' Behavior

- The bars show the relative "power" of each of the attributes tested on peak vehicle drivers' behavioral change. The higher the number, the more weight it has relative to the other attributes.
- Overall, behavior is dominated by the impact of the mode used (drive-on at peak, walk-on at peak, or drive-on before/after peak) - it carries twice the weight of any other attribute tested.
- The decision on what mode to use is more important to those traveling for discretionary than non-discretionary purposes, which could mean that commuters are less willing to use multiple modes than non-commuter riders. Also, the mode fare charged is a greater consideration to discretionary than non-discretionary riders, indicating that commuters are less price sensitive due to their overriding need to get to their destination at a fixed time.

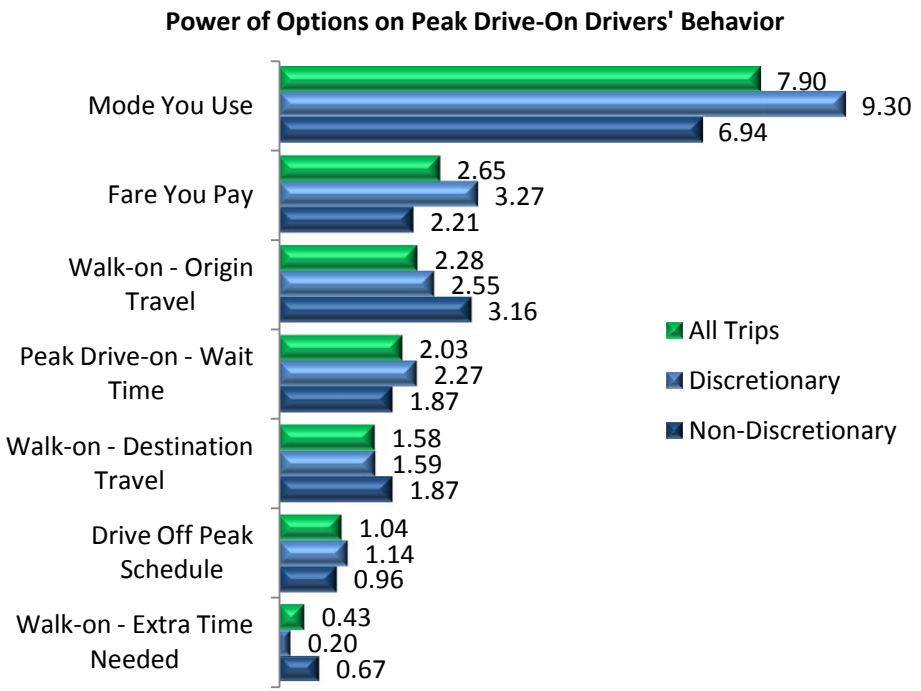


Figure 32: Power Options of Attributes on Drivers' Behavior

Simulator Result: *Across the Board Fare Increases*

- Raising drive-on and walk-on fares by the same percentage does not change the mode peak vehicle drivers will use. However, the overall result of the 25% fare increase could be a 3 percentage point decrease in total ridership.
- More discretionary peak vehicle drivers would elect to not use the ferries than non-discretionary riders if the fare is raised across the board.

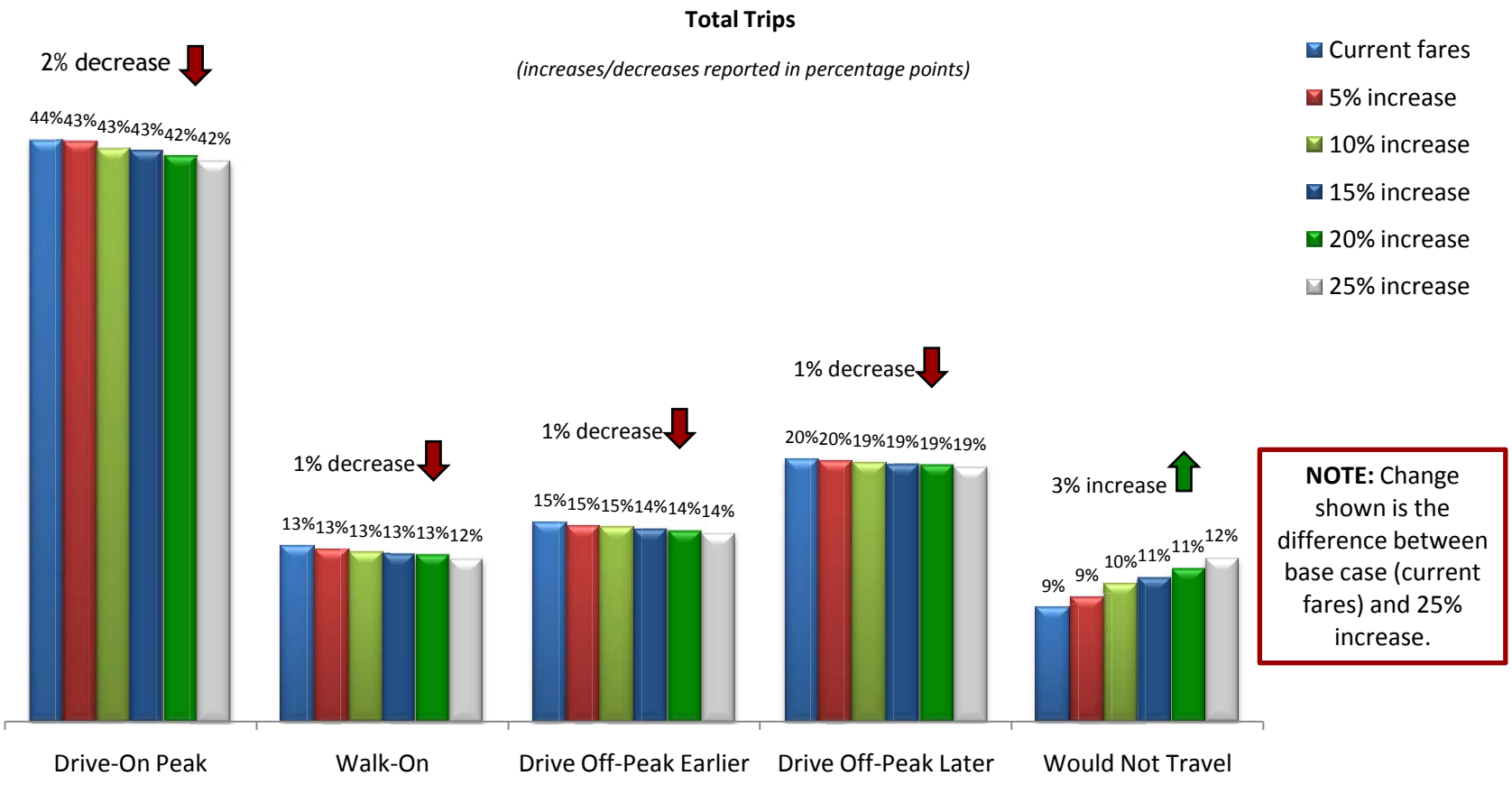


Figure 33: Impact on Behavior: Across the Board Fare Increases (Total Trips)

Simulator Result: *Increase in Only Peak Vehicle Fares*

- By increasing only peak vehicle fares, there is an 8 percentage point decrease in peak period vehicle usage with increases in off-peak drive-on behavior and little change in the "would not travel" and "peak walk-on" percentages.
- Increasing only peak vehicle fares moves slightly more discretionary riders to off-peak travel than their non-discretionary counterparts (7 vs. 4 percentage points, respectively).

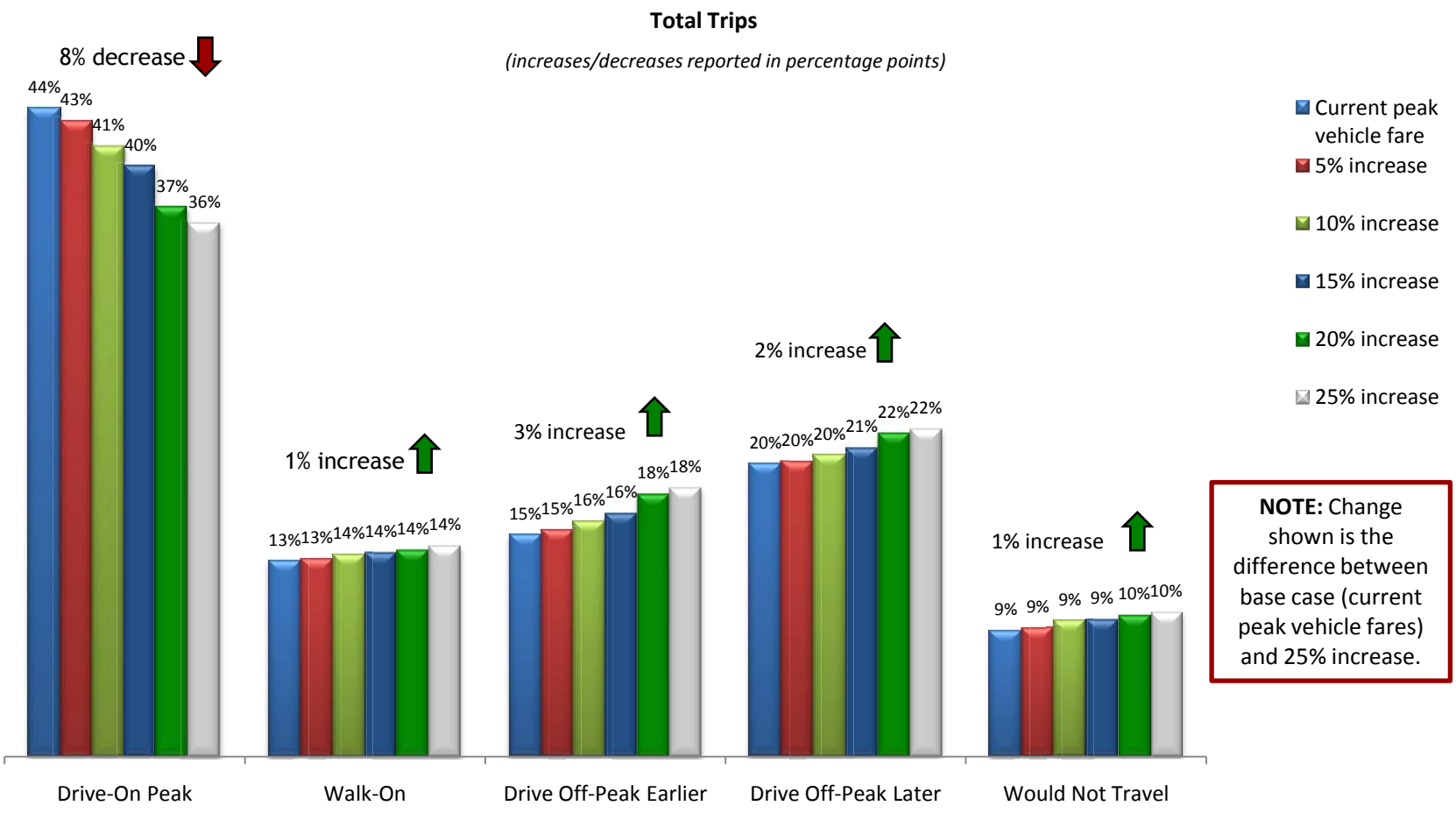


Figure 34: Impact on Behavior: Increase in Only Peak Drive-on Fares (Total Trips)

Simulator Result: *Increases in Wait Time for Peak Vehicle Drivers*

- More impactful than a 25% increase in fares is an additional one/two ferry boat wait for peak vehicle drivers.
- By increasing the wait time to one or two sailings during peak hours, there could be a 10-13 percentage point decline in peak drive-on behavior with the majority switching to walk-on and off-peak drive-on.

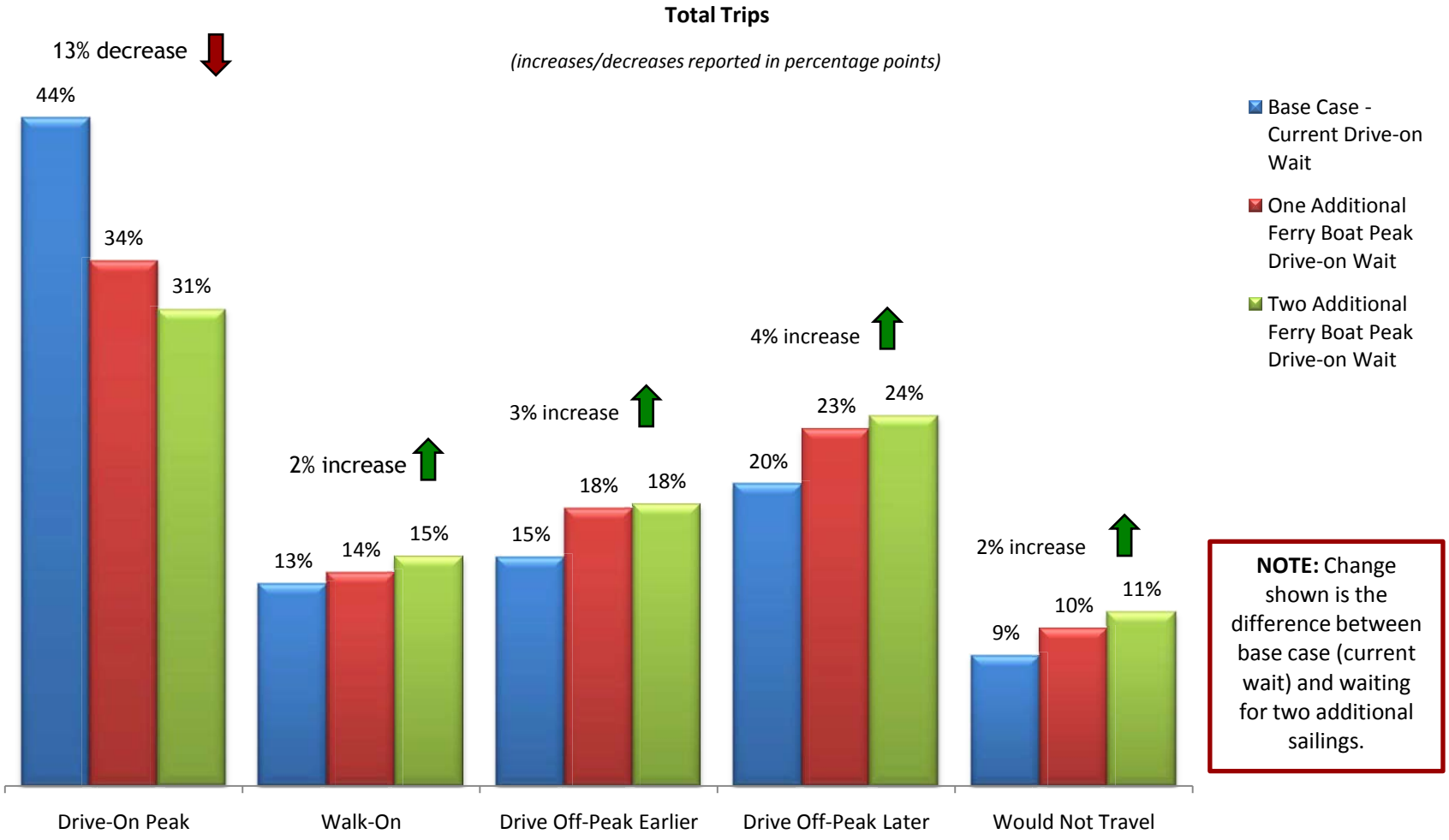


Figure 35: Impact on Behavior: Increases in Wait Time for Peak Drive-On (Total Trips)

Simulator Result: *Increases in Wait Time for Peak Vehicle Drivers by Trip Purpose*

- A wait of one additional sailing has a higher impact on discretionary trip peak vehicle drivers (12 percentage point decline).
- More non-discretionary peak vehicle drivers will switch to walking on at peak than their discretionary counterparts (3 vs. 1 percentage points, respectively).

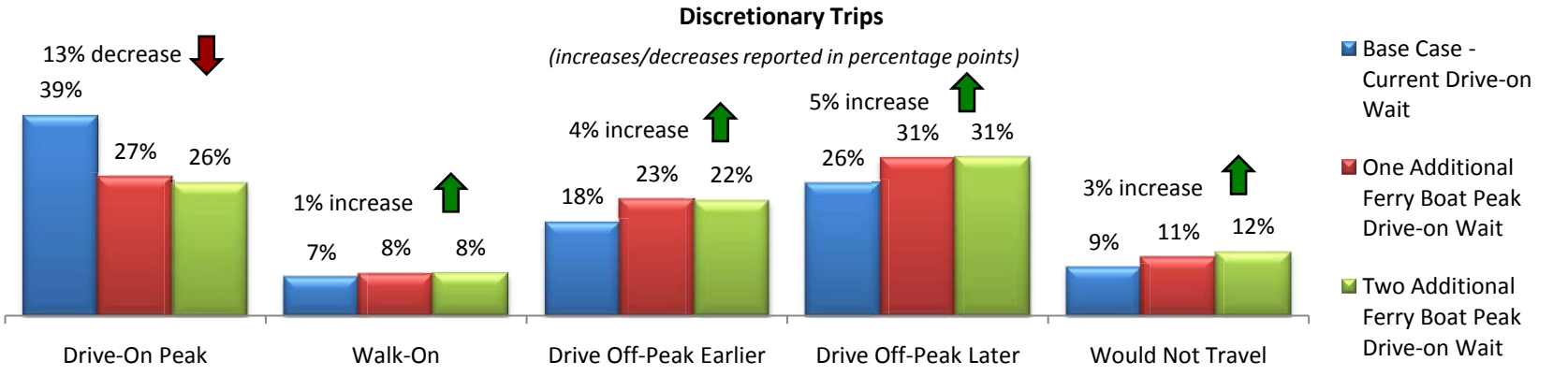


Figure 36: Impact on Behavior: Increases in Wait Time for Peak Drive-On (Discretionary)

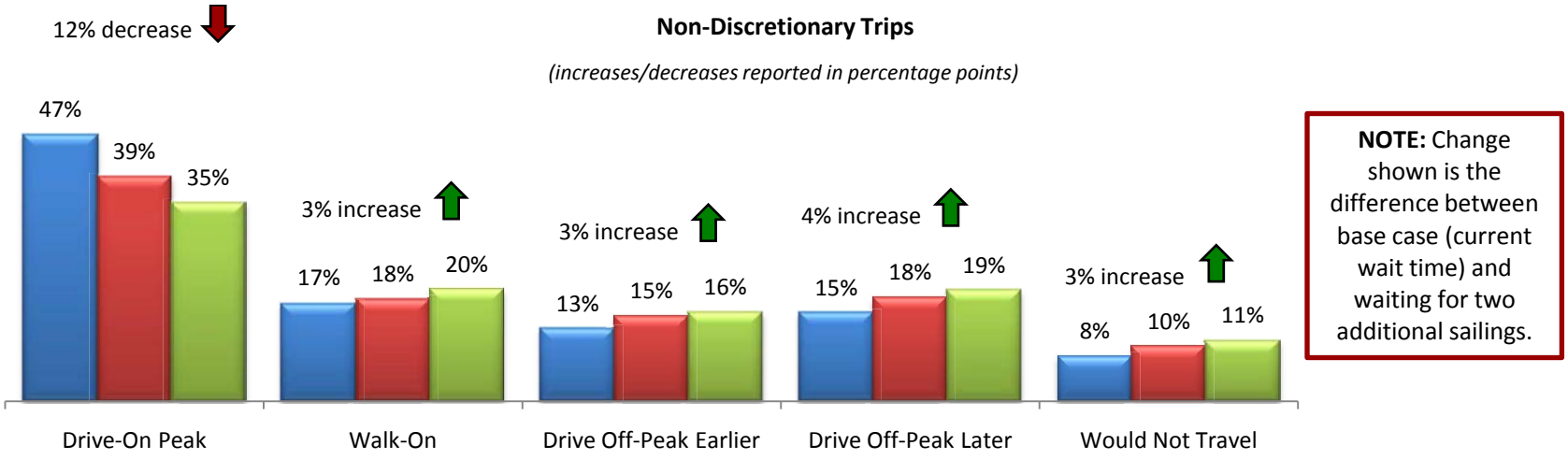


Figure 37: Impact on Behavior: Increases in Wait Time for Peak Drive-On (Non-Discretionary)

Simulator Result: *Best vs. Base Case*

- The graph below shows the results of making driving on at peak a less attractive option for drivers. This would represent the maximum mode shift possible based on the attributes tested.
  - To do this, the following levels were set to create the "best" case: A 25% increase in peak vehicle fares; an additional 2 boat wait for peak vehicle drivers; a 20% decrease in walk-on fares; and a 20% decrease in off-peak vehicle fares.
- By selecting the options that make driving on at peak relatively more costly both in terms of time/money and enhancing other options, the simulation suggests that a maximum of 19% of peak vehicle drivers can be shifted, with a ridership loss of only 2 percentage points.

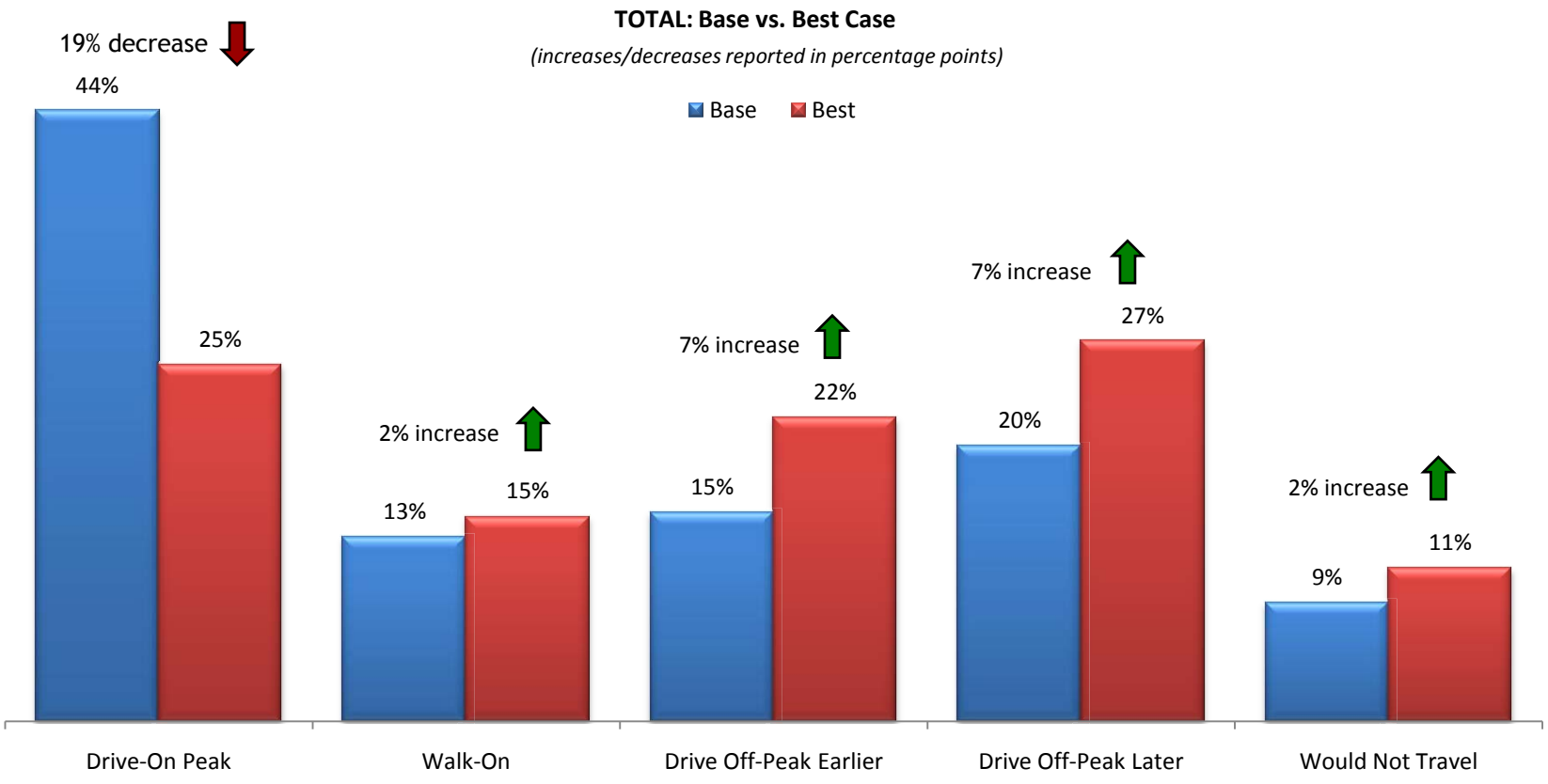


Figure 38: Impact on Behavior: Base vs. Best Case Scenario

Simulator Result: *10% Across the Board Increase*

- This simulation shows the results of just enacting a 10% across the board increase.
- There is no real impact on mode shifting or overall ferry usage under a 10% across the board increase in fares.
- Viewed by trip purpose, there is no real impact on shifting vehicle volumes to walk-on or off-peak drive-on, though potentially more discretionary than non-discretionary peak vehicle drivers may elect to not use the ferry (3 vs. 1 percentage points, respectively)

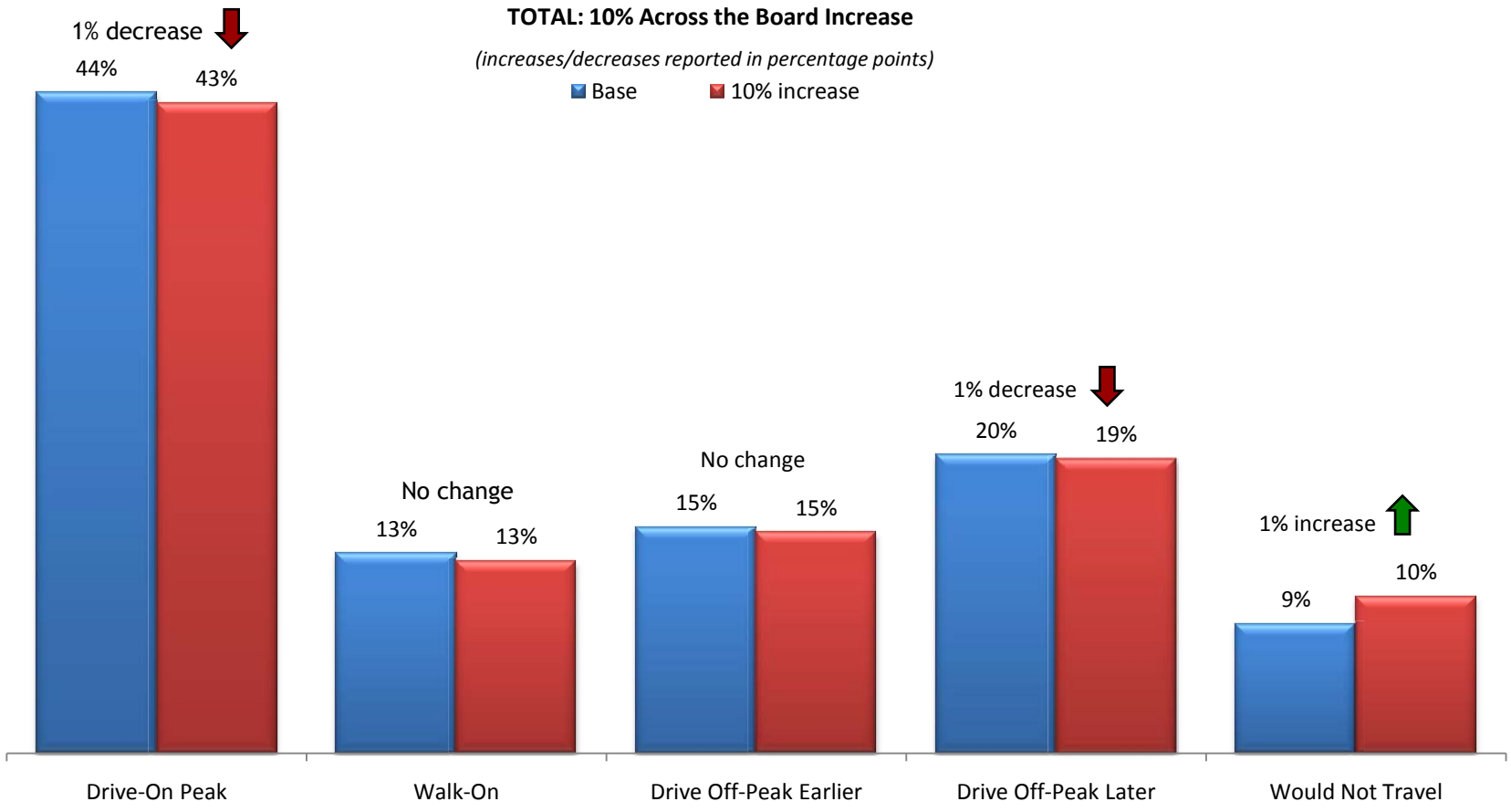


Figure 39: Impact on Behavior: 10% Across the Board Increase

Simulator Result: *15% Peak Vehicle Fare Increase with 5% Off-Peak/Walk-On Increases*

- This simulation shows the results of one congestion pricing option in which peak vehicle fares increases of 15% are coupled with 5% increases in both off-peak and all walk-on fares.
- Under this scenario, vehicle traffic at peak times would decline by 4 percentage points.
  - There would only be a 2 percentage point increase in off-peak vehicle travel, and a 1 percentage point increase in "would not travel" behavior."

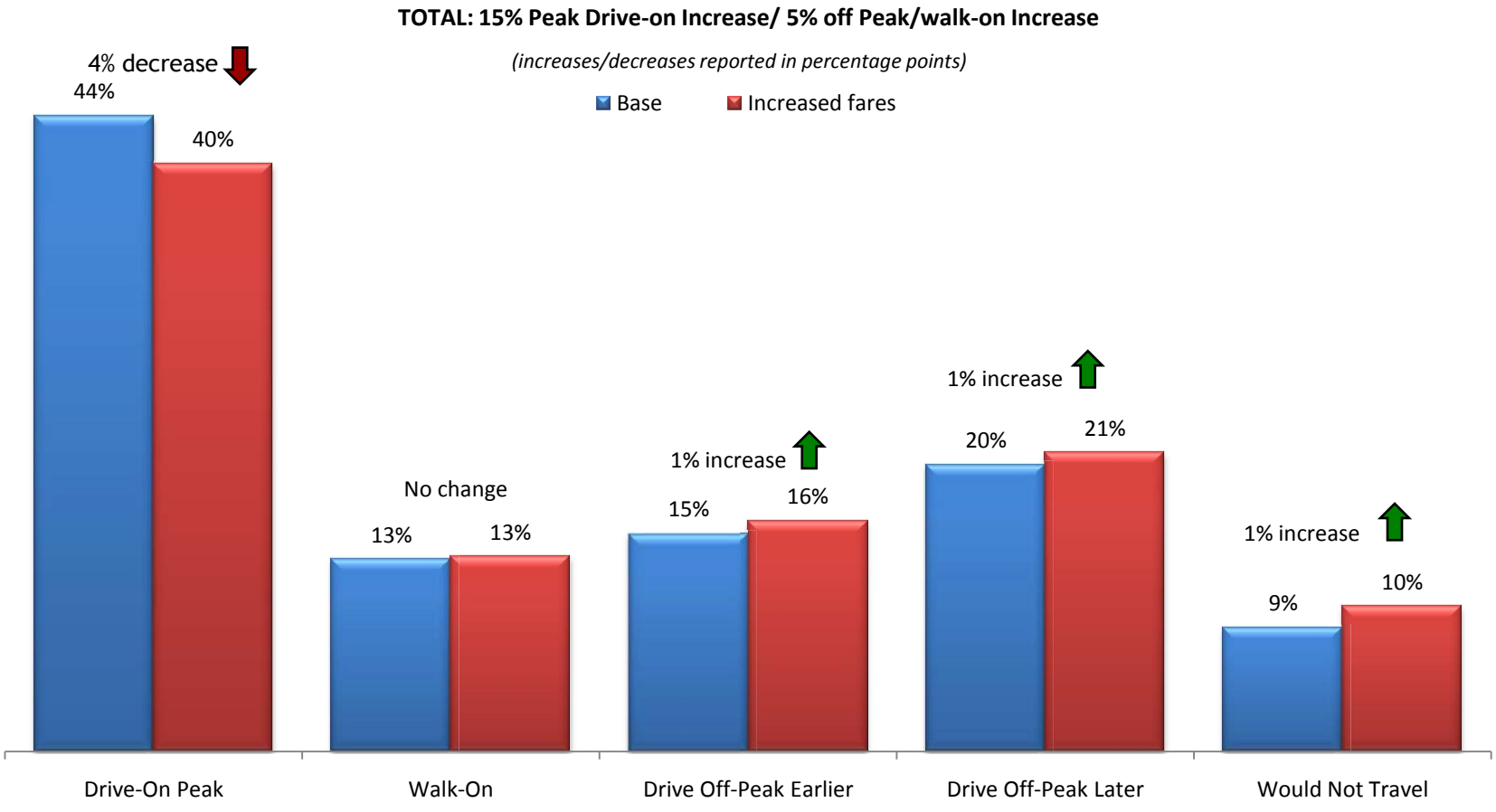


Figure 40: Impact on Behavior: 15% Peak Drive-On Increase, 5% Off-Peak/Walk-On Increase

SATISFACTION, VALUE & MISCELLANEOUS FERRY ISSUES

Satisfaction, Value & Miscellaneous Ferry Issues - Summary

Contains information regarding:

- Overall satisfaction
- Perceived value
- Importance of & satisfaction with ferry attributes
- Use of specific ferry services
- Loading/unloading problems
- Sources of WSF information
- Preference of new ferry names
- WSF focusing on people vs. vehicle mover

Information gathered from the following surveys*:

Winter Ridership Survey

F.R.O.G. panel members and random riders/rides

Summer Ridership Survey

F.R.O.G. panel members

General Market Assessment Survey

Random sample of Puget Sound residents

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings:

Overall Satisfaction

- Three quarters of riders are satisfied with WSF, and the same number believes that the ferries are a good value during the summer season.

Ferry Feature & Service Satisfaction

- Overall, satisfaction levels for the services and amenities that ferry riders find most important are high.
  - Based on the gap analysis, which looks at the relative satisfaction and the relative importance of each feature, interactions with vessel and terminal personnel are the two areas of greatest opportunity for improvement according to ferry riders.
  - Riders rated "cleanliness of vessels" as the most important factor in the ferry experience, and also gave it much higher satisfaction scores during the summer period. The factor riders are most satisfied with is "interactions with terminal personnel."
  - "Minimal arrival time prior to departure" is rated as the second most important factor, and yet decreased significantly (to the lowest rated) in satisfaction in the summer period.

- "On time departures" receives neutral satisfaction ratings, but increased significantly in importance during the summer survey period.

On-board Services & Amenities

- More than two thirds (68%) of ferry riders use the galley services and amenities offered service and nearly half (48%) use the information provided in the information center.
- Roughly one fifth (16%) of ferry riders do not use any offered services or amenities.
- Three fourths of ferry riders show interest in expanded galley offerings; however, the majority of ferry riders show no interest in live entertainment (56%), a children's play area (59%) or additional retail services (55%).
- Three in five (58%) ferry riders state that there are no additional on-board services or amenities they would like to see offered on the ferry.
    - Of these who did offer suggestions, the main services they would like to see are free or cheaper WiFi (20%) and better coffee and food options (13% and 12%, respectively).
- Most ferry riders get information regarding WSF through the ferry website. Riders also indicated that they would take advantage of WSF information on highway advisory radio as well as text messages from WSF.

Satisfaction and Perceived Value

In order to gain a representative sample across all rider types and seasons, respondents to both the summer and winter surveys were asked to rate their overall satisfaction with Washington State Ferries. In addition, riders were asked about how they feel regarding the value of the WSF as a mode of transportation.

- The majority (75%) of riders are satisfied with Washington State Ferries. This is an improvement from the 68% who gave positive satisfaction scores in 2008 (below left).
- Three quarters (75%) of riders feel WSF is a good value during the summer season (53% in winter); however, only 14% rate it as a "very good value" (below right). When weighted by volume, 71% of summer riders rate WSF as a good value, a significantly lower percentage.
- The majority of local residents in the Puget Sound basin believe that WSF is "very important" to the economy/growth of the region (63%) as well as encouraging tourism in the area (60%).

Ferry Satisfaction	Total 2010 n=5,227*	Summer 2010 n=1,651	Winter 2010 n=4,170	Total 2008 n=12,156	Summer 2008 n=7,204	Winter 2008 n=4,952
Satisfied	**75%**	**72%**	**72%**	**68%**	**72%**	**64%**
Extremely satisfied	27%	24%	25%	25%	29%	20%
Somewhat satisfied	48%	48%	47%	43%	43%	44%
Neither	10%	11%	11%	12%	12%	12%
Somewhat dissatisfied	12%	14%	14%	15%	13%	17%
Extremely dissatisfied	3%	3%	3%	5%	3%	6%
Dissatisfied	**15%**	**17%**	**17%**	**20%**	**16%**	**23%**

Table 5: Ferry Satisfaction Tracking

*Differs due to weighting

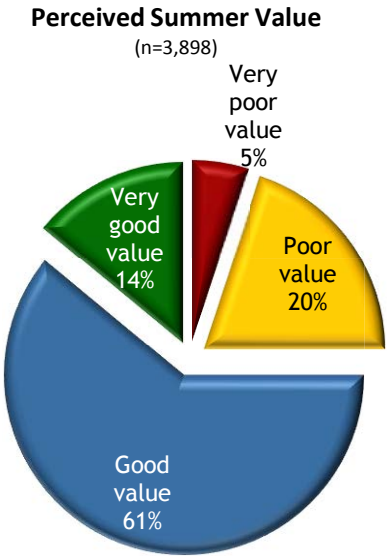


Figure 41: Perceived Summer Value

Satisfaction with Specific Ferry Services

In addition to their satisfaction with WSF as a whole, respondents were asked to indicate their usage of specific ferry services. Questions were also asked as to the importance of specific ferry attributes and services, and how respondents feel that WSF is performing on each. It is important to note that the list of tested on-board amenities was altered from the winter to summer survey.

- While 63% of summer riders use the galley service (68% in winter), only 22% report using the ferry's vending machines (29% in winter).
- Satisfaction with the quality of products offered in the galley is consistent between the summer and winter waves, however satisfaction with the variety of product offering is significantly lower during the summer (34% vs. 41%).
- Overall, riders are dissatisfied with the prices of the products offered in both the galley and vending machines.
- The factor rated highest in importance, cleanliness of vessels, received higher satisfaction ratings by riders in the summer survey. The attribute riders are most satisfied with is interactions with terminal personnel, which also increased significantly from the winter wave (page 43).
- Minimal arrival time prior to departure decreased in terms of rider satisfaction from winter to summer, and is the area with the greatest opportunity to improve.
- Additionally, on-time departures increased significantly in terms of importance to riders in the summer survey, but continued to receive average satisfaction ratings.
- Telephone customer service and on-board amenities and services are ranked as the two least important factors by riders. They also consistently receive some of the lowest satisfaction scores.

These findings, among riders' satisfaction and importance scores given to other tested ferry services, can be found on the quadrant chart on the following page. The chart tracks riders' responses for each ferry service between the winter and summer customer surveys.

The following quadrant chart tracks the relative importance and satisfaction of specific ferry features between the summer and winter surveys by riders. Features considered highly important, but with low satisfaction (top left) indicate opportunity areas for WSF. Features rated with high satisfaction but of low importance (bottom right) represent features riders feel are "nice to have." Those features that are considered both highly important and of high satisfaction (top right) are high priority features, and may represent the strengths of WSF.

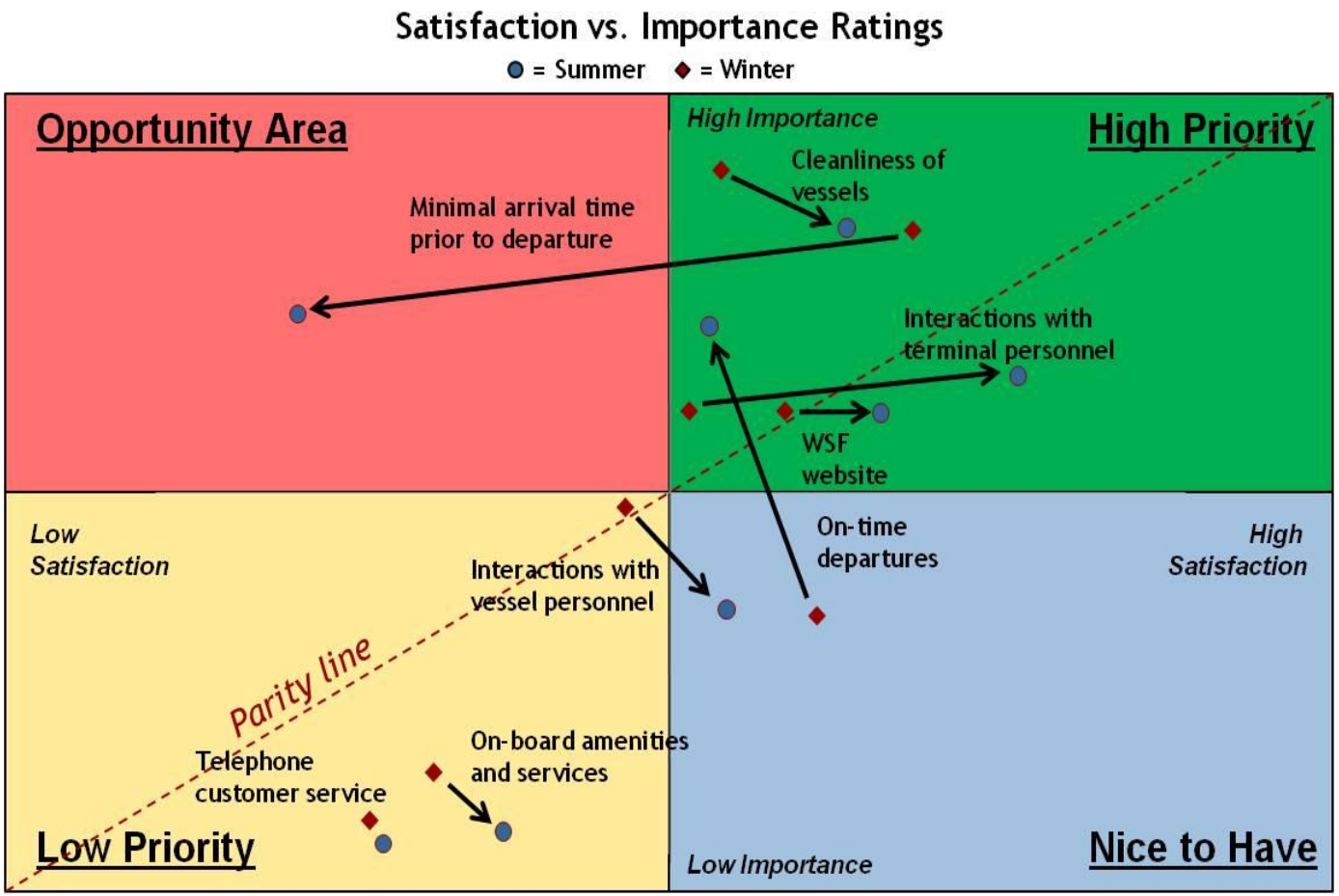


Figure 42: Ferry Attribute Satisfaction vs. Importance

Miscellaneous Ferry Topics

With the breadth of survey topics covered under the Commission's Research initiative, riders have been asked questions regarding their thoughts and experiences in reference to several issues in relation to WSF.

- The majority of ferry riders obtain information about WSF via the ferry website (below left). Few riders use the printed schedule or weekly email updates from David Moseley for their information. Both summer and winter riders obtain their information from similar sources.
- When asked which sources they would use if they were available, riders indicated the highest likelihood to take advantage of WSF information from highway advisory radio as well as text messages from WSF (below right). Least popular is that of following a WSF Twitter account.
- Over half (57%) of ferry riders feel that WSF should focus its improvement on becoming both a people-mover and vehicle-mover system.

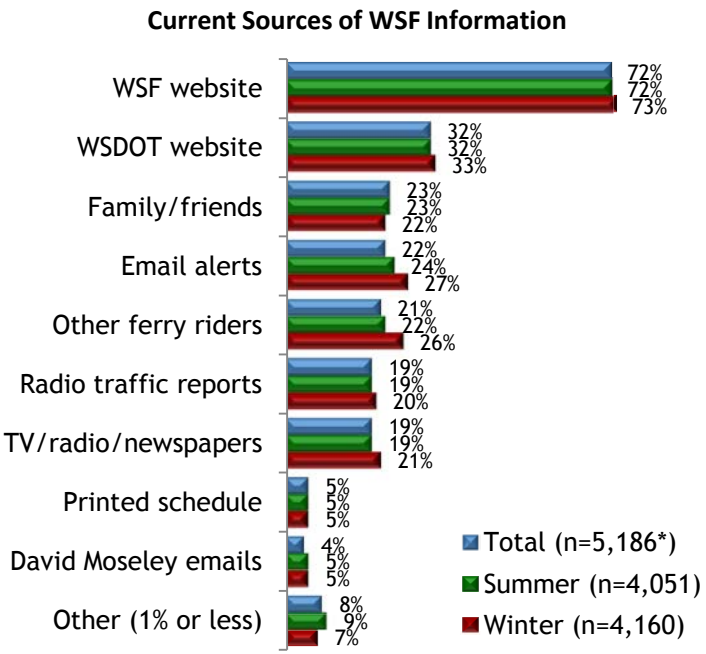


Figure 43: Current Sources of WSF Information

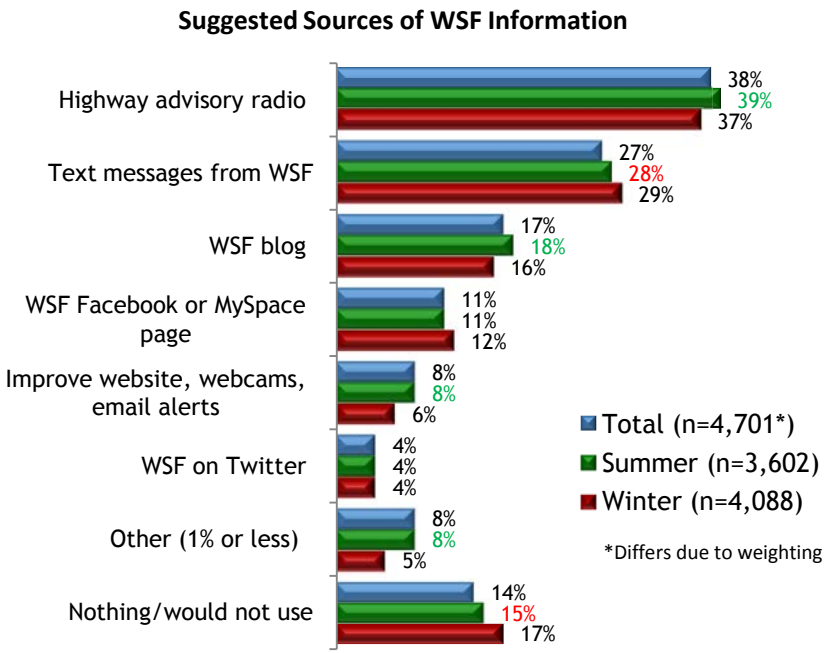


Figure 44: Suggested Sources of WSF Information

QUICK POLLS

Quick Polls - Summary

Contains information regarding:

- Fares based on vehicle length
- Impact of increased fares or reduced service on future ridership
- New ferry naming
- WSF privatization
- Implementation of a fuel surcharge
- Summer period usage of WSF
- Telecommunicating

Information gathered from the following surveys*:

Quick Poll – Car Size Fares
Quick Poll – Fare vs. Service
Quick Poll – Ferry Names
Quick Poll – Ferry Privatization
Quick Poll – Fuel Surcharge
Quick Poll – Summer Travel
Quick Poll - Telecommunicating

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings:

- More than half (57%) support the implementation of a fare structure in which vehicles under the current 20' standard receive a discounted fare rate.
- Roughly one third (36%) feel that increased fares are more likely to cause them to severely reduce ferry ridership.
  - Another 31% believe reducing the ferry schedule on their route by one third would have the most negative impact on their ridership.
  - The other third of riders (33%) say neither fare increases nor service reductions would cause a severe reduction in their ridership.
- If a new ferry were added to WSF's fleet, over half (58%) agree that the best name for the boat would be "Salish." Just under half (43%) also support the name "Tokitae."
- More than half (54%) initially reacted negatively to the concept of ferry privatization, saying that it is a bad idea.
  - One quarter (25%) neither favor nor oppose the idea of privatization; 21% feel that it makes sense.
- Just 11% telecommunicate to work twice per week or more, while over one third (37%) do not telecommunicate.
- The most popular method of covering unplanned fuel expenses is by transferring additional gas tax state subsidies to the ferries (41%).
- During the peak summer season (July 4 – Labor Day), nearly two of three (63%) do not plan to alter their travel behavior.

Car Size Fares & Fare vs. Service Quick Polls

F.R.O.G. panel members were asked to complete a simple, one question survey regarding various ferry related topics on seven different occasions. In some instances, non-panel or general population respondents were also asked to provide their opinions. Each quick poll was conducted using a self-administered, online format.

- Over half (57%) support a fare structure in which a discount is provided for cars significantly under the current 20 foot standard, while moderately increasing the fares for all other vehicle categories. One third (34%) do not support this suggested fare structure (below left).
- Approximately one third (36%) feel that an increase in fares is more likely to cause them to severely reduce their ridership, while 31% believe cutting the ferry schedule on their route by one third would have the most negative impact. The other third (33%) of riders indicate neither of these would cause a severe reduction in their ridership (below right).

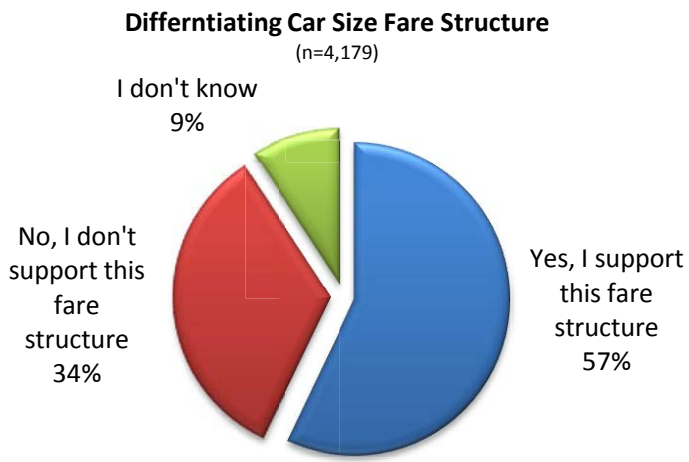


Figure 45: Car Size Fare Strategies Quick Poll

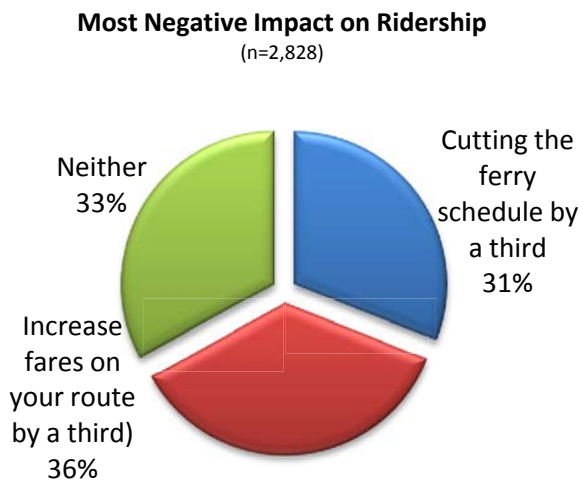


Figure 46: Most Negative Impact on Ridership Quick Poll

Ferry Names, Privatization & Telecommunicating Quick Polls

- Over half (58%) agree that the best name for a new ferry is "Salish." Just less than half (43%) also support the name "Tokitae." Other name options provided to respondents included "Kennewick," "Samish" and "Cowlitz."
- When presented with the concept of privatizing the state run ferry system, 54% indicated that their initial reaction was negative, and that privatization is a bad idea. One quarter (25%) neither favor nor oppose the idea, while 21% feel that it makes sense.
- More than one third (37%) do not telecommunicate to work. Just 11% telecommunicate twice per week or more, while 38% indicate that telecommunication does not apply to them.

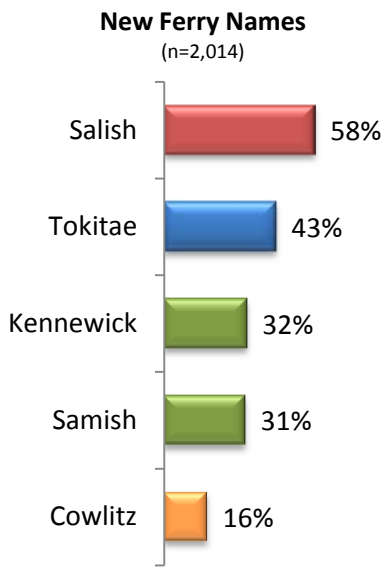


Figure 47: Ferry Names Quick Poll

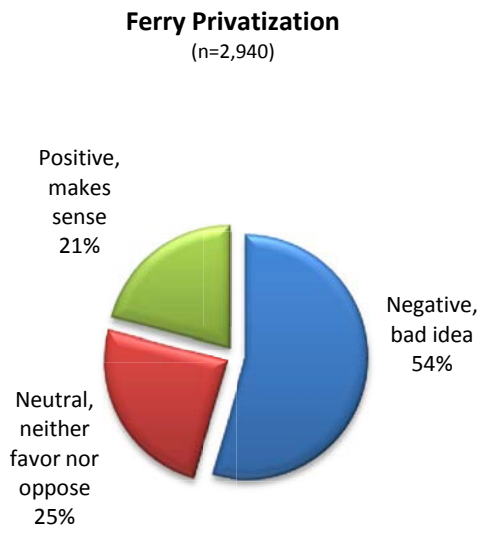


Figure 48: Ferry Privatization Quick Poll

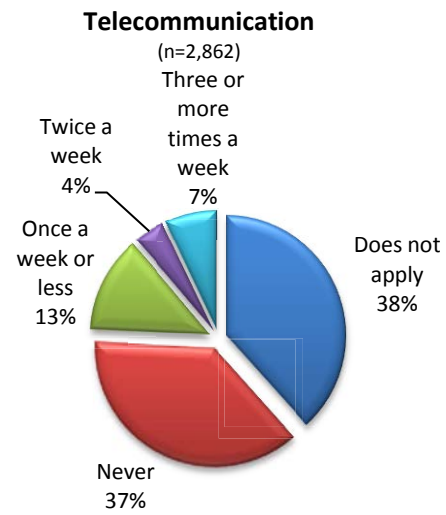


Figure 49: Telecommunication Quick Poll

Fuel Surcharge & Summer Travel Quick Polls

- Riders feel that unplanned fuel expenses should be covered by transferring additional gas tax state subsidies to the ferries (41%). Just 12% believe these costs should be covered by adding a fuel surcharge of up to 20% (below left).
- Roughly two thirds (63%) do not plan to change their travel patterns during the peak summer season (July 4 – Labor Day). Of the 24% who plan to travel less during this period, half (49%) plan to shift travel times or work hours to avoid lineups (below right).

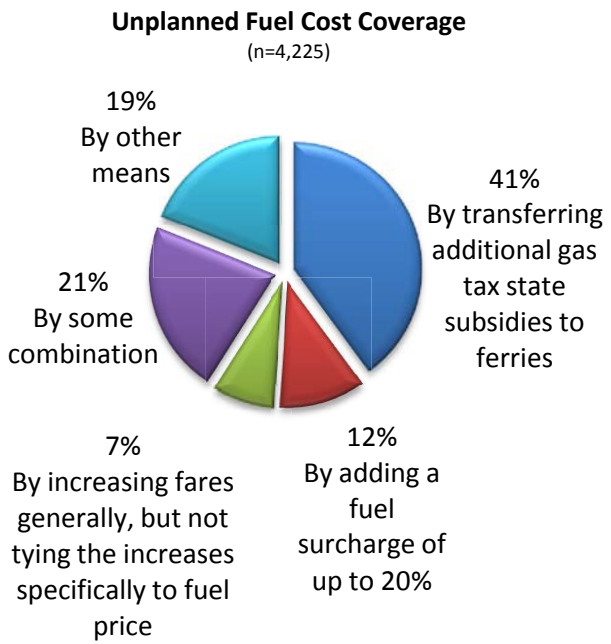
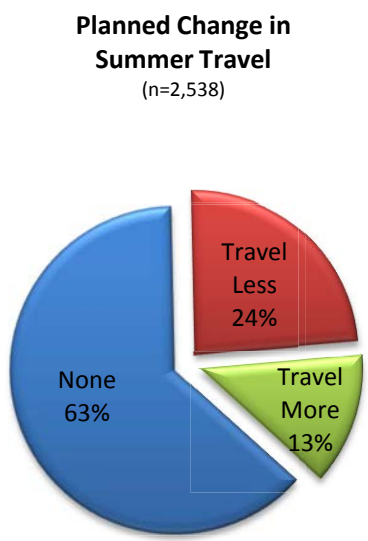


Figure 50: Unplanned Fuel Cost Coverage Quick Poll



Travel LESS (n=596)	
Shift travel times/work hours to avoid lineups	49%
Walk onto the ferry more often	38%
Take vacation time – less need for ferries	18%
Telecommute more often	10%
Ride a bicycle more often	7%
Ride a motorcycle more often	6%
Ride a vanpool/carpool more often	3%
Other (please specify)	33%

Travel MORE (n=332)	
Travel more on weekends – good weather	55%
My business is busier during the summer	12%
Other (please specify)	46%

Figure 51: Planned Change in Summer Travel Quick Poll

FERRY RIDERSHIP CHARACTERISTICS

Ferry Ridership Characteristics - Summary

Contains information regarding:

- Respondent demographics
- Weighting schemes

Information gathered from the following surveys*:

Winter Ridership Survey

F.R.O.G. panel members and random riders/rides

Summer Ridership Survey

F.R.O.G. panel members and random riders/rides

Freight Survey

Managers responsible for scheduling freight trips with WSF

General Market Assessment

Random sample of Puget Sound residents

Mode Shift

F.R.O.G. panel members

Capital Funding

F.R.O.G. panel members

Quick Polls

F.R.O.G. panel members

*More detailed information in the form of full reports, data tables and questionnaires can be found on the accompanying CD.

Key Findings:

- With regard to the winter and summer surveys, nearly two thirds (71%) have been using the WSF for at least 10 years. In addition, just less than half (47%) have increased the frequency of their ridership since they first started riding the ferries.
- About half of all participating companies in the freight survey report having a truck fleet of 4 or less trucks.
  - The most common truck length is between 21-30 feet.
- In total, 82% of all respondents to the quick poll surveys were F.R.O.G. panel members.
- Among capital funding respondents, almost three quarters (72%) have been riding WSF for ten years or more.
  - Additionally, roughly half (49%) have increased the frequency with which they ride since they first started using the ferries.
  - All of these respondents are F.R.O.G panel members.

Ferry Ridership Characteristics – Detailed Findings

Detailed Demographic Snapshot

The following table presents a brief respondent profile of those riders completing the Winter and Summer Customer Surveys, compared to census data, as well as the Freight Survey. Specific demographic information regarding each individual study is also presented in this section.

2010 (Combined Summer/Winter)	2008 (Combined Summer/Winter)	Census	Freight
• Typical customers ○ Live within 10 miles of terminal (58%) ○ Avg household – 2.5 ppl ▪ With kids, average – 1.8 kids ○ Employed full time (53%) ○ $85,741 median household income ○ Median age – 56 ○ Obtains WSF info via the website (70%) ○ Travel primarily to/from work (32%) ○ Primarily drive on (67%) ○ Board via a single ride ticket (37%) or multi ride ticket (34%) ○ Riding more than 10 years (71%) ○ Satisfied with ferries (74%) ○ Invest equally as a people vs. vehicle mover (50%)	• Typical customers ○ Employed full time (61%) ○ $80,703 median household income ○ Median age – 51 ○ Primarily drive on (64%) ○ Board via a single ride ticket (47%) or multi ride ticket (33%) ○ Satisfied with ferries (68%) ○ Invest equally as a people vs. vehicle mover (56%)	• Seattle ○ $58,990 median household income ○ Median age – 36 ○ Avg. household – 2.1 ppl	• Typical freight customers ○ Has an average of 12 trucks in their fleet ○ On average, 4 of their trucks use WSF ○ Use the WSF system to transport goods and services daily to several times a week (60%) ○ The average number of crossings is consistent year round ○ An average of 11 one-way crossings are made in a typical month ○ Deliver freight to retail or commercial business (72%) and construction sites (50%)

Table 6: Typical Respondent Profile

Demographic Information – Winter & Summer Surveys

Conducted during May and August 2010, the Winter and Summer Customer Surveys covered a broad range of ferry related topics. The winter wave also served as the beginning of the F.R.O.G. panel, as survey crews were aboard distributing panel information and survey material. These surveys were asked of panel members and general ferry riders, and were conducted either online or via a paper survey.

- Nearly two thirds (73%) have been riding the ferries for more than ten years.
- Just under one half (47%) have increased the frequency of their ridership since they first started using WSF.

Years Riding WSF	Total 2010 n=5,129*	Summer 2010 n=4,254	Winter 2010 n=4,171
Less than one year	2%	2%	3%
1 year, but less than 3 years	5%	5%	5%
3 years, but less than 6 years	9%	9%	10%
6 years, but less than 10 years	11%	10%	12%
More than 10 years	73%	72%	71%

Ridership Frequency	Total 2010 n=5,158*	Summer 2010 n=4,196	Winter 2010 n=4,170	Total 2008 n=12,199	Summer 2008 n=7,053	Winter 2008 n=5,146
Increased significantly	24%	25%	28%	15%	13%	17%
Increased somewhat	23%	25%	21%	18%	16%	22%
No change	29%	29%	29%	45%	51%	36%
Decreased somewhat	15%	15%	14%	15%	13%	16%
Decreased significantly	8%	9%	8%	8%	8%	8%

*Differs due to weighting

- More than half (60%) live within 10 miles of the ferry terminal.
- Just over half (54%) of all respondents are female, while half (53%) are also age 55 or older.

Distance from Ferry	Total 2010 n=5,091*	Summer 2010 n=4,142	Winter 2010 n=4,168
Less than 1 mile	<1%	1%	1%
1-5 miles	34%	36%	38%
6-10 miles	25%	25%	27%
11-15 miles	13%	12%	13%
16-20 miles	7%	7%	7%
Over 20 miles	20%	19%	15%
Median	*9 miles*	*10 miles*	*8 miles*

Gender	Total 2010 n=5,145*	Summer 2010 n=4,186	Winter 2010 n=4,169	Total 2008 n=11,006	Summer 2008 n=7,105	Winter 2008 n=3,901
Male	46%	46%	48%	48%	47%	49%
Female	54%	54%	52%	52%	53%	51%

Age	Total 2010 n=5,063*	Summer 2010 n=1,522	Winter 2010 n=4,159	Total 2008 n=11,960	Summer 2008 n=7,147	Winter 2008 n=4,813
18-24	2%	2%	2%	5%	7%	4%
25-34	8%	8%	8%	10%	12%	10%
35-44	13%	14%	13%	16%	17%	16%
45-54	24%	24%	24%	26%	25%	26%
55-64	32%	29%	34%	28%	24%	28%
65+	21%	23%	20%	15%	14%	15%
Median Age	*56*	*55*	*56*	*52*	*50*	*52*

*Differs due to weighting

- Over half (54%) of all respondents are employed full-time, and two in five (41%) earn between $50-99,000 annually.

Employment Status	Total 2010 n=5,151*	Summer 2010 n=4,203	Winter 2010 n=4,111	Total 2008 n=11,947	Summer 2008 n=7,098	Winter 2008 n=4,849
Employed full-time	54%	55%	56%	61%	60%	63%
Employed part-time	12%	11%	11%	10%	10%	9%
Student/employed	1%	1%	2%	4%	4%	4%
Student/not employed	1%	1%	1%	2%	2%	2%
Military personnel	1%	<1%	1%	1%	1%	1%
Retired	22%	22%	20%	16%	17%	16%
Homemaker	3%	3%	3%	3%	4%	3%
Not employed	3%	2%	3%	1%	2%	1%
Other	3%	3%	4%	2%	2%	2%

Annual Income	Total 2010 n=4,182*	Summer 2010 n=3,423	Winter 2010 n=3,389	Total 2008 n=9,636	Summer 2008 n=5,703	Winter 2008 n=3,934
Under $15,000	2%	2%	2%	4%	4%	3%
$15,000-$24,999	4%	4%	4%	4%	4%	3%
$25,000-$34,999	5%	5%	6%	6%	6%	6%
$35,000-$49,999	10%	10%	10%	11%	11%	11%
$50,000-$74,999	21%	22%	19%	20%	21%	23%
$75,000-$99,999	20%	20%	21%	18%	19%	19%
$100,000-$149,999	22%	23%	22%	20%	20%	21%
$150,000 or more	16%	16%	16%	16%	15%	14%

*Differs due to weighting

Company Information – Freight Survey

In May 2010, 101 WSF freight customers were surveyed. Topics covered include reservation systems, travel flexibility and freight pricing strategies.

- Roughly half of all participating companies report having a truck fleet of 4 or less trucks.
- Within the companies participating, the most common truck length is between 21-30 feet.

Fleet Size	Total Fleet Size n=101	# That Use WSF n=101
1-2 trucks	16%	20%
3-4 trucks	17%	29%
5-6 trucks	16%	13%
7-8 trucks	7%	10%
9-10 trucks	10%	12%
11-15 trucks	10%	9%
16-25 trucks	10%	5%
26-100 trucks	11%	2%
Other	4%	1%

Truck Length	0-20 Feet n=101	21-30 Feet n=101	31-40 Feet n=101	41-50 Feet n=101	51-60 Feet n=101	61+ Feet n=101
1 truck	4%	21%	7%	9%	3%	4%
2 trucks	13%	12%	7%	1%	2%	5%
3-5 trucks	5%	4%	5%	1%	2%	8%
6-10 trucks	3%	4%	4%	1%	--	3%
11-25 trucks	2%	--	--	2%	--	1%
None	73%	59%	77%	86%	93%	79%

Demographic Information – Quick Polls

Throughout the year, F.R.O.G. panel members were asked to weigh in on the following issues using a quick, one question survey. The table below outlines the participants for each of the quick poll surveys. Occasionally, non-panel members who provided their information during initial panel recruitment were contacted in order to complete the survey.

Respondent Type	Panel Members	Non-Panel Members	Public
Small Car Discount (n=4,179)	78%	22%	--
Fare vs. Service (n=2,828)	58%	42%	--
New Ferry Naming (n=2,014)	100%	--	--
Privatization (n=2,940)	100%	--	--
Fuel Surcharge (n=4,225)	68%	31%	1%
Telecommunicating (n=2,862)	87%	13%	--
Summer Travel (n=2,538)	100%	--	--

Demographic Information – General Market Assessment

In May 2010, a general market assessment was conducted. Puget Sound area residents were queried about general ferry utilization, WSF's contribution to the overall economy and tourism/recreation, as well as operational and capital funding.

- Nearly half (49%) have a four-year college degree or higher level of education.
- Two in five (41%) are employed full time, while nearly one third (31%) earn more than $75,000 annually.

Gender	Total n=1,200
Male	49%
Female	51%

Age	Total n=1,200
18-24	11%
25-34	18%
35-44	20%
45-54	20%
55-64	14%
65+	14%

Education	Total n=1,200
Did not finish high school	2%
High school graduate/GED	18%
Some college/technical school	17%
Associate/2-year degree	9%
College graduate	31%
Some graduate school	2%
Graduate degree	16%

Annual Income	Total n=1,200
Under $15,000	5%
$15,000-$29,999	8%
$30,000-$49,999	14%
$50,000-$74,999	16%
$75,000-$99,999	14%
$100,000 or more	17%

Employment Status	Total n=1,200
Employed full-time	41%
Retired	17%
Not employed	9%
Employed part-time	8%
Self-employed	8%
Homemaker	8%
Student	6%
Other	<1%

Demographic Information – Mode Shift Survey

In October 2010, F.R.O.G. panel members were asked about elasticity of demand, specifically, their ability and willingness to alter travel habits based on potential changes that may be implemented by WSF.

- Just under two thirds (61%) are employed full-time. In addition, over half (55%) report earning $75,000 per year or more.

Gender	Total n=1,317
Male	57%
Female	43%

Employment Status	Total n=1,317
Employed full-time	61%
Retired	17%
Employed part-time	9%
Not employed	3%
Homemaker	2%
Student	2%
Other	5%

Annual Income	Total n=1,317
Under $15,000	1%
$15,000-$24,999	2%
$25,000-$34,999	4%
$35,000-$49,999	9%
$50,000-$74,999	14%
$75,000-$99,999	20%
$100,000-$149,000	22%
$150,000 or more	13%

Age	Total n=1,317
18-24	1%
25-34	5%
35-44	14%
45-54	28%
55-64	34%
65+	18%

Demographic Information – Capital Funding

F.R.O.G. panel members were asked to share their understanding of, and opinions regarding, WSF's current capital funding situation. Particular interest was paid to riders' attitudes towards which taxes and other sources should be used for capital funding.

- Almost three quarters (72%) have been riding WSF for more than ten years. Additionally, about half (49%) report that the frequency with which they ride has increased since they first started using the ferries.
- Two in five (41%) live within 5 miles of the ferry terminal, and 68% live within 10 miles.

Years Riding WSF	Total n=1,951
Less than one year	2%
1 year, but less than 3 years	5%
3 years, but less than 6 years	8%
6 years, but less than 10 years	13%
More than 10 years	72%

Distance from Ferry	Total n=1,951
Less than 1 mile	1%
1-5 miles	40%
6-10 miles	27%
11-15 miles	13%
16-20 miles	5%
Over 20 miles	14%
Median	*7.0*

Ridership Frequency	Total n=1,951
Increased	**49%**
Increased significantly	29%
Increased somewhat	21%
No change at all	29%
Decreased somewhat	14%
Decreased significantly	8%
Decreased	**22%**

- Three in five (59%) are employed full-time, while 18% of all respondents are retired.
- Half (50%) report earning $75,000 per year or more.

Age	Total n=1,951
18-24	1%
25-34	7%
35-44	13%
45-54	25%
55-64	36%
65+	19%
Median Age	*56.0*

Annual Income	Total n=1,951
Under $15,000	1%
$15,000-$24,999	2%
$25,000-$34,999	5%
$35,000-$49,999	9%
$50,000-$74,999	16%
$75,000-$99,999	18%
$100,000-$149,999	20%
$150,000 or more	12%

Employment Status	Total n=1,951
Employed full-time	59%
Retired	18%
Employed part-time	11%
Not employed	2%
Student/employed	1%
Student/not employed	1%
Homemaker	1%
Military personnel	--
Other	9%

Weighting Schemes

Specific weights were applied to the data gathered in order to more accurately match with general population statistics, and therefore have a better understanding of the thoughts and opinions of the public as a whole. Additionally, weights may also have been applied based on the actual demographics of recorded ferry riders. For the most part, this means weighting based on the route ridden. Below are the weighting schemes used for each project, if applicable.

Weighting schemes were not applied to the Freight survey or any of the various quick polls conducted among F.R.O.G. panel members.

Summer/Winter Scheme 1: Weighting based on route and boarding method of the last route taken, and used for combining both data sets. In some cases, post-weighted data was multiplied by the specific number of rides taken by each particular respondent, in order to better understand the opinions of those who ride most frequently.

Combined Totals	Summer			Winter		
Route	Vehicle	Passenger	Walk on	Vehicle	Passenger	Walk on
SEA/BAIN	1.377799	3.534740	1.872741	0.872116	2.467034	0.753372
SEA/BRE	1.351567	1.961791	1.578863	0.596082	1.358534	0.827055
PTD/TAH	1.073389	4.473459	2.378716	0.516909	2.238806	1.190188
EDM/KIN	1.023894	2.394667	0.816144	0.882306	2.147094	0.578334
FAU/VAS	1.151068	2.948851	1.387032	0.729451	1.537588	0.783336
FAU/SOU	0.764257	1.260301	0.702363	0.460920	1.027585	0.337037
SOU/VAS	1.306883	0.190605	1.805085	0.659211	1.000000	1.050569
PTT/KEY	0.357102	0.770358	0.284024	0.438303	2.065434	0.492000
MUK/CLI	0.793058	1.857295	0.780296	0.616250	1.496731	0.512221
ANA/SAN	0.512354	1.382384	1.079645	0.340319	0.924577	0.591755
INTER SJI	0.798548	6.794624	0.147709	0.760296	1.592316	0.086582
ANA/SYD	1.754777	15.731984	3.528744	--	--	--

Summer/Winter Scheme 2: Weighting based on route and boarding method of the last route taken, and used for each individual data set.

Individual Totals	Summer			Winter		
Route	Vehicle	Passenger	Walk on	Vehicle	Passenger	Walk on
SEA/BAIN	1.140474	2.925885	1.550163	1.122807	3.200000	0.989858
SEA/BRE	1.118761	1.623874	1.306905	0.670051	1.306122	1.006231
PTD/TAH	0.888499	3.702910	1.968984	0.675676	2.909091	1.230769
EDM/KIN	0.847529	1.982188	0.675564	1.162162	2.823529	0.750000
FAU/VAS	0.952798	2.440914	1.148117	0.953782	2.000000	1.020408
FAU/SOU	0.632614	1.043216	0.581382	0.605096	1.333333	0.444444
SOU/VAS	1.081774	0.157773	1.494161	0.863636	0.000000	1.333333
PTT/KEY	0.295592	0.637664	0.235101	0.567568	2.727273	0.619048
MUK/CLI	0.656455	1.537378	0.645890	0.812500	1.974359	0.673611
ANA/SAN	0.424101	1.144270	0.893677	0.400000	1.112676	0.529412
INTER SJI	0.660999	5.624257	0.122266	1.000000	2.000000	0.130435
ANA/SYD	1.452518	13.022165	2.920921			

Capital Funding Scheme: Data weighted to most accurately represent the proportion of system-wide riders from each route.

	Systemwide Riders	Desired Proportion	Completed Surveys	Desired # of Completes	Weight
SEA/BAIN	1,254,967	26%	398	513	1.288607
SEA/BRE	593,688	12%	203	243	1.19518
PTD/TAH	139,910	3%	52	57	1.099554
EDM/KIN	880,869	18%	249	360	1.445716
FAU/VAS	434,120	9%	178	177	0.996692
FAU/SOU	173,587	4%	109	71	0.650821
SOU/VAS	36,956	1%	9	15	1.678084
PTT/KEY	98,654	2%	53	40	0.760694
MUK/CLI	865,110	18%	431	354	0.820286
ANA/SAN	262,860	6%	116	107	0.926057
INTERISLAND	33,320	1%	153	14	0.088999
TOTAL	4,774,041	100%	1,951	1951	

Mode Shift Scheme: Data weighted to accurately represent the proportion of vehicle traffic on each individual route.

	Systemwide Vehicles	Desired Proportion	Completed Surveys	Completed Proportion	Weight
SEA/BAIN	1,000,554	21%	254	19%	1.085508
SEA/BRE	343,395	7%	123	9%	0.769334
PTD/TAH	193,222	4%	21	2%	2.535499
EDM/KIN	1,136,554	24%	249	19%	1.257815
FAU/VAS	569,740	12%	151	11%	1.039743
FAU/SOU	250,631	5%	90	7%	0.767394
SOU/VAS	51,380	1%	19	1%	0.745189
PTT/KEY	135,475	3%	84	6%	0.444433
MUK/CLI	1,098,298	23%	326	25%	0.928386
TOTAL	4,779,249	100%	1,317	100%	

General Population Assessment Scheme: Data weighted to represent respondents by gender and county of residence.

	Puget Sound East Males						Puget Sound East Females					
Age	18-24	25-34	35-44	45-54	55-64	65+	18-24	25-34	35-44	45-54	55-64	65+
Population Count	155,360	245,609	278,308	265,806	182,283	151,222	141,686	235,107	268,985	267,252	189,678	200,997
Population % of Total	5%	8%	10%	9%	6%	5%	5%	8%	9%	9%	6%	7%
Sample Count	20	18	48	77	92	132	9	19	51	80	88	126
Sample % of Total	2%	2%	4%	7%	8%	11%	1%	2%	4%	7%	8%	11%
Weight	3.05197	5.36097	2.27801	1.35627	0.77845	0.45010	6.18523	4.86164	2.07219	1.31251	0.84685	0.62674

Puget Sound East: King, Snohomish, Skagit, Pierce

	Ferry Affected Males						Ferry Affected Females					
Age	18-24	25-34	35-44	45-54	55-64	65+	18-24	25-34	35-44	45-54	55-64	65+
Population Count	20,404	27,541	27,446	30,735	25,265	28,535	16,142	25,200	27,937	33,426	25,784	34,614
Population % of Total	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Sample Count	4	7	12	20	44	76	2	6	20	25	38	73
Sample % of Total	0%	1%	1%	2%	4%	7%	0%	1%	2%	2%	3%	6%
Weight	2.00413	1.54580	0.89861	0.60377	0.22560	0.14751	3.17102	1.65014	0.54881	0.52531	0.26659	0.18629

Ferry Affected: Kitsap, Clallam, Island, Jefferson

	Ferry Dependent Males						Ferry Dependent Females					
Age	18-24	25-34	35-44	45-54	55-64	65+	18-24	25-34	35-44	45-54	55-64	65+
Population Count	597	861	1,739	2,474	1,660	1,861	508	930	2,062	2,731	1,600	2,136
Population % of Total	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sample Count	0	1	1	7	11	8	1	1	2	5	10	15
Sample % of Total	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	1%	1%
Weight	0	0.33828	0.68324	0.13886	0.05929	0.09140	0.19959	0.36539	0.40507	0.21460	0.06286	0.05595

Ferry Dependent: Vashon, San Juan