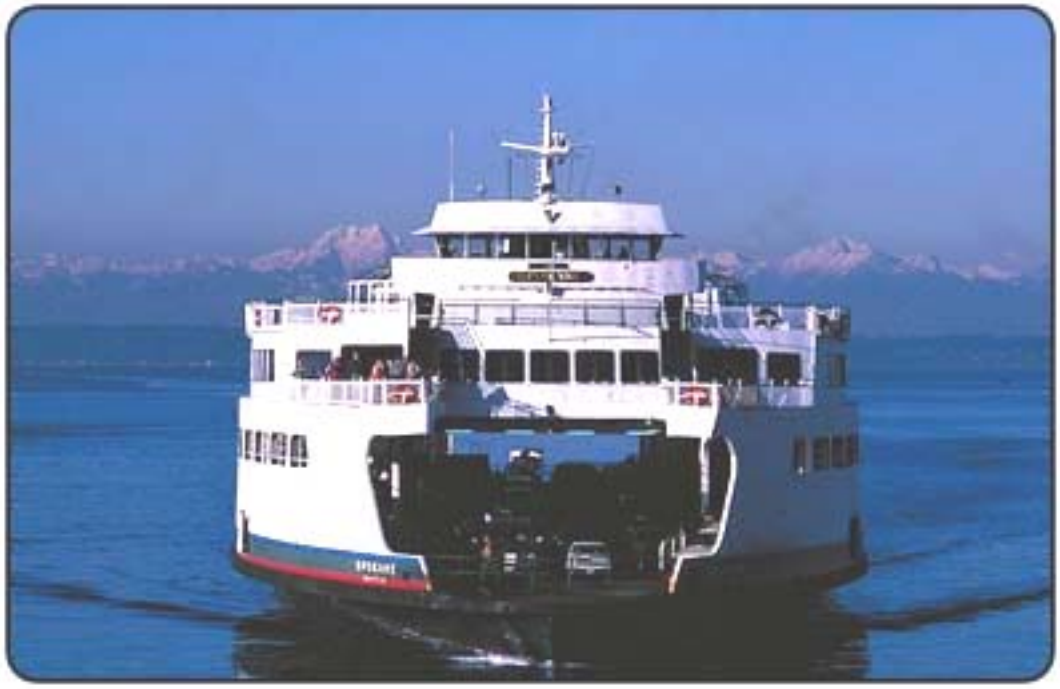
CEDAR RIVER GROUP
Partners in change. Solutions that last.

Washington State Ferries Financing Study

Executive Summary



Prepared For:
Joint Transportation Committee
Washington State Legislature

Consultant Team:

Cedar River Group, LLC
Mirai Associates
Norway Hill Development
RL Collier Company

January 2007

93 Pike Street, Ste 315, Seattle, WA 98101 ◆ phn: 206-223-7660 ◆ fax: 206-223-7665 ◆ www.cedarrivergroup.com

Executive Summary

Washington State Ferries (WSF) is at an important financial crossroads. Voters' repeal of the Motor Vehicle Excise Tax (MVET) in 1999 significantly reduced revenues. This revenue reduction lead to the need for ferry fare increases, which caused a ridership decline of 10 percent.

The 2006 Legislative Session directed the Joint Transportation Committee (JTC) to study the ferry system's finances, in order to facilitate legislative policy discussions and decisions. The study was conducted by consultants and legislative staff. To guide the study, the JTC created a Ferry Finance Advisory Committee.

Overview

WSF is both part of the state highway system and a mass transit provider. WSF operates ten ferry routes within seven travel sheds in Puget Sound and the San Juan Islands. The travel sheds are distinct, differing in ridership characteristics, vessel and terminal capacities, and service areas. The ferry system includes 28 vessels, 20 terminals, and a repair facility.

Ridership. In fiscal year 2005, WSF had 23.9 million riders. Forty-five percent were vehicle drivers and 55 percent passengers. WSF's Draft Long Range Strategic Plan 2006-2030 projects ridership increasing 68 percent with current service, or 88 percent with proposed service improvements.

Finances. WSF operating revenues are primarily from fares. Concessions and other earned revenue and dedicated tax support also provide operating revenue. The Long Range Plan projects an operating surplus of $925.5 million, which it assumes is transferred to the capital program. The Long Range Plan anticipates a capital program of $5.6 billion. Capital funding is from dedicated motor vehicle fund support, discretionary legislative appropriations from this fund, Nickel and Transportation Partnership Act funding, and transfers from the operating budget. These sources do not fully finance the capital program, with $410.7 million unfunded.

Farebox Recovery. The 2001 Joint Legislative Task Force on Ferries recommended a target systemwide farebox recovery rate of 80 percent. WSF's FY 2005 farebox recovery rate was 76 percent. The Long Range Plan projects the rate growing to 109 percent by 2030.

Ferry Finance Decision Model

WSF bases its planning on the premise that operations and demand for ferry service drive fleet size and deployment, which in turn drive its terminal and repair facility planning. The consultants propose adding a step to examine pricing and operational strategies as a means of managing demand. WSF's long range operating and capital financial needs are based on the resulting service plan and need for investment in vessels and shoreside facilities. The ferry finance decision model would have six steps, as follows.

Step 1. Demand

Ridership projections are the basis for WSF's financial plan. WSF projects ridership using two models: an econometric demand model for near term revenue forecasting and a network-

based travel demand model for its Long Range Plan. The econometric model forecasts a 24 percent ridership increase by 2023, and the travel demand model a 56 percent increase. The two models provide different and important information for WSF planning. The consultants recommend that their results be reconciled so that a consistent projection is used for both short and long-term planning. Until then, the consultants recommend relying on the econometric model for capital investment decisions.

Step 2. Level of Service Standard
WSF has a level of service standard that measures its ability to fill the projected ridership demand. The Washington State Transportation Commission (WSTC) established the level of service standard in 1994. The standard is based on PM peak traffic. WSF's Draft Long Range Strategic Plan found that walk-on passenger service demand could be met through 2030, except for the most congested sailing on the Bainbridge Island-Seattle route.

The need for increased vehicle capacity is driving the proposed vehicle and terminal capacity increases in the Draft Long Range Plan. WSF has ample capacity in non-peak periods for vehicles as well as passengers. The Long Range Plan assumes non-WSF providers will meet the demand for passenger-only ferry service in the Central and South Puget Sound travel sheds. The consultants recommend reviewing the 1994 level of service standards for vehicles.

Proposed Step 3. Operational and Pricing Strategies
The consultants recommend adding a third step in the ferry finance decision model: Consider pricing and operational changes to manage demand by encouraging riders to walk on or, if driving, to drive on in non-peak periods. These opportunities may differ by travel shed. WSF should conduct a thorough review of potential operational and pricing strategies.

Step 4. Vessel Acquisition and Deployment
WSF's vessel acquisition and deployment received considerable review in previous legislative studies, and were not a focus of this study. The consultants note that the vessel acquisition plan in the Draft Long Range Plan is appropriately designed to be flexible with actual ridership experience.

Step 5. Terminal and Repair Facility Plans
WSF uses a very broad definition of preservation, which makes limited differentiation between the preservation and improvement program. This is important in view of the 2001 Joint Legislative Task Force on Ferries recommendation that the legislature give priority in funding to preservation projects. WSF's preservation budget is based on the Task Force recommendation to have 90 to 100 percent of its vital systems and 60 to 80 percent of its non-vital systems operating within their life-cycle by 2011 (now extended to 2015).

The consultants recommend developing a terminal condition rating system and using that, instead of the life-cycle cost model, as the preservation performance measure. The consultants found that a high percentage of expenses in the preservation program do not increase the life of structures or systems. In addition, systemwide projects, such as administrative overhead, are placed in the preservation program, resulting in overstated expenses for preservation. The review also found that replacement projects in the preservation program are very similar to

improvement projects, and recommend combining these two project categories to facilitate and better inform legislative review of these projects.

Terminal design standards result in large and expensive vehicle holding areas. The consultants recommend developing a way to stagger terminal projects with actual ridership. The consultants also recommend that WSF use a systematic project cost-benefit analysis and life-cycle costing approach (i.e. looking at total operating, capital and preservation cost of a project over its projected life) for terminal development, and identify costs related to community concerns and the development of multi-modal facilities for joint use with other transit agencies.

6. Financial Plan

Operating. The legislative staff and consultants' review of WSF's operating budget notes WSF's high dependence on earned revenue, mainly from fares. Also, the consultants' analysis indicates that excess operating revenues will not be available to transfer to capital in the magnitude contemplated. The consultants also note that such transfers appear counter to the purpose of dedicating tax support to ferry operations. The consultants conclude that between labor and fuel costs, WSF management has little opportunity to control operating costs effectively.

Capital. The amount of necessary capital funding cannot accurately be determined until the ridership, level of service, and pricing and operational strategy reviews are complete. WSF will also need to improve the terminal life-cycle cost model and/or develop a terminal condition rating system before accurate terminal preservation capital requirements can be determined. The consultants note that the capital funding available from dedicated tax sources ($793 million through 2021) is inadequate to fund the probable magnitude of WSF's capital program. The gap in capital funding is likely to be the largest financial problem facing WSF.

Recommendations

The following recommendations to the legislature are based on the proposed ferry finance decision model as a framework for legislative policy discussions and decisions.

Recommendations

Overarching	1. Use the ferry finance decision model to frame legislative reviews and authorizations.
	2. Recognize travel shed differences.
	3. Separate operating and capital finances.
	4. Recognize the importance of fares to generate revenue and affect demand.
	5. Encourage off-peak ridership increases.
Ridership Projection	6. Require reconciliation of short and long-term ridership projections.
	7. Conduct an independent review of projected ridership.
	8. In the interim, use the econometric model projections of ridership for capital decisions.
	9 Require a market survey of recreation users and vehicle drivers.
Level of Service Standard	10. Require a review of the level of service standard for vehicles.
	11. Conduct an independent review of the proposed level of service standard for vehicles.
Pricing and Operations	12. Require a review of operational and pricing strategies.

Reviews	13. Conduct an independent review of proposed operating and pricing strategies.
Vessel Acquisition and Deployment	14. Tie vessel acquisition decisions to ridership.
Terminal and Repair Facility Plans	15. Clarify capital project definitions. a. Capital – substantially extends the life of an asset or constructs new asset b. Preservation – substantially extends the life of an asset c. Improvement – changes or improves asset to meet service levels or constructs new asset
	16. Revise terminal preservation program. a. Require development of a terminal condition rating system as the basis for the terminal preservation capital program. b. Ensure that expenses are properly allocated to the terminal preservation program.
	17. Condition approval of terminal improvement projects on the independent reviews of ridership, vehicle level of service standard, and pricing and operational reviews.
	18. Conduct independent review of terminal design standards.
	19. Require a pre-design study on terminal improvement projects over $5 million for review by OFM and legislative transportation committees.
	20. Require WSF to identify costs to meet local concerns and to provide joint use transit facilities.
Operating Financial Plan	21. Revise operating fund policies. a. Do not plan transfers from the operating fund to support capital. b. Use a special surcharge that goes directly to capital, if fares are to support capital. c. Allow greater fund balance in the Puget Sound Ferry Operations Account. d. Balance operating fund with earned revenues and dedicated tax support.
	22. Revise tariff setting directions and policies. a. Amend RCWs to provide more specific direction on tariffs b. Require a market survey in setting tariffs. c. Direct the Washington State Transportation Commission to examine the role of the Tariff Policy Committee. d. Require more accurate cost projections for development of tariffs e. Recognize that operating costs will likely exceed the assumed 2.5 percent per year fare increase rates in the 2007-21 time period. f. Review one-way fare collection system.
Capital Finance Plan	23. Recognize likely shortfall in capital funding.

Performance Measures

The consultants recommend key performance measures under the ferry finance decision model that are related to the state's proposed mobility, preservation, and stewardship goals. The table below shows the relationship between these recommended performance measures and the proposed state goals.[1]

[1] Concurrent with the Ferry Finance Study, the legislature authorized a study on the Alignment of Benchmarks and Goals for Washington State's Transportation System which recommended the listed statewide goals among others.

Proposed Ferry Performance Measures

Statewide Goal	Ferry Finance Model	Proposed Performance Measure
Mobility	Demand	Ridership Measures • Ridership actuals against projections from the econometric and travel demand models • Ridership by travel shed and route – actual vs. projected • Peak and non-peak ridership trends • Impact of pricing and operational changes • Relationship of ridership to vessel and terminal capital plans
Mobility	Level of Service Standard	Level of Service Standard Measures • Actual boat wait by travel shed/route for vehicles
Stewardship	Operating Financial Plan	Farebox Recovery Measures • Actual farebox recovery versus projected by travel shed and route • Projected farebox recovery over the 16 year period of the legislative financial plan Unit Costs and Revenues • Costs and revenues per rider per route and travel shed
Stewardship	Capital Financial Plan	Capital Project Measures • Percent of projects on-time and on-schedule
Preservation	Terminal &Repair Facility Plan	Condition Rating Measures • Condition rating (i.e., percentage in good, fair, poor, or substandard condition)

FERRY FINANCE DECISION MODEL: KEY FINDINGS

Demand

Key Findings

- Seven distinct travel sheds/ferry markets
- Two travel models
- Travel Demand Model (TDM)–used for long-range plan
- Econometric Model (EM)– used for revenue forecast
- TDM projects 25% higher ridership than EM by 2023 (main difference passengers)
- TDM overstates cross-sound demand by understating Tacoma Narrows Bridge use
- TDM assumes constant auto operating costs
- EM updated more frequently
- TM based on peak period projection extrapolation to annual demand
- Origin and destination study being updated in 2006
- Neither model provides information on recreational users
- Need better information on vehicle drivers

Level-of-Service Standard (LOS)

Key Findings

- LOS set in 1994
  - Walk-on – no wait
  - Vehicles – 1- 2 boat wait
  - San Juans – daily & seasonal
- Planning for service additions is for peak-of-the-peak runs for passengers
- Planning for service additions is for peak period (4-hour PM) for vehicles
- Under TDM projections, WSF can meet walk-on demand through 2030
- Non-WSF passenger-only ferry service on Vashon & Kingston to Seattle routes is key to meeting walk-on demand
- Draft Long-Range Plan service and capital improvements are driven by vehicle demand
- Ample capacity in non-peak periods for vehicles

Operational and Pricing Strategies

Key Findings

- WSF has not thoroughly reviewed traffic demand strategies or operational changes to reduce peak vehicle demand
- Options to be explored range from pricing strategies to reservation systems
- Analysis of these options requested by cities reviewing terminal Environmental Impact Statements
- 1998 Joint Legislative Audit and Review Committee Performance Audit recommended similar analysis
- Operational and pricing strategies need to recognize travel shed differences

Vessel Acquisition & Deployment

Key Findings

- Prior studies largely on vessels
- Current Fleet - 28 vessels
- Plan through 2030 is to sell or retire 14/acquire 14 vessels
- Acquisition of 4 new 144-vehicle vessels authorized in current capital plan
- Other vessel acquisitions flexible with actual ridership – plan to acquire in two more groups
- All vessels to be acquired are planned as 144-vehicle vessels

Terminals/ Repair Facility Plans

Key Findings

- Little review in prior studies
- Area of legislative concern
- Definitions of project categories (i.e. , preservation and improvement) overlap and create confusion

Preservation Projects:

- Life-cycle ratings key justification
- 58% of the 2005-07 preservation budget affects rating
- Life-cycle cost model needs improvement
  - Not updated for condition
  - does not reflect life of steel & concrete structures
  - includes systems that are not replaced
- Replacement preservation projects are similar to improvement projects
- All system-wide projects attributed to preservation which overstates preservation program
- Some preservation projects include maintenance items
- Condition reports indicate terminals are in good condition

Improvement Projects:

- Based on existing ridership projections, level of service standard
- Unlike vessels, not flexible with actual ridership
- Design for vehicle holding areas uses terminal design standard level of service that results in holding areas larger than boat wait standard
- Terminal building designs for walk-on facilities based on most congested sailing level of service standard
- Operating costs will be higher for larger terminals – need life-cycle cost analysis
- Project cost-benefit analysis limited
  - Particularly important for over water structures
- Plans for concessions need business plans and caution given inherent risks
- Funding for full build out of major terminals not available
- WSF incurs capital costs to meet local needs
- WSF incurs capital costs to provide joint use multi-modal facilities

Operating Finance Plan

Key Findings

Finances:

- 75% of income from farebox
- Transfers to capital in legislative plan include all dedicated taxes & some fare and other earned income in out years - $518 million (05-21)
- Minimum fund balance of $5 million in operating account

Farebox Revenue:

- Revenue growth projected 6% to 11% per biennium (2005-21)
- Tariffs up 62% 2001-06
- Assume 2.5% annual increases 2007-21
- 75% of farebox from vehicles
- Complex ticket structure with 2,500 ticket types
- Tariffs set by WSTC with Tariff Policy Committee (TPC) using tariff route equity policy
- Broad legislative direction on tariffs
- One-way fare collection may reduce revenues

Farebox Recovery:

- 2005 – 76 %
- Labor agreements not in 2005 recovery rate
- Need to set by travel shed/route

WSF Expenses:

- Labor is 60% of total costs
- 92% of staff is union
- Labor agreements drive extra costs, including:
  - 8-hour minimum call
  - extra vessel staffing beyond Coast Guard requirements
  - Overtime – double pay
  - Travel time
  - Penalty pay
  - Non-pay provisions
  - Passes for employees, family, retirees & retiree families
- Fuel 21% of costs
- High fixed cost of operation for vessels
- Need projection of costs by travel shed and route

Impact of Cost Changes:

- Net increase in costs from new fuel forecast & labor agreements & settlements
- Reduce transfer to capital to $420 million
- Labor settlements not projected beyond 07/09
- Unlikely transfer from operating available

Capital Finance Plan

Key Findings

Finances (2005-21):

- Dedicated revenues – 12% of funding
- Nickel & TPA – 18%
- Discretionary Motor Vehicle Fund – 26 %
- Transfer from operating – 19%

Shortfall:

- Shortfall in capital funding
- Size of shortfall cannot be determined

Prioritization:

- Need for clearer prioritization process

FERRY FINANCE DECISION MODEL: RECOMMENDATIONS

Overarching Recommendations

1. Use the ferry finance decision model to frame legislative reviews and authorizations.
2. Recognize travel shed differences.
3. Separate operating and capital finances.
4. Recognize the importance of fares to generate revenue and affect demand.
5. Encourage off-peak ridership increases.

Demand

Recommendations

6. Require reconciliation of short and long-term ridership projections.
7. Conduct independent review of revised ridership projection.
8. In the interim, use econometric model projects of ridership for capital decisions.
9. Require a market survey of recreation users and vehicle drivers.

Performance Measures
- Ridership actuals against projections from the econometric and travel demand models
- Ridership by travel shed and route – actual vs. projected

Level-of-Service Standard (LOS)

Recommendations

10. Require a review of the level of service standard for vehicles.
11. Conduct an independent review of the proposed level of service standard for vehicles.

Performance Measures
Actual boat wait by travel shed/route for vehicles

Operational and Pricing Strategies

Recommendations

12. Require a review of operating and pricing strategies.
13. Conduct an independent review of proposed operating and pricing strategies.

Performance Measures
- ➢ Peak and non-peak ridership trends
- ➢ Impact of pricing and operational changes

Vessel Acquisition & Deployment

Recommendation

14. Tie vessel acquisition decisions to ridership.

Performance Measures
- ➢ Relationship of ridership to vessel acquisition plan

Terminals/ Repair Facility Plans

Recommendations
Capital definitions:

15. Clarify capital project definitions
    - Capital – substantially extends the life of an asset or constructs new asset
    - Preservation – substantially extends the life of an asset
    - Improvement – changes or improves an asset to meet service levels or constructs new asset

Preservation Projects

16. Revise terminal preservation program
    - Require development of terminal condition rating system.
    - Ensure expenses are properly allocated to terminal preservation.

Recommendations
Improvement Projects

17. Condition approval of terminal improvement projects on the independent reviews of ridership, vehicle level of service standard, and pricing and operational reviews.
18. Conduct independent review of terminal design standards.
19. Require a pre-design study on terminal improvement projects over $5 million for review by OFM and legislative transportation committees.
20. Require WSF to identify costs to meet local concerns and to provide joint use transit facilities.

Performance Measures
- ➢ Condition rating -(i.e. % in good, fair, poor or substandard condition)
- ➢ Relationship of ridership to terminal improvement projects

Operating Finance Plan

Recommendations
Finances:

21. Revise operating fund policies
    - Do not plan transfers from the operating fund to support capital
    - Use special surcharge directly to capital if fares are to support capital
    - Allow greater fund balance in the operations account
    - Balance operating fund with earned revenues and dedicated tax support

Fares

22. Revise tariff setting directions and policies
    - Amend RCWs to provide more specific direction on tariffs
    - Require a market survey in setting tariffs
    - Direct the Washington State Transportation Commission to examine the role of the Tariff Policy Committee
    - Require more accurate cost projections for development of tariffs
    - Recognize that costs will likely exceed fare increases of 2.5 % per year in the 2007-21 biennia
    - Review one-way fare collections

Performance Measures
- Actual farebox recovery versus projected by travel shed and route
- Projected farebox recovery over the 16 year period
- Costs and revenues per rider by route/travel shed

Capital Finance Plan

Recommendations

23. Recognize likely shortfall in capital funding.
    - Amount of gap cannot be estimated until ridership demand, level of service and pricing and operational strategies reviews are complete. Terminal condition rating and/or revisions to the terminal life-cycle cost model will be needed to project terminal preservation costs.

Performance Measures
- Percent of projects on-time and on-schedule