



WASHINGTON STATE FERRIES FINANCING STUDY PHASE II

JTC POLICY GROUP

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Policy Group Two Roles: SHSB 2358/Budget Provisions

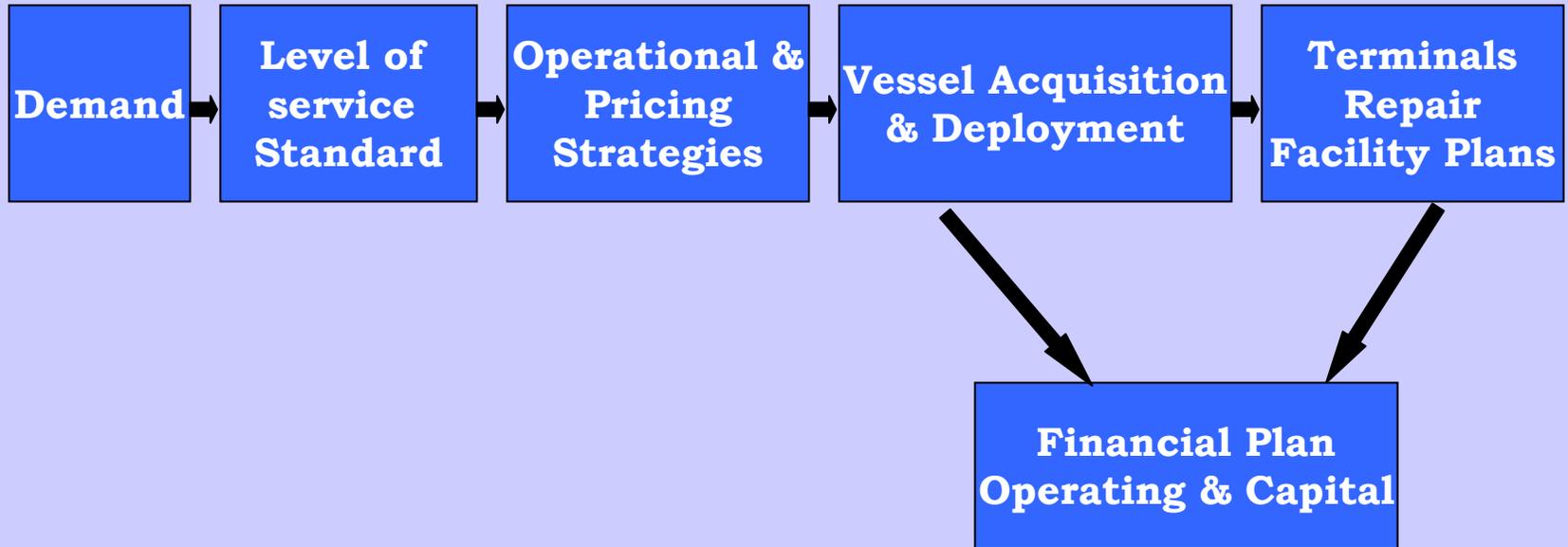
Conduct independent reviews

<i>Area</i>	<i>Lead Agency</i>
➤ Life-cycle cost model	WSF
➤ Capital cost allocation	WSF
➤ Ridership forecast	WSF
➤ Market research survey	WSTC
➤ Vehicle level of service standard	WSF
➤ Pricing strategies	WSF/WSTC
➤ Operational strategies	WSF
➤ Long-range capital plan	WSF/WSTC
➤ Terminal design standards	WSF

Conduct seven studies

- Administrative operating costs
- Non-labor and non-fuel operating costs
- Eagle Harbor maintenance program and maintenance costs
- Systemwide and administrative costs – capital program
- Vessel preservation costs
- Long-term financing
- Timing and sizing of vessel acquisition

Ferry Finance Model



Vessel Preservation Study Scope

1. Develop a profile of each auto-passenger vessel owned by WSF

- Capital costs: 2005-07 biennium
- Projected capital costs: 16 year capital plan & LCCM
- Operating maintenance costs – on board and by Eagle Harbor
- Assessment as to reasonableness of WSF current capital and operating projections for each vessel and/or class of vessel.
- Terminal or land-side requirements and constraints.

2. Review vessel capital and operating maintenance program

- Review overall vessel preservation program and make recommendations for improvement.
- Review systemwide vessel capital costs: 2005-07 and 16-year plan
- In-house design: Reasonableness of WSF's in-house vessel design costs and capacity.

Vessel Preservation Study Scope

3. Vessel Replacement Plan

- Review WSF vessel retirement and replacement plans.
- Make recommendations on vessel retirement and replacement plan.
- Project vessel acquisition schedule.

New Vessel Timing and Sizing – 2008 Study – (Assuming current 2007-23 planned vessel acquisitions)

- Assess the relationship between vessel acquisition decisions, WSF ridership projections and revised pricing and operational strategies.
- Assess how new vessel timing and sizing decisions relate to terminal planning.

Vessel Preservation Capital

Capital	2005-07 (\$000,000)	%	2007-23 (\$000,000)	%
Terminals	102.0	56%	1,236.3	55%
Vessels	76.0	42%	968.9	43%
Emergency			63.0	
Vessels	4.8	2%		2%
Terminals	.3			
Total	183.1			

Capital	2005-07 (\$000,000)	%	2007-23 (\$000,000)	%
Preservation	33.1	44%	608.1	63%
New	24.3	37%	309.9	32%
Systemwide	18.6*	25%	50.9	5%
Total	76.0		968.9	

* \$9.6 million of systemwide spent on individual vessels

Fleet

➤ **24 Auto-Passenger Ferries**

- 21 are active (assigned to a route/maintenance relief)
- 3 are inactive (de-crewed)

➤ **Fleet Age**

- Vessels 7 classes – reflect when built
 - 4 – Steel Electric Class - 1927
 - 3 - Evergreen State Class – 1954-59
 - 4 - Super Class – 1967
 - 2 – Jumbo Class – 1972
 - 6 – Issaquah Class – 1979-1982
 - 3 – Jumbo Mark II Class– 1997-1998
 - 2 – Misc. Hiyu -1967 and Rhododendron - 1947
- Anticipated vessel life – 60 years/major rebuild approx. 30 years
Exception – Issaquah class vessels from the 1980s
- Vessel preservation & replacement intersect for vessels 50+ years
Vessel replacement planning period 10 – 15 years

Vessel Assignment & Age

Route	# of Vessels	Vessel Ages Years (07)	% of Ridership 06
Keystone	2	80	3%
Point Defiance	1	60	3%
Fauntleroy	3	49,48 & 28	13%
Anacortes	6	80, 40(3), 26, 25	8%
Edmonds	2	35,8	18%
Bremerton	3	40, 35, 27	10%
Mukilteo	2	27,26	17%
Bainbridge	2	10, 9	27%

- Oldest vessels –Keystone & Pt. Defiance – 6% of riders
- One of the oldest vessels – Anacortes route – inter-island service
- Two intermediate age vessels – Fauntleroy route – 13% of riders
- 72 percent of riders are on routes totally served by vessels 40 years old or newer

Vessel Capacity & Age

Age of Vessels	Auto Capacity	% of Auto Capacity
80 years	241	8%
60 years	48	2%
53-48 years	261	9%
40 years	610	21%
34-35 years	376	13%
25-28 years	710	25%
9-10 years	606	21%
	2,852	

- 81% of capacity is in vessels 40 years old or newer

Vessel Life Cycle Cost Model (LCCM)

- Similar in concept to terminal life cycle cost model
- WSF is in the process of updating
- WSF uses LCCM for the 16-year vessel preservation budget
- Most applicable and useful for
 - Ships not due for replacement in the 16-year plan period
 - Ships that have been re-built when due
- Consultants reviewing assumptions in LCCM – not complete
- Consultants reviewing non-life cycle items in preservation budget
 - 3% or \$608,000 of FY 07-23 16-year plan

Newer Ships – Preservation Planning

	#	05-07* (\$000,000s)	07-09 (\$000,000s)	07-23 (\$000,000s)	2030 Age	Routes
Jumbo Mark II	3	\$.4	\$18.3	\$134.0	32	Bainbridge/Edmonds
Issaquah	6	\$7.0	\$8.2	\$213.4	49	Faunt/Brem/Muk/Anac
Jumbo	2	\$6.5	\$2.6	\$68.3	58	Edmonds/Bremerton

*Preservation PINs only

Observations:

- WSF retirement plans reflect age: range from 2025 to 2061
- Planning for replacement of the 2 Jumbo ships start 2017-2022
- Link to major terminal plans - Bainbridge, Seattle, Edmonds, Mukilteo, Anacortes – critical to long-range plan and financing
- LCCM appropriate to determine preservation requirements
- Planned re-build of Jumbo Mark II vessels will be reviewed

Intermediate Age Ships – Preservation Planning

	#	05-07* (\$000,000s)	07-09 (\$000,000s)	07-23 (\$000,000s)	2030 Age	Routes
Super	4	\$15.9	\$12.8	\$149.7	63	Anacortes/Bremerton
Hiyu	1	\$ 0	\$0	\$0	63	De-crewed
Evergreen State	3	\$1.8	\$5.7	\$ 41.3	72	Fauntleroy/Stand-by

* Preservation PINs only

Observations:

- WSF retirement plans mainly reflect age: range from 2022-33
- Hyak – Super Class vessel - planned for early retirement 2010-15
 - Plan for replacement with a new 144-car vessel
 - Did not receive re-build investment
 - Consultant review indicates vessel in good condition and funded through 2023 in 16-year plan - \$12.5 million
 - Should consider investment to extend life to 2025-2033

Intermediate Age Vessels

- Hiyu – planned for retirement in 2008-13
 - Smallest vessel in the system
 - De-crewed and inactive – used occasionally spring 2007
 - No preservation funds planned
 - 2005-07 \$367,000 emergency funding – regulatory compliance and life saving equipment
 - Should plan some preservation dollars if keeping in system
 - No need to replace/not included in deployment plan for new 144s

- Evergreen State – planned for retirement in 2010-15
 - Constructed 1954 – rebuilt 1988
 - Planned retirement sooner than others in class – rebuilt sooner
 - On stand-by status
 - Needs new control system, engine etc.
 - Planned replacement new 144-car vessel
 - Retirement range reasonable

Intermediate Age Vessels

- Replacement funding 5 more vessels – 2007-30 time period
 - Key financial consideration – replacement 6 vessels
 - 2 Evergreen States (+1 current plan), 3 Supers (+1 planned)
 - Need to sequence replacement and preservation planning
 - No replacement funding in 2007-23 plan
- Terminal coordination – Fauntleroy, Seattle, Anacortes

Oldest Vessels – Preservation Planning 2023

	#	05-07* (\$000,000s)	07-09 (\$000,000s)	07-23 (\$000,000s)	2030 Age	Routes
Rhododendron	1	\$.5	\$.7	\$.8	83	Point Defiance
Steel Electrics	4	\$.7	\$.6	\$.7	103	Keystone/Anacortes Inter-Island Service

* Preservation PINs only

Observations:

- WSF retirement plans reflect age: 2010-15
- Steel Electrics – planned for retirement 2008-15
 - Plan for 2 replacement with first 144-car new vessel – Anacortes
 - No plan for replacement of Keystone route Steel Electrics
 - Consultant review indicates urgent need to replace Steel Electrics
 - Only vessel that can be used on the Keystone route
 - Consider alternatives to use on inter-island service
 - Consider retiring Nisqually rather than doing repairs

Oldest Vessels

- Rhododendron
 - Planned for replacement in 144-new vessel plan
 - Less urgent than Steel Electric replacement
- Emergency and Systemwide Expenses
 - Steel Electrics 2005-07: \$250,000 systemwide and \$660,000 emergency repairs. 2007-09 \$2.7 million in emergency repairs.
 - Rhododendron 2005-07: \$713,000 systemwide & \$15,000 emergency repairs
- Preservation and Replacement Funding
 - Need revised projection for preservation funding
 - Preservation funding needs to be in sync with replacement schedule
- Terminal Planning
 - Importance of route based planning – integrating vessels and terminals

Summary

- Need to develop vessel replacement plan as central part of 2030 plan
 - Replace/retire 13 of 24 vessels during this period (4 oldest & 7 intermediate age)
 - Plan replacement of 2 of the newest vessels
- 2007-23 plan includes 4 new vessels
- Plan
 - Methodical
 - Ensure replacement capacity on an on-time, scheduled basis
 - Dependent on outcome of ridership projection, level of service standard and operating and pricing reviews – add capacity
 - Provide predictability for WSF and shipyards
 - Allows for workforce planning - consistent with policy to build in Washington
 - Tracked and reported to the legislature
 - Funded

Sample Model – Maintain Capacity

