WSF FINANCING STUDY PHASE II

AUTO-PASSENGER VESSEL PRESERVATION AND REPLACEMENT

JTC POLICY GROUP
December 10, 2007

Cedar River Group
John Boylston

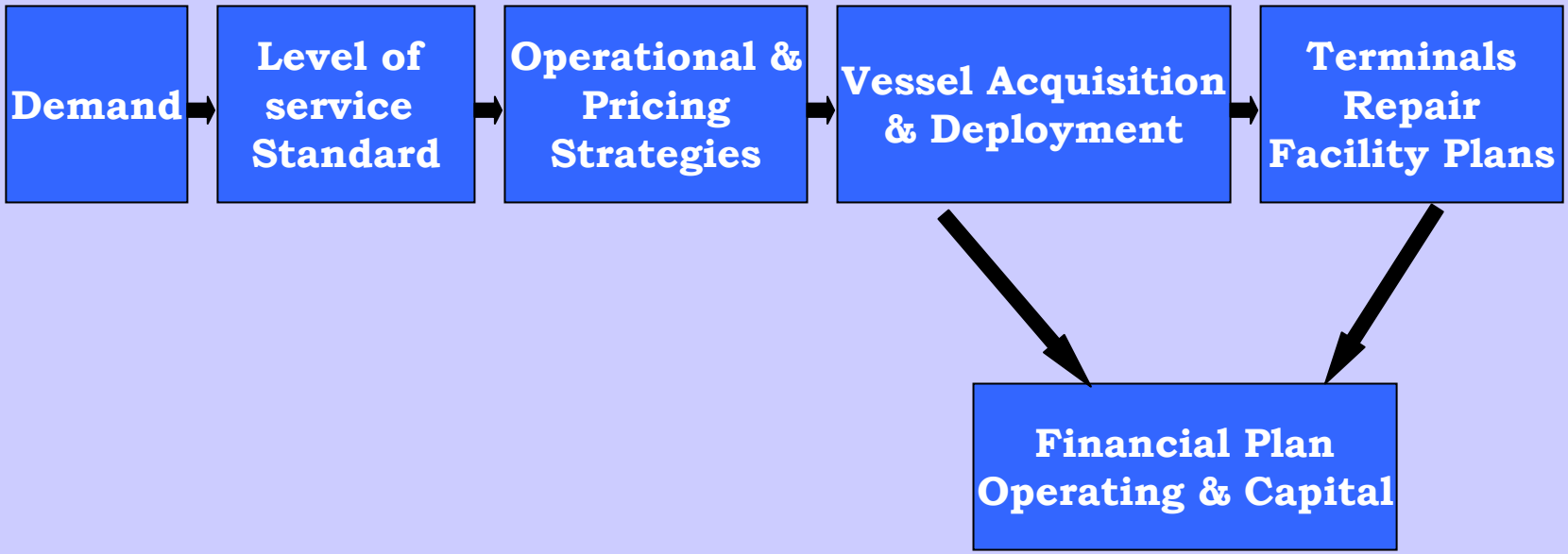
Legislative Direction: Budget Provisos

- Review vessel preservation costs
- Make recommendations regarding the most efficient timing and sizing of future vessel acquisitions beyond the currently authorized four new 144-car vessels

ESHB 2358

- WSF required reviews of demand, vehicle level-of-service standards, and operating & pricing strategies underway
- Recommendations in this study based on existing operations & ridership
- Additional vessel sizing and acquisition reviews in 2008 based on revised demand forecast, vehicle level-of-service standards and revised operating & pricing strategies

Ferry Finance Model



Fleet

24 Auto-Passenger Ferries

21 are active (16 assigned to a route/5 on maintenance relief at least part of year/1 on all year maintenance)

3 are inactive (de-crewed/no preservation funding)

Fleet Classes: 6 classes & 2 miscellaneous vessels

4	Steel Electric Class	1927
1	Misc. Rhododendron	1947
3	Evergreen State Class	1950s
4	Super Class	1967
1	Misc. Hiyu	1967
2	Jumbo Mark I Class	1972
6	Issaquah Class	1980s
3	Jumbo Mark II Class	1990s

72% of riders on vessels that are 40 years old or newer

Active fleet auto capacity: 2,672

Vessel Condition

Life Cycle Cost Model (LCCM) Rating: Active Vessels

- All, except Hyak, at or near performance goal through 2021-23

Steel Condition

- Not measured in LCCM
- Audio-gauging
- WSF audio-gauges 10 years after major renovation/construction
- After first 10 years, audio gauge every 5 years
- WSF needs intensive program – 60 year service life goal

Steel Electrics & Rhododendron - Built 1920s and 1940s

- Steel Electric steel deterioration – pulled from service Nov.
- Rhododendron in service – has concrete similar to Steel Electric

Evergreen State Class Vessels - Built 1950s

- Two in good shape
- Evergreen State – inactive normally – needs new control system
- Consultants noted bilge corrosion on tour of Klahowya

Vessel Condition

Super Class Vessels – Built 1960s

- Hyak – not rebuilt with others – 40 years old – may merit rebuild
- Others toured – well maintained – bilge problems

Jumbo Mark I Class Vessels – Built 1970s

- Good condition
- Bilges showing signs of corrosion

Issaquah Class Vessels – Built 1980s

- Re-build dates addition of a 2nd car deck – except Sealth
- Tour of Kittitas and Kitsap – need additional bilge maintenance

Jumbo Mark II – Built 1990s

- Excellent Condition

Hiyu

- Inactive – but in good condition
- Smallest at 32 cars

Out of Service Time

WSF System Planning: Assumes 6 to 8 weeks per vessel per year

Six Year Period for Planned Preservation Only

- Average two boats per day out of service (active fleet)
- Average out of service days in the summer – 117 per year
- Does not include additional out of service days at Eagle Harbor
- Does not include emergency repairs

- **Why Important**
  - Affects fleet size – # of vessels needed for a given service level
  - Customer inconvenience
  - Revenue – particularly in summer out of service periods

Recommendations

1. **Three Active Steel Electrics and Rhododendron**
   - Replacement top priority in WSF capital program
   - Consider expedited procurement process – especially for Keystone
2. **Consider Rebuild of the Hyak to Achieve 60 Year Service Life**
   - Currently planned for retirement with 3rd new 144-car vessel @ 45 years
3. **Reduce Planned Out of Service Time**
   - Shipyard contracts
   - Preservation work while underway (cruise line approach)
4. **Maintenance & Preservation**
   - Institute a bilge & void maintenance program
   - Institute a visual inspection/audio gauging program on older vessels
   - Institute an integrated coating (painting) program
   - Consider standardized cabin maintenance materials
   - Provide preservation funding for inactive vessels or retire

Vessel Replacement

- Projected retirement dates should be the driver for the vessel preservation & maintenance program
- WSF must replace 18 of its 21 active vessels in 36 years – 77% of existing capacity

WSF Vessel Replacement Planning

- Assume 60 year service life
- Rebuild at 30 years (45-75 systems) except Issaquah class
- Actual experience – older vessels delayed

  Steel Electric near 60 when rebuilt/Rhododendron 44

Four New 144-car Vessels Deployment Plan

- 1st vessel – retires 1 active Steel Electric
- 2nd vessel – retires Rhododendron
- 3rd vessel – retires inactive Evergreen State
- 4th vessel – retires Hyak /Elwha inactive state except summer
- Add 12% auto capacity summer/7% rest of year

Vessel Replacement Need

- 18 vessels of 21 active– 36 years – 77% of existing capacity

  Immediate – 4 (3 Steel Electric, Rhododendron)

  2022-28 – 2 Evergreen State

  2025-33 – 4 Super

  2031-37 – 2 Jumbo Mark I

  2037-44 – 6 Issaquah

WSF Vessel Replacement Planning – 10 Years

- New 144 car procurement – 2002 session

Relationship of Vessel, Terminal and Shoreside Improvements

- Inter-related
- Keystone-Port Townsend

Recommendations

1. Develop Consistent and Legislatively Reviewed Vessel Rebuild/Replacement Plan

- Projected retirement dates
- Projected rebuild dates
- Explanation of significant deviations
- Summary of vessel condition
- Tie to requested vessel preservation budget
- Treat the replacement as a baseline – what needs to be done and when to maintain existing capacity
- Show full timelines for replacement
- Business decisions on vessel sizing
- Prioritize vessels that replace existing capacity in-kind over increases in capacity if both cannot be financed

Recommendations

2. Provide the Legislature with a Report on the Vessel Deployment Plan that Maximizes the Utilization of Existing Vessels

- Planned seasonal deployment & service by route
- Planned maintenance and out of service schedule

3. Relate Increases in Vessel Capacity to Ridership Forecast, Level of Service Standard, Operational Changes & Terminal Design Standards

- Required by ESHB 2358

4. Consider Alternatives to New Vessel Construction to Increase Capacity

- Analyze changes in service (i.e. restoration of cuts)
- Vessel modifications (2nd car deck Sealth)
- Out of country acquisition – Sydney route not subject to Jones Act

Recommendations

5. Prioritize and Commit Vessel Replacement Funding

- Critical element in WSF financing

6. Use Route Based Planning

- Lessons learned from Port Townsend-Keystone

7. Gauge Community Reaction to Vessel Capacity Changes

8. Route Based Capital Budgets

- Call attention to important linkages rather than a list of terminals separated from a list of vessels

Capital Financing: 2005-07 Biennium

Total Capital Expenditures - $182.9 million

Terminals – 56%

Vessel - 41%

Emergency - 3% (96% on vessels)

Vessels - $75.8 million

Preservation – 43%

New – 32%

Systemwide – 25%

Existing Vessels

70 percent – Elwha, Hyak, Walla Walla & the Sealth

Systemwide Projects

$18.6 million - $11.0 million on vessel specific improvements

Emergency Repair

$4.8 million on vessels - $2.1 million for Elwha

New Vessels

$24.3 million/total $30.2 million 2003 to 6/30/07 ($19.9 million on machinery)

Capital Financing: 2005-07 Biennium

Difference from 2006 Legislative Plan

Preservation: 21% less
Systemwide: 17% more
Emergency: 20% more
New: 35% less

Staff and Design Capital Costs

Staff charges: $10.6 million – 13% of all capital costs
Outside design: $ 3.8 million - 5% of all capital costs
Combined:

18% of total capital
27% systemwide projects
16% new vessel projects
15% preservation projects
10% emergency repairs

To be further reviewed in study of administrative costs

Capital Financing: 2007-09 Biennium/16-Year Plan

16-Year Plan - $1.2 billion

Terminals – 55%
Vessels – 43%
Emergency – 3%

16-Year Plan – $969 million vessels

Preservation – 63%
New – 32%
Systemwide – 5%

Vessel Preservation

2007-09 - $49 million 2007-23 - $608 million

- Inactive vessels: No preservation funds budgeted
- Steel Electrics & Rhododendron: Assumed to retire/no funds past FY 09-11
- For 17 vessels assumed to be active throughout the plan – average preservation funds of $4.5 million/biennium
- LCCM used in budget used old retirement dates
- Non life cycle costs – 6% of 07-09 preservation budget

Systemwide Projects

- 18 projects/7 only in 2007-09 biennium
- Average per biennium $5.7 million for on-going projects

New Vessels

- Four new 144-car vessels
- No funding to replace:
  - 2 Steel Electric replacement (Keystone)- Immediate
  - 2 Evergreen State Retire 2022-28
  - 1 Super Class Retire 2025-30
- No funding for replacement planning & design:
  - 2 Super Class Retire 2027-33
  - 2 Jumbo Mark I Retire 2031-37

Emergency Repair

- FY 07-09 inadequate/41% expended in first quarter

Recommendations

1. Implement ESHB 2358

- Definition of capital: Review to ensure only capital expenditures in capital budget
- Improvement vs. preservation – Separately identify improvements
- Systemwide and administrative cost allocation
- LCCM and asset management program

2. Vessel Preservation Funding

- Tie vessel preservation funding to vessel replacement plan
- Prioritize vessel preservation over vessel improvement funding
- Consider increasing preservation funding
  - Provide for inactive vessels or retire
  - Provide for Steel Electric/Rhododendron preservation (as determined)
  - $4.5 million for 17 ships – inadequate
- Do not reduce preservation funding to pay for replacement
  - Can reduce funding once construction underway

Recommendations

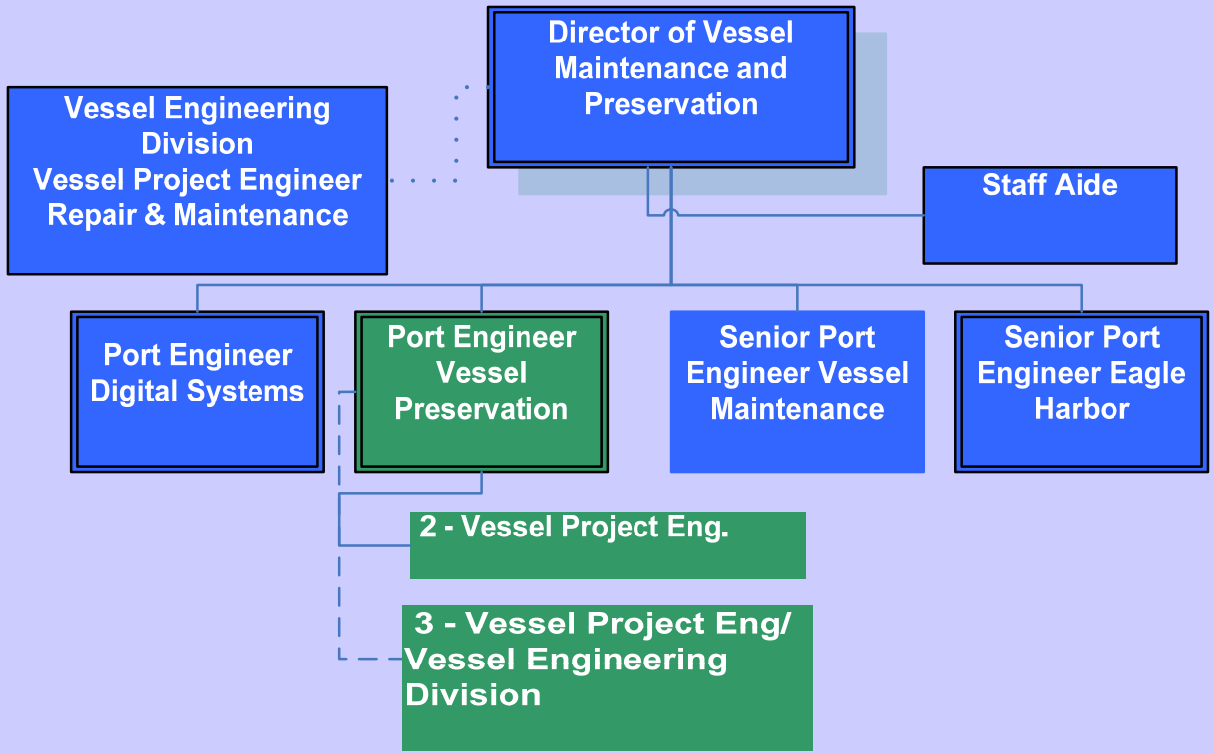
3. **Emergency Funding**
   - Do not use for planned maintenance & inspections of inactive vessels

4. **Increase Vessel Replacement Funding**
   - Fund replacement of 5 vessels not retired by new program
   - Fund design & procurement for 4 others nearing retirement at end of 2007-23 plan

5. **Prioritize Vessel Funding over Terminal Improvement Funding**

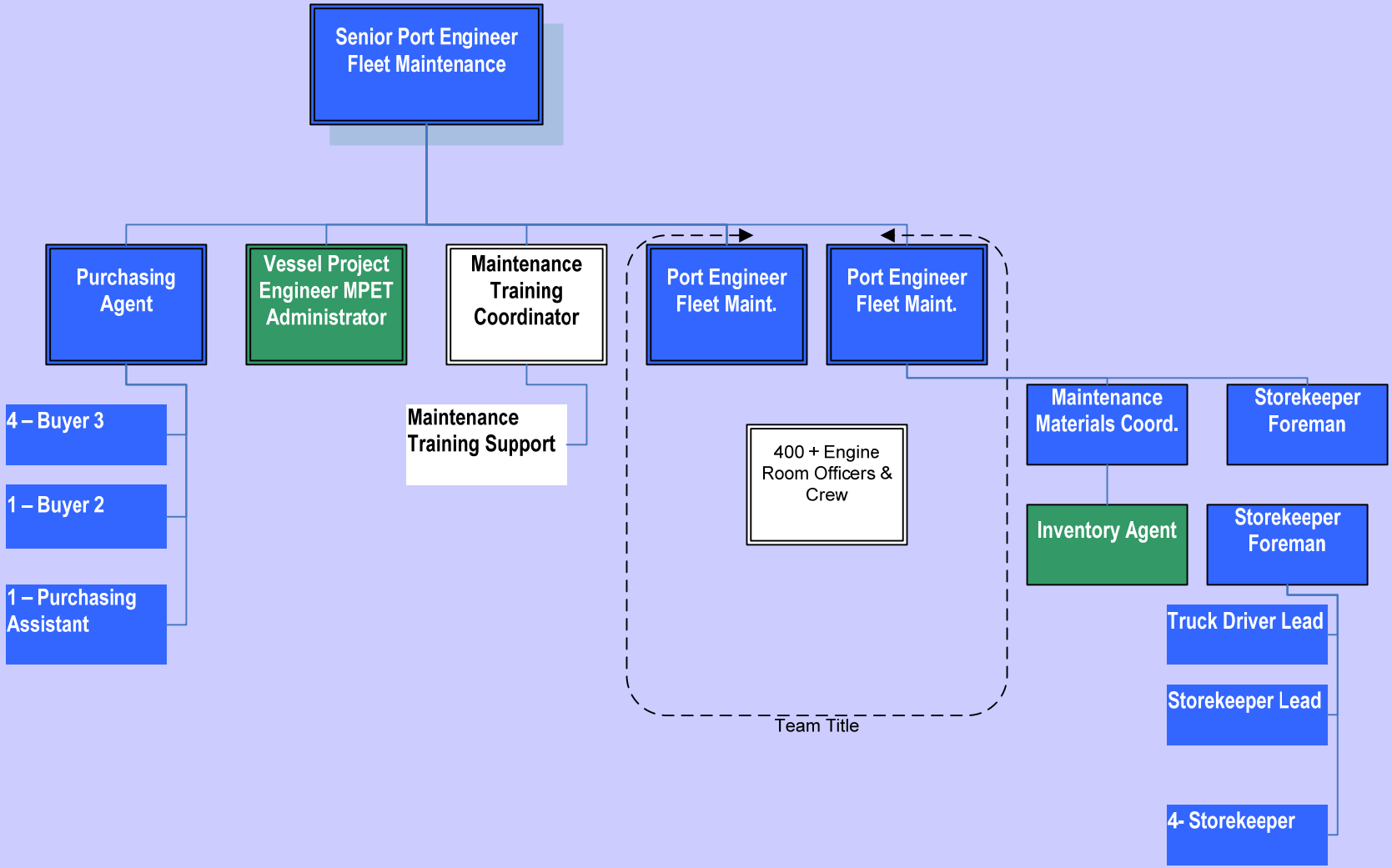
Maintenance & Repair Operating Finance

Maintenance & Preservation Division



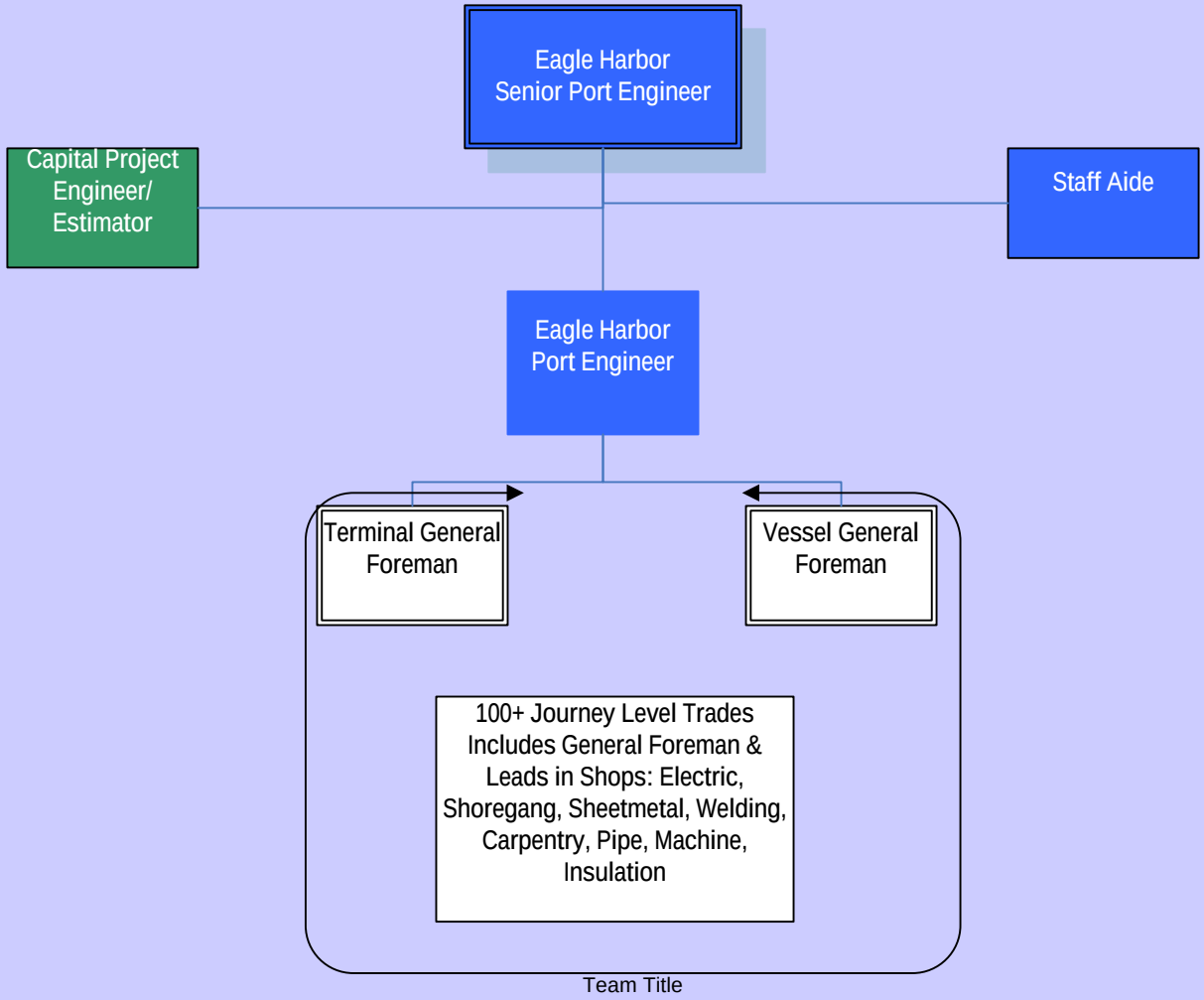
Blue = Operating Budget Green = Capital Budget

Fleet Maintenance Section



Blue & White = Operating Budget Green = Capital Budget

Eagle Harbor



Blue & White = Operating Budget Green = Capital Budget

Maintenance & Repair Budget Structure

X1 – Vessel Operations

- Vessel engineering when the vessel is in operation

X4 – Vessel Maintenance

- Eagle Harbor when working on vessels
- Lay up time for engineering room staff

X7 – Maintenance Management & Support

- 24 positions from Maintenance & Preservation Division
- 1 position in Vessel Engineering Division

Total Vessel Costs – 2005-07 Biennium

$283.4 million total vessel operating cost

Maintenance & Repair	38%
Fuel	29%
Deck Operations	33%

Maintenance & Repair Budget Structure

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- Vessel engineering when the vessel is in operation

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X7 – Maintenance Management & Support

- 24 positions from Maintenance & Preservation
- 1 position in Vessel Engineering

Total Vessel Costs 2005-07 Biennium

$283.4 million total vessel operating cost

Maintenance & Repair	38%
Fuel	29%
Deck Operations	34%

Maintenance & Repair Costs

- $105.4 million
  - 74% labor
  - 19% outside repair costs
  - 4% supplies
  - 3% misc. including leases, utilities etc.

Maintenance & Repair Labor Costs

- $77.8 million
  - $75.1 million regular, overtime, penalty pay
  - $ 2.7 million for travel, training, uniform & meals
- 17% of labor costs due to overtime, penalty pay & travel time pay
- $1.8 million private auto mileage reimbursement
- $ .9 million on travel, training & staff uniforms

Outside Repair Costs

$19.8 million

- 44% Drydock charges (in addition to capital)
  - Coast Guard required drydockings
- 29% Equipment purchases
- 14% Shipyard repairs
- 14% Misc. including inspection fees, towing, fuel, etc.

By Vessel Breakdown of Costs

- Being developed by WSF

2007-09 Biennium

Maintenance & Repair Budget

- $111.6 million – 6% higher than 2005-07 (labor adjustments)
- Repairs budget 14% lower than 2005-07 actual expenditures

Eagle Harbor 2005-07 Biennium

- Total vessel expense $14.1 million
  96% maintenance & repairs operating budget
  4% capital

- Work on new installations - capital

Recommendations

1. **Consider Internal Realignment to Increase Maintenance & Preservation Division Management**
   - Division has small number of managers
   - State Auditor cited limited management staffing at Eagle Harbor
   - Additional management staff may be needed to implement recommendations of this report

2. **Reduce Planned Out of Service Drydocking Time**
   - Consistent with recommendation on capital out of service time

3. **Consider State Auditor's Double Shift Recommendations**
   - April 2008 report due from WSF/WSDOT

4. **Review 2007-09 Biennium Repair Budget**
   - 14% lower than 2005-07 not likely to be sustainable