

Sustainable Asset Management and Managing Environmental costs

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Seaport Environmental Programs

Outline

- Port of Seattle overview
- Sustainable Asset Management
- Resource Conservation during Operations
- Cost Recovery

Port of Seattle Overview

- 3 operating divisions
- Airport (15th busiest in US)
- Seaport (container port, bulk cargo, cruise, fishing fleet, grain)
- Real Estate





Port of Seattle Seaport Facilities

Seaport Asset Portfolio

Current replacement value > \$2.0 billion



Seattle Seaport Business model

- Primary:
 - Port builds facilities
 - Tenant leases facilities – long - term
 - Tenant responsible for maintenance
- Secondary:
 - Port builds facilities
 - Tenants rent facilities/pay dock moorage
 - Port responsible for maintenance

Seaport capital assets

- Docks & piers
- Pavement
- Rail
- Buildings
- Cranes
- Utility infrastructure
- Roads & bridges



Our Challenge

- What do we own?
- What is the age, condition, and cost to replace?
- How long will they last based on appropriated maintenance funding?
- How long do we want it to last?
- Who is responsible for maintaining?
- How do we prioritize?

Sustainable Asset Management Policy adopted 2007

- Focus on total cost of facility ownership to link capital investments & ongoing operating costs
- Benchmarking – industry best practices to maximize efficient use of funds & conserve natural resources
- Integrate environmental & financial performance – reduce total ownership costs AND reduce environmental impacts

Environmental asset management

- CEO goal – be the cleanest, greenest, most energy efficient Port in the US
- Our approach:
 1. Achieve real environmental benefits
 2. Make business sense
 - Cost effective
 - Enhance customer value
 - Enhance long term competitiveness

Total cost of ownership

- Present value of:
 - Initial capital cost
 - Ongoing operations & maintenance
 - Renewal at end of useful life
- Adjust for:
 - Business model
 - Changes in needs over useful life
 - Levels of service

Changing the model to total cost of ownership

- Much of total ownership costs occur *after* design and construction
- Decisions driving these costs occur *before* detailed design is completed
- Change long standing approach - lowest initial cost
- Change internal/external expectations
 - Design, engineering, project management
 - Maintenance

Detailed facility assessments at the Seattle Seaport

- In-house facility condition assessments of 80-100 year old facilities
- Detailed - to building & utility system level
- Determine useful life, ongoing maintenance costs, renewal/replacement costs
- Combine with business planning for facility long term use

Maintenance Goals

- Where Port responsible
 - Focus on preventive maintenance
- Where tenant responsible
 - Developing & documenting joint expectations
 - Documenting asset condition
 - Auditing tenant maintenance performance



Resource Conservation

Resource Use and Conservation

- Sustainable Facility Management
- Energy Conservation Efforts:
 - Port of Seattle Headquarters: 43% reduction in energy use: \$126K annual savings
 - Pier 66: 58% reduction in energy use: \$156K annual savings

Conservation Initiatives

- Installed VFDs
- Replaced all exit lights with LED
- Turned off unneeded lighting



Energy Savings Strategies

- New HVAC contract
- Repaired deferred maintenance items
- Negotiated a long-term contract w/ Seattle Steam
- Changed the way we operate equipment



Worked w/
Mechanical Contr.
to modify HVAC
equipment
operation

Scheduled larger spaces off



Chiller Plant

- Put the chillers on a schedule
- Raised chilled water set point



Electricity Savings

–2002 usage 4,115,704 kwh
–2006 usage 1,710,903 kwh
2,404,801 kwh

58.4% less electricity used

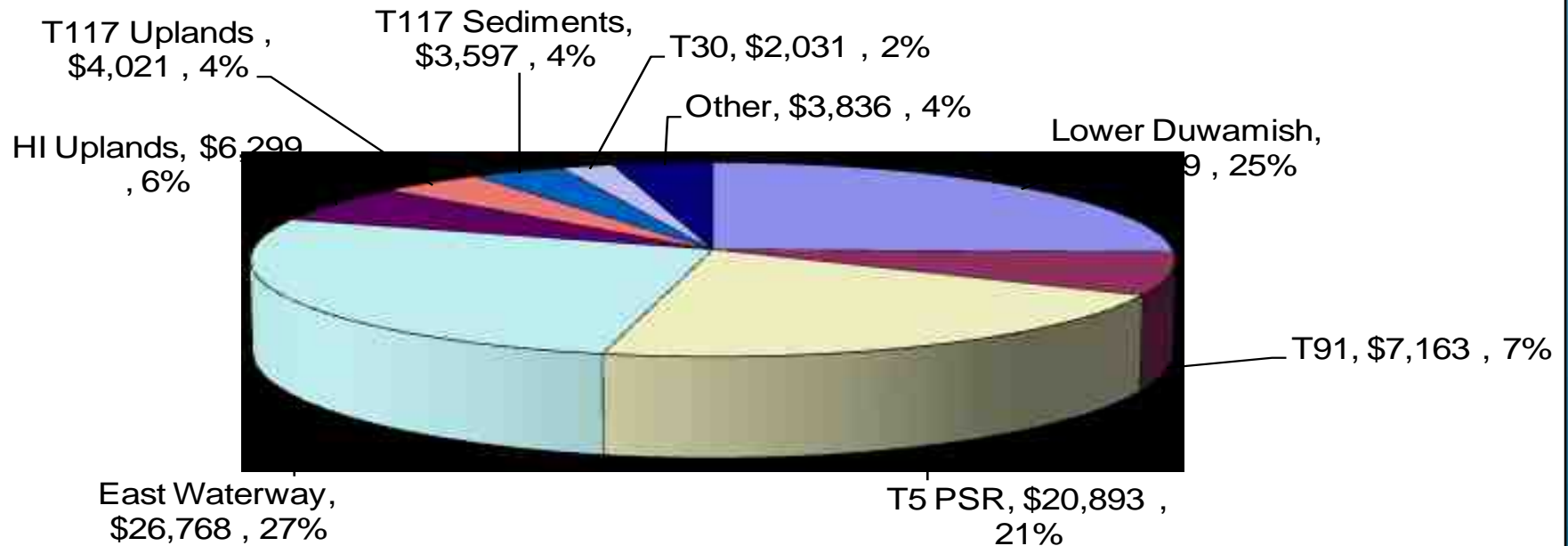
\$163,000 2006 savings

\$200,000 2009 savings

Cost Recovery

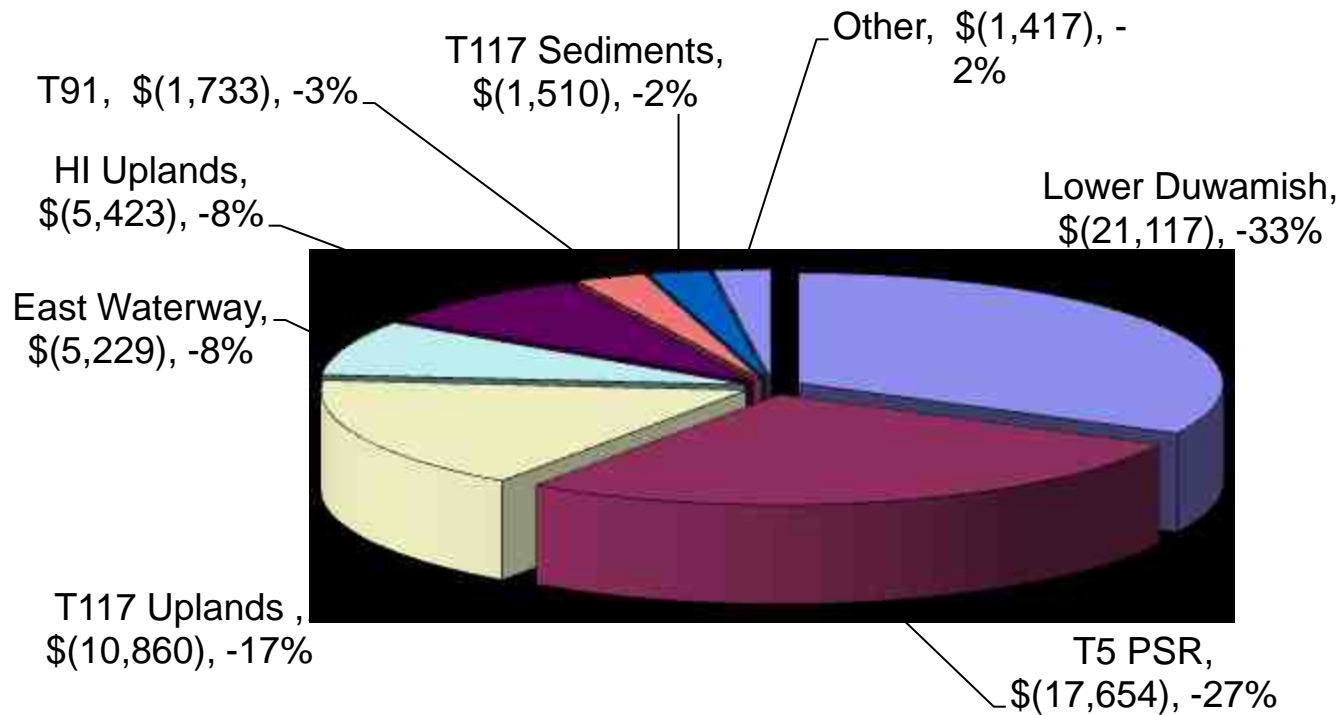
Past Cost Summary: \$102 Million

Figure 1a. Total Environmental Cleanup Cost "Gross" 1991 to 2009 \$102 Million

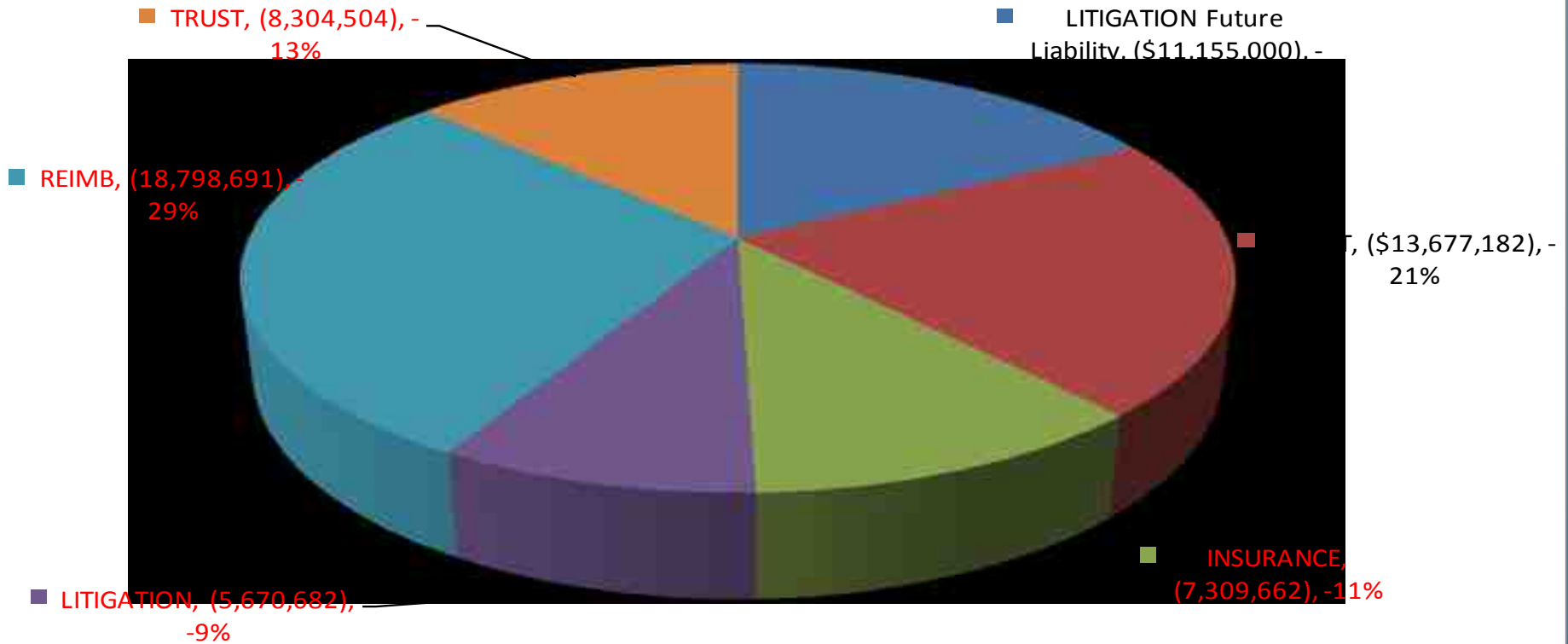


Footnote: Excludes environmental cleanup costs for: T5 Southwest Harbor Project RA1, RA-2, RA3, RA5; T30 cleanup costs between 1984 and 2000.

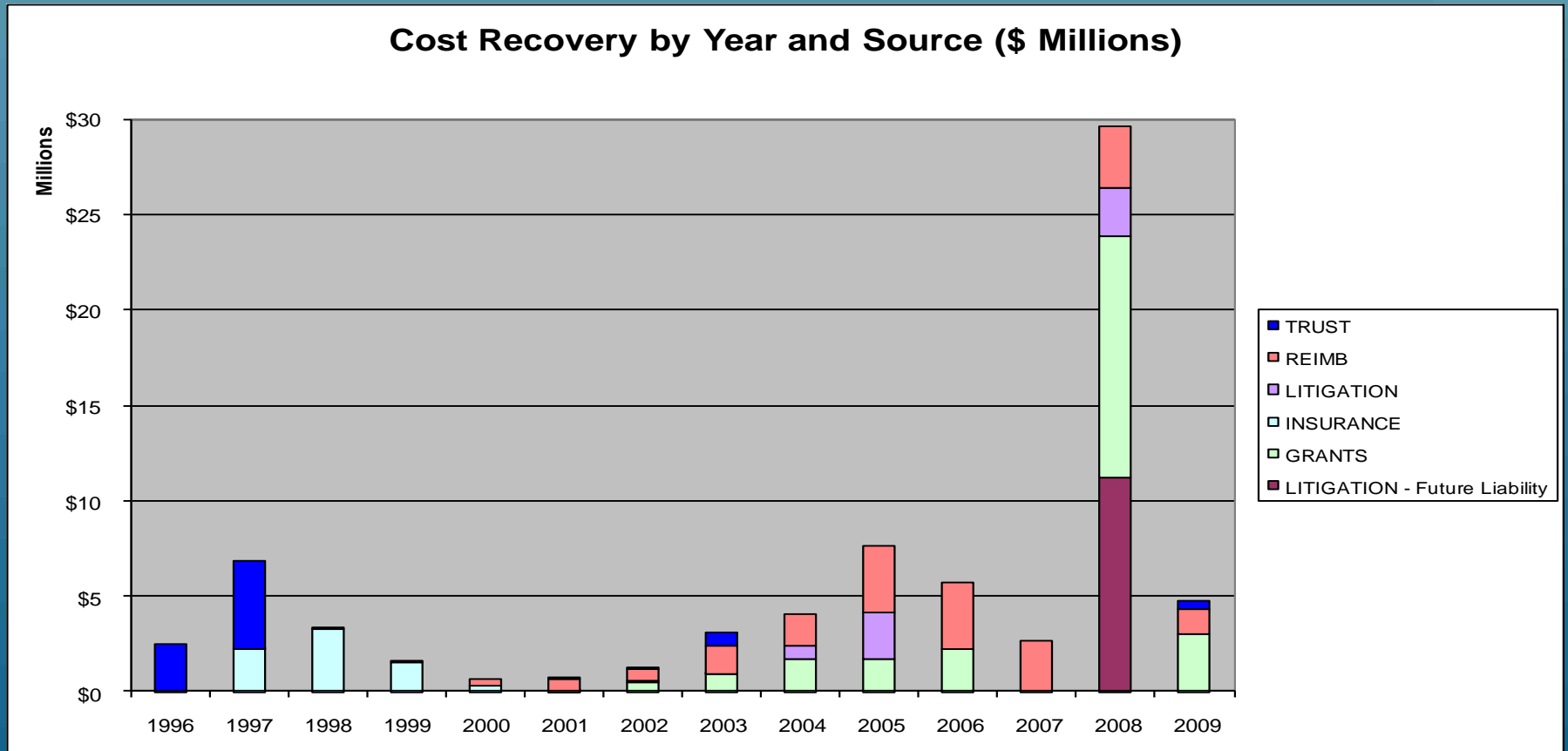
Cost Recovery by Site: \$65 Million



Cost Recovery by Source (\$65 Million) 1991 to 2009



Cost Recovery by Year and Source



Footnote: only includes cost recovery through 2009 6/30/2009





Port of Seattle

Where a Sustainable World is Headed

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