2012 Cargo Activity

**Breakbulk = 259,915 Short Tons (+68.4%)**

**Autos = 148,239 Units (-8.7%)**

**Rail Lifts = 439,760 (+29.7%)**

**Total Tonnage = 18,534,288 ST (+3.7%)**

**Logs = 66,405,210 Board Feet (-36.0%)**

**Containers = 1,711,134 TEUs (+15.9%)**

**Grain = 4,804,265 Short Tons (-19.0%)**

Source: Internal Port Statistics
Year 1: 2012

...an Asset Management Pilot Program
Project Initiation

1. Internal interviews
2. Initial ‘all-hands’ briefings; regular updates
3. Written Project Plan
4. Consultant scope of work and selection
5. Resource recruitment
   a) Working Group
   b) Executive Steering Committee
6. Selection of short-term wins
7. Long-term commitment
“The Port recognizes it must monitor the condition of its assets, know where to reinvest for the greatest good and improve its understanding and control of asset life cycle costs.”
Initial Approach

Pilot an asset management program, in part, through creation of an ‘escrow’ database, without changing:

1. Our systems; or,
2. How we do our business

So that we can ‘learn by doing’ and adapt.
1. Create an objective, standardized, credible, repeatable process to guide our decision-making relative to asset reinvestments.

2. Provide organizational focus and alignment - on problems, not projects.

3. Subject to change.
Know where to Reinvest for the Greatest Good

Not Recommended

Bang for the Buck
1. Reviewed available data on 244 buildings and structures.
2. Conducted field evaluations on 85 building roofs; assigned “Risk Ratings” to 76.
3. Developed roof repair cost estimates on 41 buildings.
4. Matched to available revenue data to develop prioritized list.
Array the assets as points in a graphic (as follows), prioritize based on *distance from the point of origin* and categorize recommended actions (as drafted below).

<table>
<thead>
<tr>
<th>RISK</th>
<th>AFFORDABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Risk/Not Affordable</td>
<td><strong>(Recommend: Divest, Demolish, Surplus or De-commission)</strong></td>
</tr>
<tr>
<td>Low Risk/Not Affordable</td>
<td><strong>(Recommend: Divest or Run to Failure)</strong></td>
</tr>
<tr>
<td>High Risk/Affordable</td>
<td><strong>(Recommend: Reinvest or Divest)</strong></td>
</tr>
<tr>
<td>Low Risk/Affordable</td>
<td><strong>(Recommend: Monitor, Reinvest or Divest)</strong></td>
</tr>
</tbody>
</table>
Summed Risk vs. Cost/Revenue

Projects valued at less than $50,000 are not shown.
Summed Risk vs. Cost/Revenue

Projects valued at less than $50,000 are not shown.
Initial Lessons Learned

1) Create market demand; stay on message

2) Avoid becoming the “Asset Tzar”

3) Co-author a Project Plan

4) Create a repeatable decision-making process based on objective data and agreed criteria

5) Recognize the Asset Manager only manages one type of asset
Initial Lessons Learned

1) Create market demand; stay on message
2) Avoid becoming the “Asset Tzar”
3) Co-author a Project Plan
4) Create a repeatable decision-making process based on objective data and agreed criteria
5) Recognize the Asset Manager only manages one type of asset - - DATA
6) Expect defensiveness

7) Secure early wins - even at the expense of the long-term project schedule

8) Language barriers exist. Write the new lexicon for the organization

9) Secure a high-profile executive sponsor; Stay visible

10) Don’t go alone. Secure technical expertise
Project Management
Pier and Wharf FCAs
Database Development
Cost Estimating
Building Assessment/Data Pilot

Five (5) Year Program Budget: $3,475,000
Year 1 Expenditures: $970,000
Year 2: 2013

Standards Definition and Adoption
Current Work

1. Completing identified reinvestment projects (based on 2012 Pilot)
2. Adopting Classification and Data Standards
3. Deploying a ‘Proof of Concept’

Program Development (Year 2) Expenditures: $197,941
## Identified Investments

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total #</th>
<th>3-Year Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Roofs</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>11</td>
<td>$6,828,000</td>
</tr>
<tr>
<td>Demolitions</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>1,250,000</td>
</tr>
<tr>
<td>Piers and Fenders</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>8,715,000</td>
</tr>
<tr>
<td>Strad Replacements</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>9,800,000</td>
</tr>
<tr>
<td>Auto Replacements</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>15</td>
<td>600,000</td>
</tr>
</tbody>
</table>

**Planned Asset Reinvestment Totals:** $27,193,000
Asset Data Standards

Allow for:

1. Levels of Information
2. Translation
3. Transformation
4. Evaluation
5. Predictability/Portability

And, promote Cost Savings
**Classification Comparisons**

**MasterFormat®** is perhaps the most widely used standard for classifying construction information, used by designers and constructors to break down a facility into components for construction processes and cost estimations.

**Uniformat™** arranges construction information based on functional elements, or parts of a facility characterized by their functions, without regard to the materials and methods used to accomplish them. This makes it ideal for facilities management.

**OmniClass** is a consolidation of multiple facility management classification methods (Including MasterFormat and Uniformat), normalizing and categorizing detailed attributes/properties and processes developed to support the National BIM Standard.
Cold-storage Warehouse   Category Code 431-10

OmniClass

- 21-02 00 00 Shell
  - 21-02 20 00 Exterior Enclosure
  - 21-02 20 10 Exterior Walls
  - 21-02 20 20 Exterior Windows
- 21-02 30 00 Roof
  - 21-02 30 10 Roof Covering
  - 21-02 30 20 Roof Opening
<table>
<thead>
<tr>
<th>Terminal Entities</th>
<th>Building</th>
<th>Site Finishes</th>
<th>Utilities and Infrastructure</th>
<th>Water-Related Construction</th>
<th>Facility Services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BUILDING #1, GUARD SHACK (NORTH ENTRANCE), TOTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #2, LANE 4 BOOTH, TOTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #3, DRIVER SERVICE BUILDING, TOTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #5, RELOC SHOP, TOTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #6, VESSEL STORES, TOTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #8, VEHICLES PROCESSING, TOTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #12, GUARD SHACK (SOUTH ENTRANCE), TOTE</td>
<td>FENCE</td>
<td>TRAFFIC BARRIER SYSTEM</td>
<td>Natural Gas/Propane System</td>
<td>MOORAGE AREA</td>
</tr>
<tr>
<td></td>
<td>BUILDING, INBOUND CANOPY LANE 1-3, TOTE</td>
<td>Site Signage</td>
<td>POTABLE WATER SYSTEM</td>
<td>Managed Waterway</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING, INBOUND CANOPY LANE 4-5, TOTE</td>
<td>Entry Control</td>
<td>STORMWATER SYSTEM</td>
<td>North Forward Pier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #4, TOTE ADMIN, TOTE</td>
<td></td>
<td>SEWER SYSTEM (should include oil water separators)</td>
<td>South Forward Pier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #9, MAINTENANCE BUILDING, TOTE</td>
<td></td>
<td>FIBER OPTICS/COMMUNICATION SYSTEM</td>
<td>Midship Pier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #7, TOTE TOWER, TOTE</td>
<td></td>
<td>FIRE SUPPRESSION SYSTEM</td>
<td>Aft Pier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #11, Dry Out Shed, TOTE</td>
<td></td>
<td>REEFER ELECTRICAL POWER</td>
<td>Dolphins, Pier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING #10, MARINE WAREHOUSE</td>
<td></td>
<td>FIXED COMPRESSED AIR SYSTEM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUILDING, FIRE SPRINKLER HOUSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure</td>
<td>BUILDING, OUTBOARD SCALE, TOTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UNDERGROUND STORAGE TANKS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PIER BLADDER, (North), TOTE (Assume Tank-type item)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PIER BLADDER, (South), TOTE (Assume Tank-type item)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear Form</td>
<td>TEMPORARY OFF-DECK STORAGE AREA PAVEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONTAINER YARD PAVEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DRIVING LANE PAVEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>STAGING AREA PAVEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PLANTING, GROUNDS AND LANDSCAPING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WASH PAD PAVEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>TOTE EXPANSION AREA, LAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBMERGED LANDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONTAMINATED LAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENVIRONMENTAL MONITORING WELLS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Future Work

1. Fully deploy standards
2. Implement new processes
3. Improve data access
4. Identify the Systems of Record and dismantle the Escrow Database
5. Revisit and improve analysis tools
6. Expand our condition assessments
“The Port recognizes it must monitor the condition of its assets, know where to reinvest for the greatest good and improve its understanding and control of asset life cycle costs.”