Overview: Port of Arbor – Case Study

Jerry Boese, Ross Strategic
April 8, 2014
Baltimore, Maryland
This afternoon’s agenda

• 1:30 Convene & welcome
• 1:35 Overview of case study
• 1:45 Panelist highlight their strategies and solutions
  ▪ 5 minutes each
• 2:25 Q&A and Discussion
• 3:00 Adjourn
• --break--
• 3:30 - 4:45 Report-out in plenary session
Panelists (aka Port Advisors)

1. Peg Hanna, New Jersey DEP (state agency)
2. Frank Esposito, US Coast Guard (federal agency)
3. Dr. Sacoby Wilson, Univ. of Maryland (researcher)
4. Amy Goldsmith, Coalition for Healthy Ports (community)
5. John Esposito, Ports America (Terminal operator)
6. Dr. Erica Holloman, Greater SE Development Corp. (Community)
7. Gerry Coyle, Evans Trucking (Trucking company)
8. Heather Wood, VA Port Authority (Port Authority)
Case Study Scenario *(fictional!)*

- Port of Arbor wants to expand
  - Currently handles 1.6 million TEUs/yr
  - With expansion, is projected to handle 2.1 million TEUs/yr (by 2030)
  - Deepen channel from 45’ to 50’
  - **Modernize** cranes and cargo handling equipment
Port Advisors’ Assignment

• **REDUCE EMISSIONS (by 2030)**
  ▫ PM – by 40 Tons/year
  ▫ NOx – by 1,200 tons/year

• **BUDGET CONSTRAINT**
  ▫ $15 million to spend 2015-2030

• **Plus:** Develop a strategy to inform and engage local residents
NOx emissions

Total = 3,876 tons/year

Goal: reduce by 1,200 tons/yr
PM emissions

2014 PM Emissions
- Truck: 5%
- Rail: 1%
- Harbor Craft: 5%
- CHE: 9%
- OGV: 80%

Total = 260 tons/year

2030 PM Emissions
- Truck: 8%
- Rail: 2%
- Harbor Craft: 10%
- CHE: 9%
- OGV: 74%

Total = 310 tons/yr (projected)

Goal: reduce by 40 tons/yr
Port’s list of Emission Reduction Strategies

1. Operational strategies (5)
2. Ocean-going vessels (3)
3. Cargo handling equipment (3)
4. Harbor craft (3)
5. Trucks (3)
6. Locomotives (3)
7. Community projects (3)
   • (total of 23 strategies)

- Case study gives **tons/year reduction** and **total cost** for each strategy (illustrative)
Funds available

- **$6 million** from the state for diesel emission reduction strategies
  - State wants to reduce $O_3$ and PM2.5 in non-attainment areas
- **$4 million** from EPA (DERA program)
Case Study: The players

- Port of Arbor, a public agency (fictional)
- Terminal operators
- The Community
- Cargo owners
- Truckers
- Longshore workers
- State and local government
- Federal Agencies
  - EPA; Army Corps of Engineers; USDOT; Coast Guard
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Port of Arbor Case Study

Panelist strategies and recommendations
Federal Agency View

Frank Esposito, US Coast Guard
Federal Agency View
(Mr. Esposito)

• Federal Agencies can be a proponent
  ▫ US Army Corps dredging or FHWA funding
  ▫ Need to cover ALL relevant laws (NEPA, CAA, CWA, ESA, CZMA and many more)

• When in regulatory role, not a proponent or an opponent but a strident advocate for
  ▫ Transparent process addressing ALL laws
  ▫ Fair results
Ports and Communities Move Towards Zero Emissions

Amy Goldsmith
NJ Director, Clean Water Action and Clean Water Fund
Chair, Coalition for Healthy Ports (NJ/NY)
Port & Community: Move Towards Zero Emissions

GOAL: Mandated national “Zero Emission” port policy/practices

- Ensure open, ongoing community/port dialogue & role in development
- 1st diesel reductions must benefit high impact neighborhoods
- Focus first on shore side power, modernizing diesel trucks, and electrify yard hostlers
- Establish equitable distribution of costs & pool of funds
- Codify plan as a Community Benefits Agreement
Port Stakeholders Summit, Baltimore

John Esposito, Ports America
John Esposito, Ports America

Any program for port expansion must address three concerns:
• An increase in Pollution in Community
• Truck congestion and increased volumes in the Community
• Service failures on the terminal caused by congestion

Using this definition of the exercise I looked at infrastructure improvements within the provided budget which would address these concerns while positioning the Port to be competitive in the future.

The funds will be employed to facilitate and finance new technology implementation by the stakeholders in Phase I of the project. The money will be paid back by the stakeholders over a period of time. These recouped funds will be used to complete the plan in Phase II.

To address Labor’s concerns, retrain workers on maintenance of new systems, initiate chassis pool and an appointment system for OTR trucks that would provide additional work shifts and minimize truck traffic through the Port and in the Community.

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<tr>
<th>ACTION</th>
<th>NOX REDUCTION</th>
<th>PM REDUCTION</th>
<th>COST</th>
<th>RESPONSIBLE PARTY</th>
<th>Amounts to be recouped</th>
<th>Timeline</th>
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<td><strong>TOTAL for TARGETED ITEMS Phase II</strong></td>
<td>103</td>
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<td>Paid with money recouped from Stakeholders</td>
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<td><strong>FINAL RESULTS</strong></td>
<td>1158.2</td>
<td>105.44</td>
<td>14,675,000</td>
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One Port, One Voice

Erica Holloman-Hill, Ph.D.
Greater Southeast Development Corporation
Concerns

Port of Arbor

Emissions:
• Expected increase
• Proposed reduction

Community

Environmental:
• Truck traffic
• Locomotive

Social:
• Medically underserved
• Poverty rate
### Strategies & Solutions

<table>
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<th>Cost</th>
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<tr>
<td>Operational</td>
<td>$3.55 million</td>
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<tr>
<td>Trucks</td>
<td>$9 million</td>
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<tr>
<td>Locomotive</td>
<td>$300 thousand</td>
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<td>Community Projects</td>
<td>$1.3 million</td>
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<td>Port Job Training</td>
<td>$85 thousand</td>
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Port Stakeholders Summit

Drayage Carrier Perspective

Gerard Coyle
The Evans Network of Companies
Marine Terminal Performance

• Efficient Marine Terminal Throughput is Everything
  ▫ Gate Hours of Operation
  ▫ Computer Systems
  ▫ Problem Resolution
  ▫ Identification of Terminal Bottlenecks
  ▫ Adequate Supply of Chassis

• Access To Marine Terminals
  ▫ Highways and Connectors
  ▫ Adequate Parking

• Measurement Marine Terminal Performance
  • Key Performance Indicators (KPIs)
  • Measurement of Truck Turn Times Inside and Outside the Terminal
  • Identification of Bottlenecks
  • Open and Transparent Reporting

• Matching of Import Loads and Export Loads
Port of Virginia’s Solution

Heather L. Wood
Port of Virginia
Port Arbor – Virginia Recommendation

- Improved Gate Efficiency $1.5M
- Container Management Chassis Pool $50K
- Vessel Speed Reduction $2M
- Electric Cranes $8M
- Dray Truck Program $1.8M

- $7.7M to leverage TIFIA/TIGER and P3 funds for on-dock rail.
Port of Arbor Case Study

Discussion

Q&A