Partnering Infrastructure Development to Meet Hemispheric Growth

AAPA Spring Conference

March 21, 2006
Agenda

I. Objectives
II. Hemispheric Growth Prospects
III. Modal Challenges
IV. Partnering Solutions-the Key to a Systemic Solution
V. Implications for the Port Industry
I. Objectives

- Review the Growth Prospects
- Define the Challenge
- Outline Some Options
- Discuss Some Specifics
Hemispheric bulk cargo performance has been mixed over the past five years.
Mexico has lead the way in terms of growth in hemispheric container trade.

2000-2005 Americas Containerized Cargo Growth

Note: Bubble size indicates 2005 tonnage.
While almost all regions have contributed to overall growth in breakbulk cargoes

2000-2005 Americas General Cargo Growth

<table>
<thead>
<tr>
<th>5 Year Tonnage Change (000)</th>
<th>13,000</th>
<th>11,000</th>
<th>9,000</th>
<th>7,000</th>
<th>5,000</th>
<th>3,000</th>
<th>1,000</th>
<th>-1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Year CAGR</td>
<td>-5%</td>
<td>5%</td>
<td>15%</td>
<td>25%</td>
<td></td>
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</tr>
</tbody>
</table>

Note: Bubble size indicates 2005 tonnage
Trade Growth Will Continue to Increase the Pressure on Ports

- At a 5% CAGR, trade doubles every 15 years
- At a 7.5% CAGR, trade doubles every 10 years
- In 2005, the major North American ports handled a reported 44+ million TEUs
- By 2010, this volume will approximate 60-65 million TEUs
The next five years will see sustained growth across the hemisphere.
II. Define the Challenges
Motor Carrier Challenges
Several factors have driven productivity gains

- Trailer size increased from 40’ to 53’
- Truck engine and maintenance cycles lengthened
- Truck engine fuel efficiency increased
- Empty miles were reduced
- Unionized carriers share down
- Improved technology and processes
However, many of these productivity opportunities may be reaching their end.

<table>
<thead>
<tr>
<th>Area of Improvement</th>
<th>Inhibitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Equipment Gains</td>
<td>• 53’ to 57’ Unlikely</td>
</tr>
<tr>
<td>• Fuel Efficiency Gains</td>
<td>• Environmental Regulations</td>
</tr>
<tr>
<td>• Labor Gains</td>
<td>• Hours-of-Service Regulations</td>
</tr>
</tbody>
</table>

In addition to slower productivity gains, the infrastructure is reaching its capacity.
Highway infrastructure is facing significant constraints

Percent of Peak-Period Travel at Congestion Level

1982
- Extreme: 5%
- Severe: 7%
- Heavy: 8%
- Moderate: 10%
- Uncongested: 70%

2002
- Extreme: 20%
- Severe: 14%
- Heavy: 13%
- Moderate: 20%
- Uncongested: 33%

Source: Texas Transportation Institute at Texas A&M University
Rail Industry Challenges
Railroads have more than halved their cost/revenue ton-mile since deregulation

Railroad Expenditures per Revenue Ton-Mile (1982$)

Note: 1980 and 1981 Salaries & Wages Data reflect AAR’s estimate of 95% of total payroll expenses. In comparison year (1982), this measure differs from the 1975,1982-2002 methodology by 0.4%.
Sources: AAR “Railroad Ten-Year Trends.” (various ed.); AAR “Analysis of Class 1 Railroads.” (1981); AAR “Railroad Facts” (various ed.).
Productivity gains have contributed to the decreasing cost/revenue ton mile

Productivity Improvements

• Labor requirements declined
• Networks and track were rationalized following mergers
• Engine fuel efficiency increased
• Railcars increased to 286,000 lb. gross rail load
• Many railcar types were improved
For railroads, some of these productivity opportunities may have reached their limits

<table>
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<tr>
<th>Area of Improvement</th>
<th>Inhibitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Equipment Gains</td>
<td>• 315,000 GTW Unlikely</td>
</tr>
<tr>
<td>• Labor Gains</td>
<td>• Adding Employees</td>
</tr>
<tr>
<td>• Fuel Efficiency Gains</td>
<td>• Future Locomotive Environment Regulations?</td>
</tr>
</tbody>
</table>

In addition to slower productivity gains, the infrastructure is reaching its capacity.
Port Industry Challenges
North American port infrastructure is under increasing pressure.
## Port Region Container Capacity Summaries

<table>
<thead>
<tr>
<th></th>
<th>2005 Net Position</th>
<th>2010 Net Position</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSW</td>
<td>-</td>
<td>-</td>
<td>LA/LB face significant capacity challenges during the next five years. Oakland should have ample capacity</td>
</tr>
<tr>
<td>PNW</td>
<td>+, +</td>
<td>+, +</td>
<td>Tacoma has largest expansion potential although port-rail and continued PSW diversions pose challenges</td>
</tr>
<tr>
<td>Atlantic</td>
<td>+, +</td>
<td>+, +</td>
<td>North Atlantic, particularly with the AMPT-Portsmouth terminal should provide adequate capacity. The South Atlantic will need to improve density and reduce dwells. A significant increase in Suez services would pose challenges.</td>
</tr>
<tr>
<td>South Florida</td>
<td>+</td>
<td>+</td>
<td>Southport expansion, terminal reconfiguration, higher density and lower dwell should accommodate growth</td>
</tr>
<tr>
<td>Gulf</td>
<td>+</td>
<td>+</td>
<td>Bayport, Choctaw and some combination of Tampa, Texas City, Corpus Christi, Brownsville, Millennium Port and a rebuilt Gulfport should provide adequate capacity</td>
</tr>
</tbody>
</table>
The Port Industry challenge is multi-dimensional

- Harbor deepening
- Environmental
- Labor efficiency and effectiveness
- Berth utilization
- Reducing dwell times/increasing velocity
- Port-rail interface
- Regional transportation infrastructure
IV. Partnering Solutions, the Key to a Systemic Approach
## US Transportation Funding

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Highway</th>
<th>Aviation</th>
<th>Maritime</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Constituency</strong></td>
<td>Broad-based</td>
<td>Broad-based</td>
<td>Narrow, fragmented</td>
</tr>
<tr>
<td><strong>Funding Source</strong></td>
<td>User fees</td>
<td>User fees</td>
<td>User fees and general funds</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Centralized: FHWA</td>
<td>Centralized: FAA</td>
<td>Fragmented</td>
</tr>
<tr>
<td><strong>Disbursements</strong></td>
<td>Formula-driven</td>
<td>Formula-driven</td>
<td>Generally project-based</td>
</tr>
<tr>
<td><strong>Funding availability</strong></td>
<td>Predictable</td>
<td>Predictable</td>
<td>Unpredictable</td>
</tr>
<tr>
<td><strong>Cost-benefit linkages</strong></td>
<td>Clear</td>
<td>Clear</td>
<td>Unclear</td>
</tr>
<tr>
<td><strong>User fee visibility</strong></td>
<td>Low: gas taxes</td>
<td>Low: ticket fees</td>
<td>High: HMF, fuel taxes</td>
</tr>
</tbody>
</table>
The Challenges

- Needs are increasing
- Funding shortfalls
- Modally focused
- Environmental challenges
- Maritime Industry: Fragmented approach
- Maritime visibility
- Finding the Common Ground
# Lessons Learned

## What Has Worked
- Project-specific; focused on bottlenecks
- Finite timelines
- Environmentally oriented
- Comparatively small
- Tangible benefits
- User-fee based funding

## What Hasn’t Worked
- Policy-related
- Large scale
- Capacity-driven
- Broad benefits
- Complex funding
- Grant or appropriations based funding
**What Are Some of the Options?**

<table>
<thead>
<tr>
<th>The “Big Bang”</th>
<th>Phased Approach</th>
<th>Incrementalism</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Image" /></td>
<td><img src="image.png" alt="Image" /></td>
<td><img src="image.png" alt="Image" /></td>
</tr>
<tr>
<td>Centralized, integrated, multimodal policy and funding</td>
<td>Redesign the Maritime Model</td>
<td>Cooperative, project-specific, industry-driven approach</td>
</tr>
<tr>
<td>Integrates the surface modes</td>
<td>Design a Rail Model</td>
<td>Significant industry participation</td>
</tr>
<tr>
<td>Builds on best practices</td>
<td>Develop a sustainable funding source for multimodal projects</td>
<td>Works within existing regulation and funding mechanisms</td>
</tr>
<tr>
<td>Systemic approach to investment</td>
<td>Long-term, evaluate comprehensive modal integration</td>
<td>Identifies and implements an evolutionary approach to funding</td>
</tr>
</tbody>
</table>
Pragmatism & Political Realities Are Key Success Drivers in the Short to Mid-Term

- Complexity
  - High
  - Low
- Scope
  - Single
  - Multiple
  - Modal Focus
  - Policy
  - Project
  - Surface
- Big Bang
- Incrementalism

Norbridge
Implications: A dual strategy most likely represents the best approach

Short-to-Midterm
- Focus on enhancing Maritime funding based on current best practices
  - Centralized
  - Dedicated funding
  - Full disbursement of collected funds
  - User fee based
  - Industry participation

Mid-to-Long Term
- Phased approach that integrates road, rail and maritime (deep sea, short sea, inland).
  - Initial focus on what works
    - Multimodal
    - Mitigation: congestion, air
    - Specific projects
  - Incremental expansion built on successes
Implications for the Port Industry
It depends on how one views the glass

Half Empty    Half Full
The Port Industry is highly diverse in terms of ports’ capabilities and needs

<table>
<thead>
<tr>
<th>Financial Health</th>
<th>Business Base &amp; Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong &amp; Diverse</td>
<td>We can probably survive</td>
</tr>
<tr>
<td>Weak &amp; Concentrated</td>
<td>An industry approach is critical</td>
</tr>
<tr>
<td>Narrow &amp; small</td>
<td>Large &amp; diverse</td>
</tr>
<tr>
<td>High &amp; dedicated</td>
<td>Access to Capital</td>
</tr>
<tr>
<td>Access to Capital</td>
<td>Small &amp; limited</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Were winning</th>
</tr>
</thead>
<tbody>
<tr>
<td>We need to pursue all options</td>
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We can probably survive

An industry approach is critical

Were winning

We need to pursue all options
It depends on how one sees the glass

<table>
<thead>
<tr>
<th>Half Empty</th>
<th>Half Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The pot of funds is shrinking</td>
<td>• We can grow the pot of funds</td>
</tr>
<tr>
<td>• The status quo is the best we can hope for</td>
<td>• The status quo is not an option</td>
</tr>
<tr>
<td>• Emphasis is on getting my fair share</td>
<td>• We will gain more by cooperating</td>
</tr>
<tr>
<td>• We will cooperate when it is compelling</td>
<td></td>
</tr>
</tbody>
</table>
What is Required?

- Internal Assessment
- Port/Maritime (?) Industry Game Plan
- Multimodal Game Plan
Internal Assessment

• Is the status quo acceptable or is change imperative?
• What do we need?
• What are the critical success factors?
• What are worldwide best practices?
• Are we committed to a sustained change effort?
• How do we fund it?
Port/Maritime (?) Industry Game Plan

- Is it a Port or Maritime Industry Game Plan?
- Who are the key players?
- What are the roles and responsibilities?
  - Government
  - Port Industry
  - Private sector
- What are the key elements of the game plan?
  - Governance
  - Funding: who pays, who benefits
  - Disbursement
  - Oversight & control
  - Performance monitoring
  - Setting long-term direction
Port/Maritime (?) Industry Game Plan--Continued

• What is the contingency plan?
  – Public-private partnerships
  – A national tariff that is competition neutral
  – Financial self-sufficiency
  – Taxing authority
Multimodal Game Plan

- Who are the key decision-makers?
- Is there common ground?
- Is there a commitment to partnering solutions?
- What does each of the parties bring to the table?
- What does each party leave at the table?
- What is the plan?
- How do we execute?
- Many of these questions are the focus of the Framework for a National Freight Policy.
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