AAPA American Association of Port Authorities

Alliance of the Ports of Canada, the Caribbean, Latin America and the United States

AAPA Training Session
An Intermodal Perspective

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Introduction

- Overview of the shipping industry
  - Dates back to the Phoenicians (or before)
  - Uniform processes
    - Sales
    - Vessel operations
    - Bills of lading
    - Container management
    - Customer service

What is Relatively Recent – and Uniquely American?

Line-supplied chassis

Rail [on-dock] intermodal

Industry Challenges

- Macro
  - Volume growth
  - Carrier profitability
  - Sufficient infrastructure
- Micro
  - Chassis scope
    - Management
    - Ownership
    - Operation
  - Chassis goal
    - Improved efficiencies
    - Reduced costs
    - Added stakeholder value

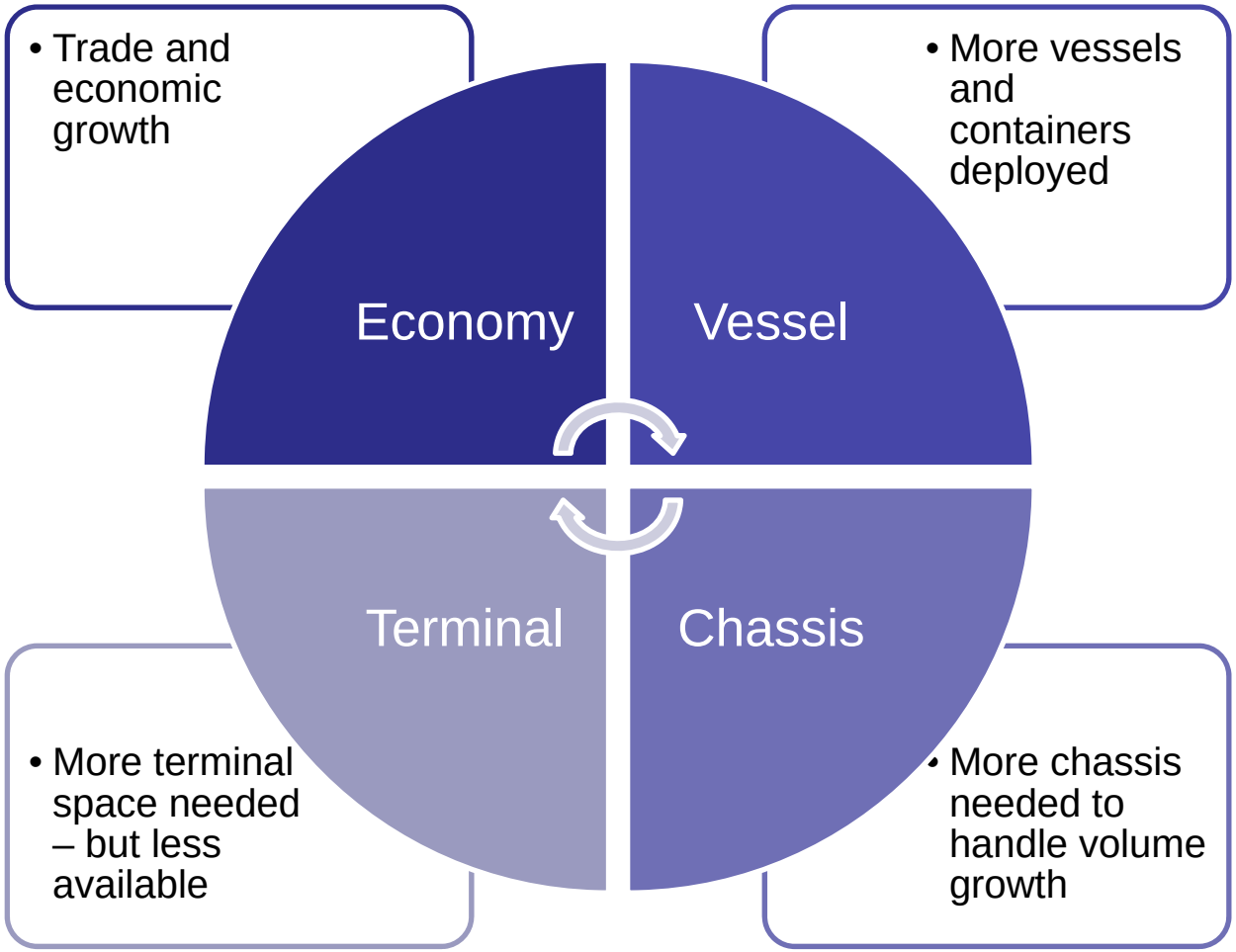
Industry Challenges

- Drivers of industry growth
  - US economy relies on a sophisticated intermodal system to support global trade
  - Intermodal system represents $billions of investment
    - Vessels and locomotives
    - Ports and marine terminals
    - Railroad networks and terminals
    - Containers, rail cars and chassis
    - Warehouses
    - Tractors

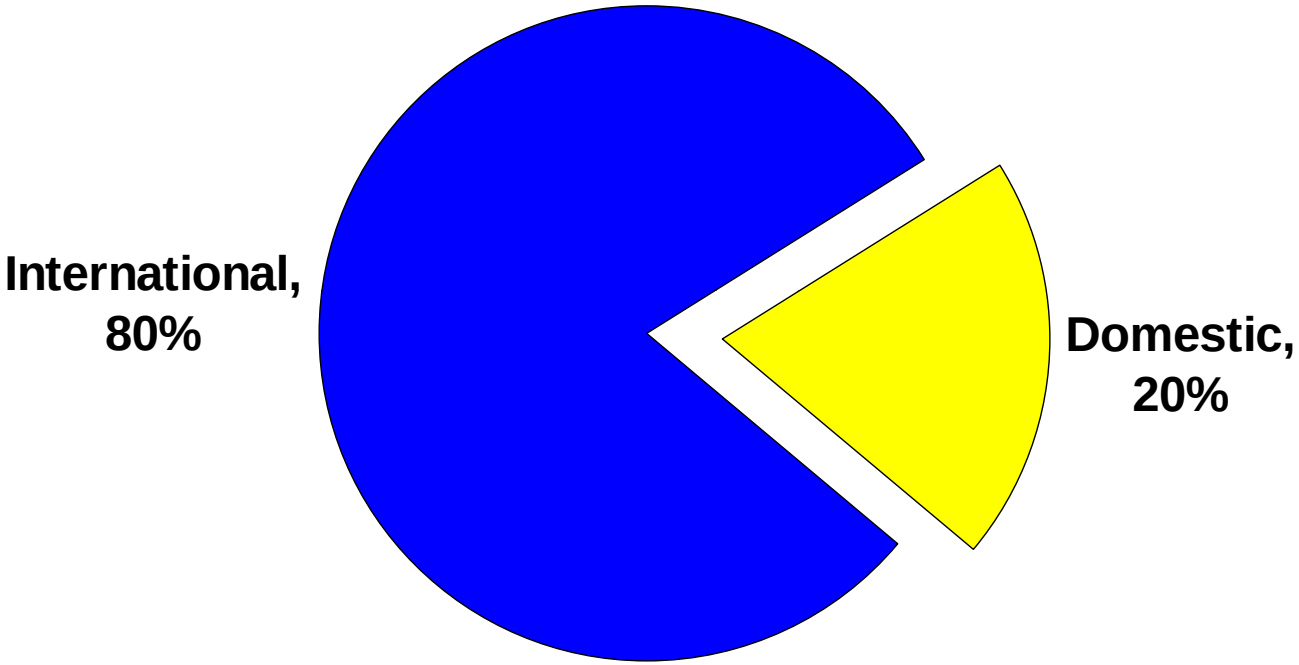
Industry Challenges

- Intermodal Chassis
  - Container provides linehaul economies
  - Intermodal [truck] transfer requires wheels
  - Chassis + Container = Trailer
  - Chassis excess
    - Too few = inability to effect intermodal transfer
    - Too many = storage, rehandling and damage
    - Either way: cargo does not move and terminal space is wasted

Industry Challenges



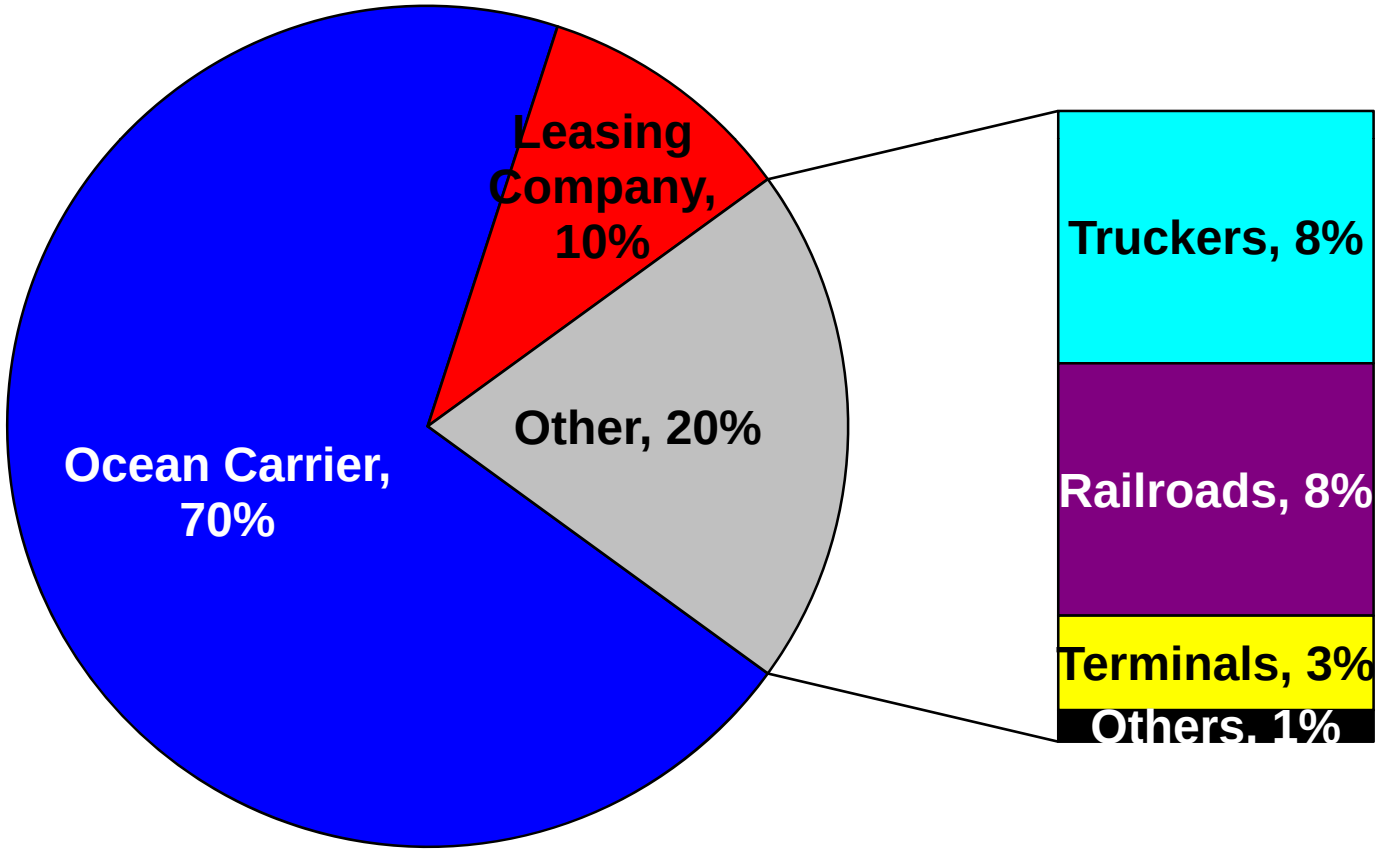
Industry Challenges



There are an estimated 820,000 chassis in the United States

Industry Challenges

Source of international chassis



Pool Benefits

- Chassis are a major cost burden

Cost of Capital	Asset Administration	Maintenance and Repair
Inspection and licensing	Insurance and liability	Daily “right-sizing”

Pool Benefits

Cost Savings

- Reduced evacuations (gate moves/storage)
- Enhanced equipment utilization
- Group purchasing (e.g., tires and insurance)

Operational Improvement

- Improved terminal space availability
- Faster terminal turn time for trucks
- Improved train unloading

Societal Benefits

- Reduced environmental impact
- Uniform equipment quality
- Enhanced and roadability compliance

Pool Benefits

WATERFRONT COALITION

The National Marine Container Transportation System: A Call to Action

We must improve the productivity, efficiency and throughput of all American blue-water ports. There are several business-practice issues that must be addressed mostly by the private sector, they include: ***Developing regional or national chassis pools***

The Marine Transportation System National Advisory Council (MTSNAC) Intermodal Recommendations to DOT Secretary

There is a need to move from problem definition to problem resolution. (Of ten recommendations)
#8: *Improve the management of chassis.*

Pool Benefits

Common ***Chassis Pools*** can help trucking companies save fuel and reduce greenhouse gas emissions by minimizing unnecessary truck movements and idling associated with switching chassis.

Drayage trucks using pooled chassis could save up to 0.8 gallons per trip, reducing Nitrogen Oxide and Particulate Matter emissions

Pool Benefits

- Past “pool” experience was less than satisfactory
  - Neutral pools
    - Separate profit centers
    - Run by non-carriers
    - Sized for profitability – not peak availability
    - High costs made carriers resist participating
  - By 2005, railroads were considering mandatory neutral pools
    - Chassis were consuming too much space
    - Matching chassis and containers was complicated and prone to error
    - Chassis maintenance was not uniform
    - Trucker turntime was increasing
  - Unified approach by OCEMA redirected effort to CCM concept

Pool Benefits for Lines

National Annual Potential (500,000 Chassis)		
20% Savings	25% Savings	30% Savings
$136 million	$170 million	$204million

Pool Benefits for Terminals

National Annual Potential (500,000 Chassis)		
20% Savings	25% Savings	30% Savings
$1.0 billion	$1.25 billion	$1.5 billion

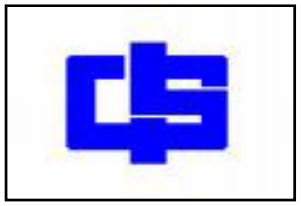
Pool Benefits

- Additional cost of “neutral pools”
  - $450 million in increased rentals
    - 250,000 chassis @ $5/day
  - $750 million in increased flips/storage
    - 250,000 chassis x 50 flips @ $60
  - Neutral pools only deliver benefit when a monopoly license is granted
  - Untold benefit from avoidance of permanent loss of control to leasing companies

Pool Benefits

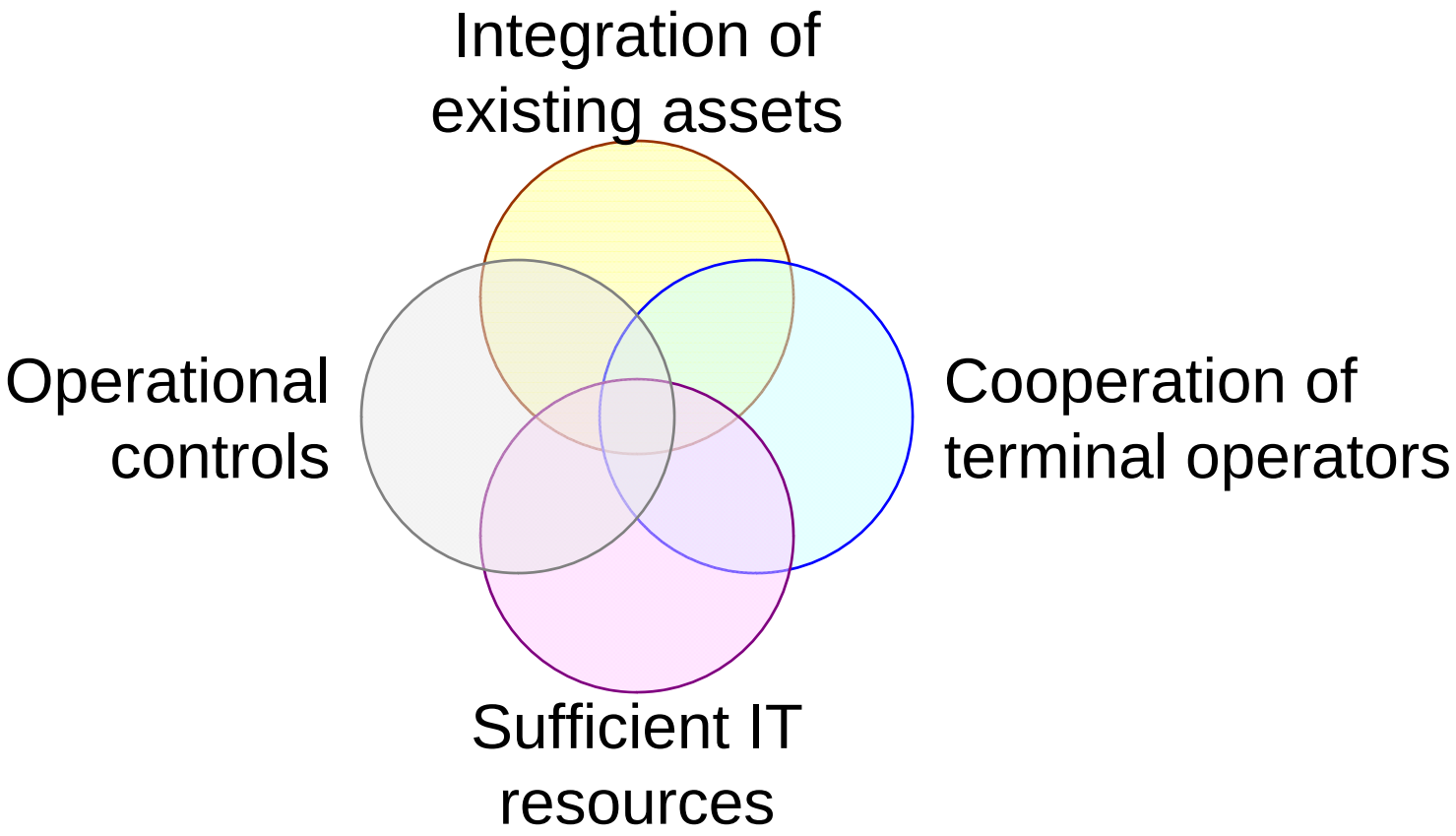
- The case for the co-op (vs. neutral) pool model
  - Administrative and financial
    - Multiple sources of chassis supply (lines, lessors)
    - Lower cost than neutral pool chassis
    - Accommodates existing asset ownership and/or leases
    - Accommodates asset and non-asset users
    - Protects asset investment
  - Operational
    - Common inventory management across multiple facilities
    - Enhanced utilization across metro area
    - Common M&R standards/multiple metro facilities
    - Allows users to better meet individual service philosophies

OCEMA Members



CCM Overview

- Elements of a successful pool



On-Dock Rail

- The other intermodal story
  - Does intuition = fact?

Operational Issues

- Operational location: off-dock
  - Standard rail intermodal facility
  - Gate access to/from public roads
  - Private entrance possible

Operational Issues

- Operational location: on-dock
  - Intermodal terminal operated by – and part of -- marine terminal
  - Internal movements within terminal

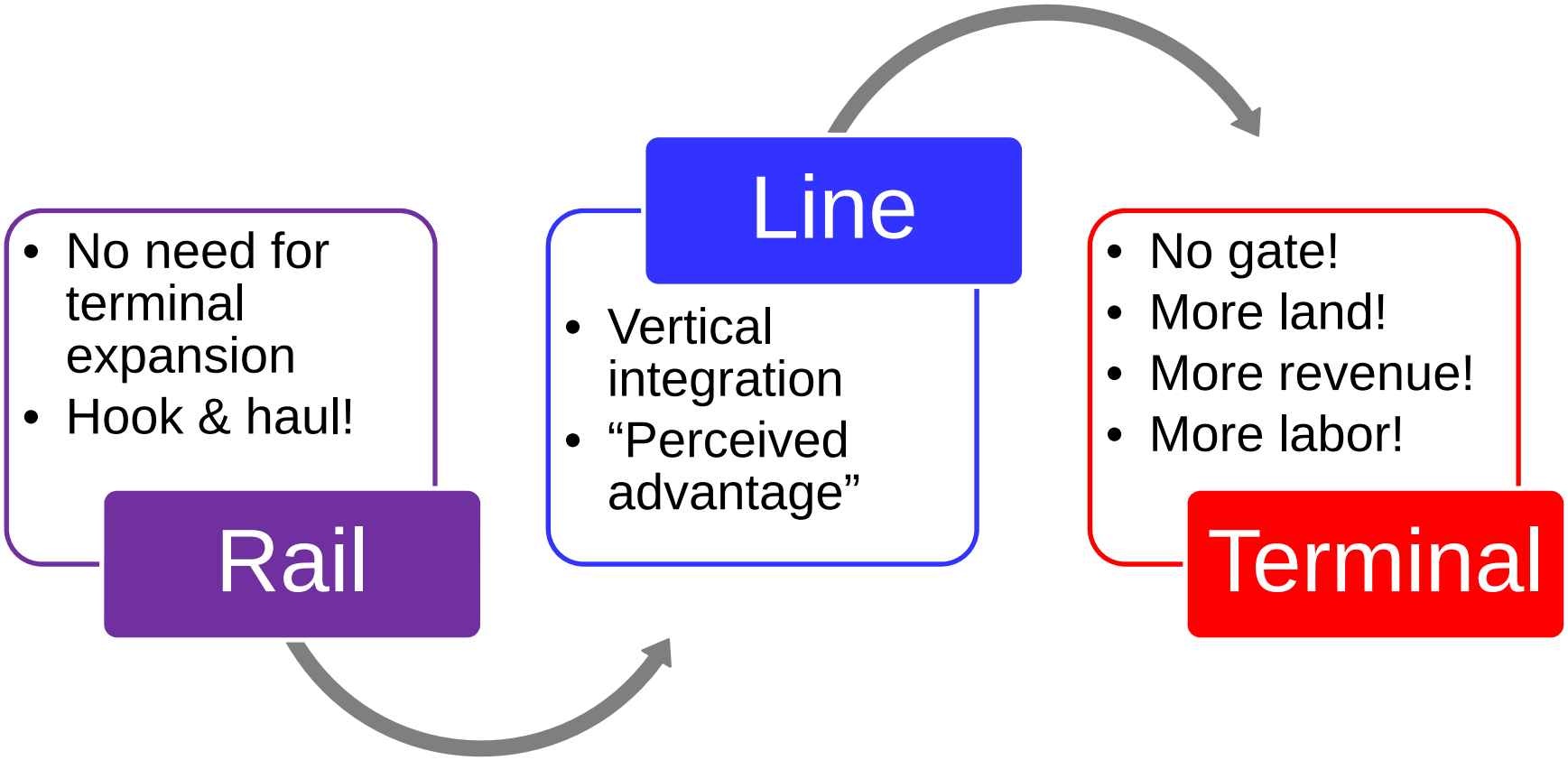
Operational Issues

- Operational location: near-dock
  - Adjacent to marine terminal
  - Access controlled through private gate

On-Dock Rail

- How Did We Get Here?
  - Canada
    - Early water-rail integration
  - PSW
    - Covering up a bad investment
  - PNW
    - Port paranoia

On-Dock Rail


Line
• Vertical integration
• “Perceived advantage”
• No need for terminal expansion
• Hook & haul!
Rail
• No gate!
• More land!
• More revenue!
• More labor!
Terminal

On-Dock Obstacles

$/Lift

- Waterfront labor expense and work rules
- All on-dock loads handled twice
- Dual wharfage

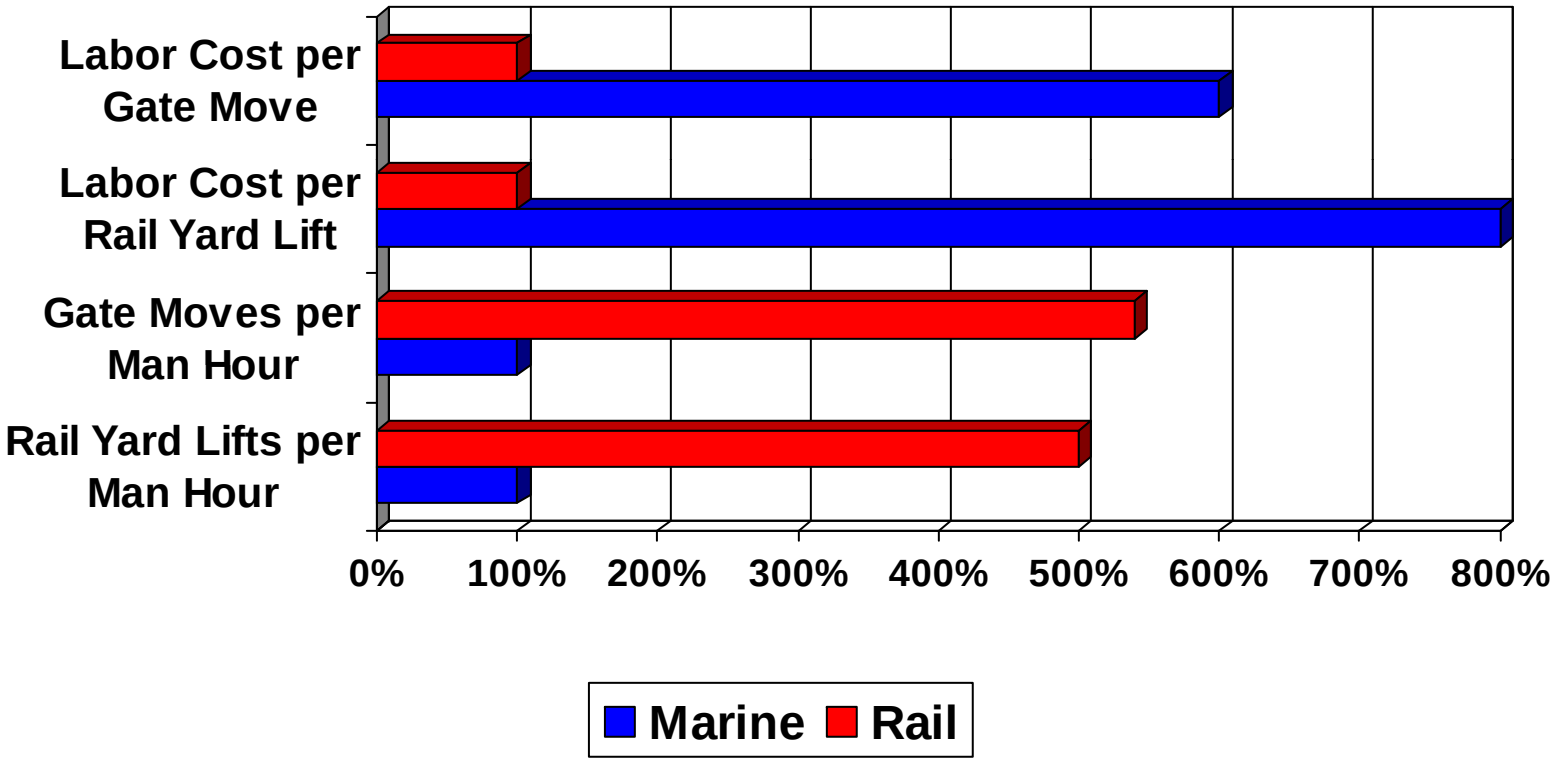
Time

- Extended car cycle times
- Serial trains – as opposed to parallel units
- Limited windows to switch

Density

- Not enough loads-per car
- Disaggregated destinations
- Lack of desired train length

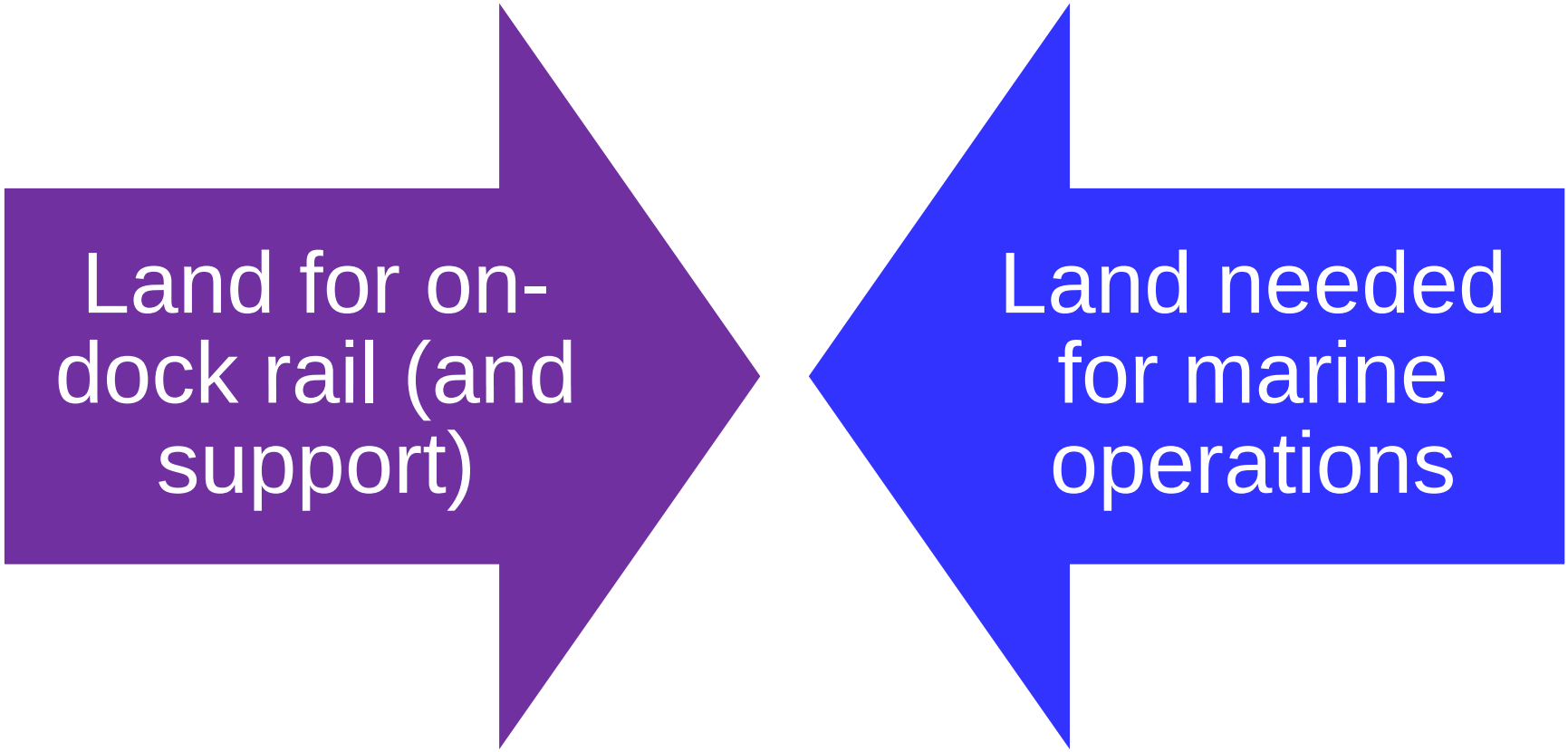
Best Practice Benchmarking



Operational Benchmarking

Characteristic	Rail Intermodal	On-Dock Rail
Dynamic train planning	✓	∅
Direct loading to car	✓	∅
Yard air	✓	≈
Storage yards	✓	≈
Switching capability	✓	∅
Proprietary short lines	∅	≈

On-Dock Rail Conflict



Alignment Required