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“The View to the South”

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Operational Best Practices

• Chassis Pools
• Congestion Mitigation
Chassis Problem

• Ports are facing congestion and terminal space issues in the face of exponential growth
• With each steamship line using proprietary chassis, the following challenges are presented:
  – the number of chassis required takes up valuable terminal space
  – the need to constantly reposition chassis causes congestion
  – the speed, efficiency, and safety of the interchange of containers are reduced by this complexity
Enter Chassis Pools

All lines in a port area or region contribute assets to a pool of chassis which is managed and maintained by a third party – all chassis available for use by pool participants

- Chassis sorting by steamship line is not required
- Separate inventories are not required
- Single source for chassis management and coordination
- Substantial reduction in footprint dedicated to storing chassis on terminal
- Improvement from 60% to 80% utilization would reduce the number of bare chassis sitting idle on terminal
- Less repositioning = Less congestion
Many AAPA member ports are dealing with congestion at critical levels both within their terminals and immediately outside of their gates along connecting highway and rail infrastructure

• **Extended Gate Hours**
  – Opening gates beyond the traditional 8 AM – 5 PM timeframe
  – encourage off-peak terminal visits and reduce traffic on congested roadways
  – Charleston and Oakland have seen success here

• **Peak Pricing Incentive Programs** *(PIERPASS)* – LA-Long Beach
  – Traffic Mitigation Fee assessed for peak hour gate moves
  – Fees are waived for truck moves during non-peak hours and for rail moves
  – Use peak-hour fee to shift truck traffic to new off-peak hours 6 pm to 3 am Monday-Friday
  – 35% of daily container traffic now moves in off-peak hours

• **Reduce Free Dwell Time on Terminal**
  – Customers will pick up the box if they are being charged storage
Port Safety Best Practices

- Developing a Positive Safety Culture in the Port Environment
- Terminal Traffic Safety
Developing a Positive Safety Culture in Port Environment

- Port Safety Policy Statement with senior staff support and signatories
- Safety Audits & Inspections
- Regular Safety Meetings & Trainings
- Outreach programs (signage, themes, recognition programs, newsletters, etc...)
- Accident Rate Monitoring and Trending
Terminal Traffic Safety

• The majority of work-related injuries and fatalities occurring in marine terminals are caused by traffic accidents
• More projected cargo + increasing velocity requirements = more traffic accidents on terminals
Terminal Traffic Safety

- Internal review of potential concerns
- Concentrate on high traffic areas
- Perform traffic engineering studies and recommendations
- Install appropriate traffic controls and signage
- Involve all internal stakeholders in solutions (Safety, Operations, Engineering, Maintenance, Risk Management, Police, etc.)
- Universal enforcement of traffic safety regulations across the port area
- Long term planning
IT Enhancing Operations

• Gate Innovations and Technologies for Improving Throughput, Efficiency and Security
• Improving Port Efficiency: Processes, Simulations and Modeling for Better Terminal Operations and Planning
• RFID: Improving Supply Chain Visibility and Security
Gate Innovations

• Appointment systems
  – Web-based data entry completed ahead of gate move
    – generates appointment with time window for gate transaction

• Automating identification processes for trucks, containers and chassis with technology portals
  – RFID tags
  – Optical Character Recognition (OCR)
  – GPS

• Informs the Terminal Operating System and yard management tasks for “inside the gate” efficiency
Processes, Simulations and Modeling

- **Virtual Container Yard**
  - Street interchanges enabled by web portals tracking container locations and availability
  - Importers send empties to exporters locally – return to the port loaded – reduces congestion due to repositioning empties and storage at terminals

- **Using simulation software to model terminal operations scenarios**
  - Assists with infrastructure and capacity planning
  - Examples at Port of Tacoma in intermodal
    - Intermodal Yard Capacity Planning System (IYCAPS)
    - Agile Port System
RFID: Visibility and Security

- **Radio Frequency IDentification**
  - Tags are attached to equipment
  - Tag ID linked to equipment ID
  - Transmit data to readers as they pass
- As part of a real time location system provides instant location/status/information
  - Can be used at the gate and on terminal to track assets and cargo
  - Can be used beyond the gate as a supply chain visibility tool
  - One example model: SAVI Networks
    - Deploying an RFID network in major ports to provide global visibility of cargo containers
    - Shippers pay for RFID tags and RFID infrastructure at supply chain end points
    - Terminal benefits: Audit trail and change of custody, Automated Track & Trace, Automated Seal Validation - recording of sealing and unsealing events
      Complements other technology projects (Asset management, chassis tracking, OCR, etc.)
Port Security Impacts on Port Operations

• Radiation Portal Monitors: Design and Implementation Issues
  – Allocating the required footprint on terminal
  – Integrating their use into gate and/or quayside operations
  – Tailoring the procedures for their use to the volume of the terminal operation

• Credentialing Maritime Workers and its Impact on Goods Movement and Operations
  – Making Facility Security Plan adjustments to minimize impacts on goods movement
  – Anticipating technology needs and infrastructure for biometric readers and access control points
  – Security procedures and resource requirements for ineligible or non-vetted visitors/workers (e.g. escorting requirements in or through secure and restricted areas)