



American Association of Port Authorities Seminar

Port and Terminal Planning & Congestion Mitigation Options

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Agenda

- Congestion Issues
- Mitigation Options
- Overview of Options & Critical Success Factors
- Solution Determination Process
- Concluding Thoughts

Congestion Issues

- U.S. container imports are expected to double to 30+ million TEUs in the next decade.
- Port and terminal capacity is only one piece of the network.
- Rail, road and air infrastructure is also operating at or near capacity.
- Increasing Community pushback.
- Proximity of other ports in the area provides the opportunity for competition or collaboration.



U.S. Dept. of Transportation

One Size Does Not Fit All

- The needs and priorities of one port community are not necessarily the same as another.
- Vendors offer a wide variety of both stand-alone and integrated services.
- Many vendors are competing to provide the same solution (RFID, DGPS, OCR, Automated Gates, Security).
- Standards for new technology may not yet be in place.
- All the stakeholder groups should be involved *before* selecting solutions.

Congestion Mitigation Options

There are lots of options:

- Off Dock Container Yards
- Chassis Pools
- Virtual Container Yards
- Traffic Mitigation Fees (Pier Pass or other models)
- Trucker Appointment / Gate Management Systems
- Shuttle Car Systems
- And others.

Off Dock Yards

- Primarily used for empty containers and/or chassis.
- Frees up storage space in terminals for loaded moves.
- Introduced a non-revenue “third leg” to trip patterns.
- Can create additional moves for imbalanced areas.
- Critical Success Factors:
 - Limit third leg distance.
 - Real-time integration with marine terminal operating system.
 - Partnership between terminals, equipment providers and truckers.



Chassis Pools

- Originally limited to only one terminal.
- Expanded to cover multiple marine, rail and intermodal terminals.
- Pool results have been very successful.
 - Increased utilization.
 - Decreased fleet size.
 - Freed yard space for other equipment.
 - Lowered “cost per chassis day”.
- Critical Success Factors:
 - “C-level” commitment from equipment providers.
 - Continuous process improvement.
 - Strong 3d party Pool management with continuous corporate oversight.
 - Partnership philosophy between Terminals and Vendors.



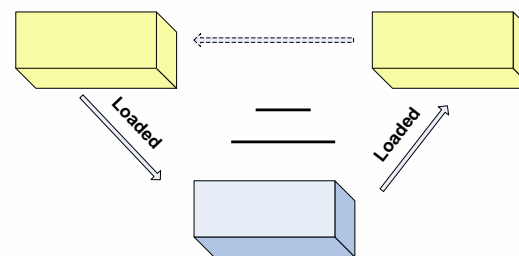
Virtual Container Yards (VCYs)

- AKA Street Turns or Street Interchanges.
- Most current programs for international cargo are port affiliated (Oakland, LA/LBC, Virginia, NY/NJ).
- VCYs benefit multiple parties but have started slowly.

➤ Critical Success Factors:

- Low cost.
- "Shared Pain."
- Critical mass of truckers and equipment providers.
- Ease of use.

- Environmental and Container Fee legislation could expand usage of VCY programs.



Virtual Container Yards (VCYs)

- VCY vendors offer commercial, for profit systems.
- Most were off shoots of other equipment interchange systems.
- The main difference between the systems is the amount of data automation.



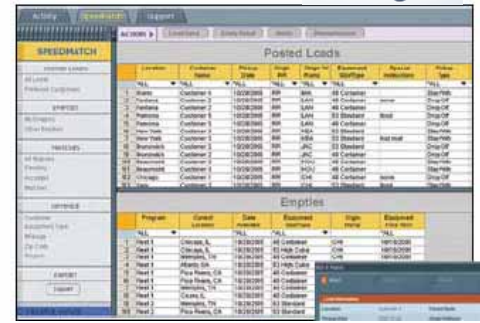
Off Terminal Container Solutions

You are currently logged in as @DEMO@1 (UNCG)

[Home | Virtual Container Yard | Activity Statement | Help and About | Logout]

[All Posted Containers | My Containers | My Locations | Search Containers]

Action(s)	Shelving	Container	Time	Minute	Size	Departed	Location
Details	AI	AWFU1916097	BOX	86	30	7/14/2006	PORTSMOUTH, VA - 803 DOUGLAS AVENUE
Details	AI	SUDU1674338	BOX	86	30	6/29/2006	PORTSMOUTH, VA - 803 DOUGLAS AVENUE
Details	AI	SUDU444693	BOX	86	30	6/29/2006	PORTSMOUTH, VA - 803 DOUGLAS AVENUE
Details Interchange	AI	ARLU9952271	BOX	96	40	6/9/2006	
Details	CA	MMCU2008109	BOX	86	20	6/16/2006	CHESAPEAKE, VA - 815 INDUSTRIAL AVE
Details	CA	BZMU194481	BOX	86	30	6/16/2006	CHESAPEAKE, VA - 815 INDUSTRIAL AVE
Details	CA	BZMU1654035	BOX	86	20	6/16/2006	CHESAPEAKE, VA - 815 INDUSTRIAL AVE
Details	LK	CLHU2671972	BOX	86	20	6/16/2006	CHESAPEAKE, VA - 815 INDUSTRIAL AVE
Details	MD	MPCU0198607	BOX	86	20	7/12/2006	PORTSMOUTH, VA - 803 DOUGLAS AVENUE
Details	MD	MPCU0264597	BOX	86	20	7/12/2006	CHESAPEAKE, VA - 815 INDUSTRIAL AVE
Details	MD	MPCU6166866	BOX	86	20	7/12/2006	PORTSMOUTH, VA - 803 DOUGLAS AVENUE
Details Interchange	MS	FCHU1392295	BOX	86	40	6/9/2006	



Traffic Mitigation Fees / Extended Gate Hours



- PierPASS is a Traffic Mitigation Fee.
 - Was created to change behavior since its fees are applied only against daytime gate moves.
 - Fees are used to pay for extended gate hours.
 - Other ports are looking at the model to raise money for infrastructure or environmental mitigation.

- Traditional Extended / Night Gates have been underutilized.

- Critical Success Factors:
 - Leadership is key.
 - Stakeholder buy-in.
 - Neutral managing body.
 - Fees specifically allocated to the solution.
 - Provides a forum for other port-wide initiatives.



PIERPASS



Truck Appointment / Gate Management Systems

- Standard operating procedure in busy Asian ports.
- Method to comply with reduce truck engine idle time laws.
- Time windows vary from broad to specific.
- Programs at Vancouver, Oakland, Los Angeles, Long Beach and Napoleon Yard at New Orleans.
- Success has been mixed.
- Critical Success Factors:
 - Requires priority both at the gate and in the yard.
 - Should ensure data for move is “clean” before truck arrival.
 - Integration of OCR, Pedestal, Truck Tag and Terminal Operating Systems data.
 - Trucker ease of use.
 - Multi-terminal solutions.



Napoleon Yard,
New Orleans



Los Angeles



Vancouver



111 Clark Access

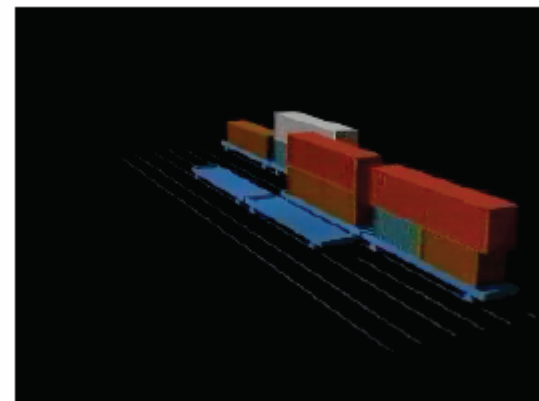
Shuttle Car Systems

- Known as “shuttle cars”, “maglev”, “freight shuttles”, “cargo rails”, “container platform trains”, “LIMs”, etc.
- Used in heavy industry (e.g., Steel Mills), passenger trains, and thrill rides.
- New technology is introducing high-speed container shuttle cars.
- Automated and Semi-Automated platforms.
- Critical Success Factors:
 - Moderate manufacturing and operating costs.
 - Infrastructure costs and ability to use existing rights of way.
 - Flexibility of car dispatch – single or “trains”.
 - *The first live implementation.*

SAMPLE SYSTEMS:



TTS Container Platform-train (CP-train)



Shuttle Car Double Stack Configuration.

**Automated Terminal Systems (ATS)
/ Ederer PAR Systems Shuttle Cars**

Solution Process

Planning Phase

- Identify initiatives to be considered.
- Interview stakeholders – gather requirements, current metrics, and cost / benefits.
- Develop funding proposals.
- Prepare vendor Request For Proposal (RFP).
- Evaluate vendors, costs and funding.
- Make recommendations on preferred solutions.

Execution Phase

- Facilitate stakeholder buy-in.
- Contract with vendor.
- Address public relations activities.
- Facilitate implementation.
- Conduct post implementation audits.



Concluding Thoughts

- There are lots of choices. Strong leadership is key.
- Successful solutions require consensus building – get stakeholders on board.
- The most successful programs are port wide.
- Public/private partnerships can increase participation.
- Define and develop metrics early on in the process to better demonstrate the success of the programs.
- Data exchange must be easy.
 - Allow multiple conveyance types (EDI, XML, flat files, Excel / Access uploads, etc.).
 - Provide on-line data input capabilities for small companies or infrequent exception updates.



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Thank You !

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