

Container Terminal Reservation Systems

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- Background and Issues
- Profiles
 - Sydney
 - Vancouver
 - Southampton
 - Long Beach
- Conclusions

Background and Issues

- Introduction of mandatory reservations driven by peaking of truck traffic at port terminals
- Enables terminal operators to improve efficiency through improved scheduling of labour and more efficient utilization of capital
- Potential for improved efficiency from optimized sequencing of container moves
- Primarily applicable to stacked container operations

Impact on Trucking Sector – Potential Benefits

- Potential benefit through reduced queuing delays and terminal turn times
- Shift to off-peak operations may reduce travel times due to lower road congestion

Impact on Trucking Sector - Costs

- Compliance may reduce operational efficiency – more trucks, drivers required
- Customer service impacts
- Additional administrative costs – dispatch, managing reservations
- Financial or other penalties for non-compliance
- Security and liability costs

Potential for Strategic Manipulation

- Access to terminal is critical to viability of drayage firms – market power for terminal operators
- Potential for abuse – monopolization of appointments, “phantom” bookings, sale of appointments, subcontractors
- Preferential access to affiliated drayage firms

System Design Parameters

- Duration and distribution of appointment windows
- Exemptions (speed gates)
- Coordination of two-way moves
- Incentives and penalties
- Advance information requirements – truck appointment, booking number, container number

Sydney Australia

- Ports under jurisdiction of State government (NSW)
- Two terminals – DP World and Patrick
- Vehicle Booking Systems introduced in 1990's
- History of conflict between terminal operators and trucking industry
- Common web portal (1-Stop)
- Booking fees and financial penalties for no-shows and late arrivals

Sydney Australia – IPART Investigation

- Major investigation undertaken for NSW government by Independent Pricing and Regulatory Tribunal (IPART)
- Political response to complaints from port stakeholders
- Broad mandate including efficiency and fairness of fees and penalties, costs of VBS's, impact on mode choice, and potential institutional changes to improve efficiency of the landside supply chain

Sydney Australia – Stakeholder Complaints

- Vessel handling given priority by terminal operators
- Distribution of appointment windows puts undue burden on trucking industry
- Lack of transparency (variability in number of appointments issued)
- Turn times (queuing and in-terminal) excessive and unreliable
- Penalties excessive - revenue source to terminal operators
- Preferential access to associated inland service providers

Sydney Australia – IPART Recommendations

- Two-tiered Vehicle Booking System with “guaranteed” slots allocated through an auction system, and other slots allocated by current methods
- Terminal operators retain control of booking slots
- NSW government instructed Sydney Ports Corporation to lead Port Botany Landside Improvement Strategy (PBLIS)

Sydney Australia – Port Botany Landside Improvement Strategy

- Operational Performance Management standards with financial penalties for both trucking companies and terminal operators for non-compliance – administered by SPC
- Peak period surcharges as an incentive to shift operations off-peak throughout the port community

Vancouver BC

- Three terminal operators, four container terminals: TSI Terminals (Vanterm, Deltaport), DP World (Centerm), Fraser Surrey Docks
- Reservation system initiative by Vancouver Port Authority (now Port Metro Vancouver) in 2001 – mandatory for imports

Vancouver BC

- History of conflict between terminal operators and drayage operators
- Trucking strikes 1999 and 2005 – compensation and terminal delays
- Mandatory reservation systems introduced following 2005 strike

Vancouver BC – Current Reservation Systems

- Deltaport – WebAccess module of Navis TOS
- Vanterm – Legacy system based on 2001 design
- Centerm – Modified system based on earlier Navis version
- Fraser Surrey Docks – Self developed system

Vancouver BC – Stakeholder Concerns

- Increased administration costs
- Long and unpredictable delays at port terminals when volume is high
- Difficulty in obtaining reservations and coordinating two-way trips
- Travel time uncertainty and off-site queuing delays

Southampton UK

- Single terminal operator: DP World Southampton
- Yard congestion and high truck turn times due to rapid growth in traffic volumes from 2001 to 2004.
- A voluntary Vehicle Booking System implemented in 2003 failed to resolve the problem.
- In 2005 mandatory Simplified Vehicle Booking System implemented

Southampton UK

- Extensive consultations with trucking industry prior to implementation
- Peak booking fees and no-show penalties
- Booking flexibility – amendments, multiple containers, moveable appointments, amendments by driver cell phone or text message
- 24 Hour Helpdesk and terminal modifications including additional empty storage

Southampton UK - Stakeholder reactions

- Generally well accepted due to improvement in terminal turn times
- Financial impacts of booking fees and penalties
- Administration costs

Long Beach

- Legislative incentive for establishment of reservations systems AB 2650
- Voluntary systems
- PierPass peak period surcharges to shift activity off-peak
- Total Terminals International (TTI) Long Beach implemented mandatory appointments for import pickups April 2007 and for export drop-offs September 2, 2008

TTI Long Beach

- Sophisticated linkage between reservation system and Terminal Operating System allows optimization of container handling sequencing
- Substantial improvement in efficiency of transtainer operations (3X hourly moves)
- Terminal operator reports turn times less than 30 minutes and queuing delays negligible

Conclusions

- Elimination of peaking of truck traffic predominant motivation for implementation of Container Terminal Reservation Systems, with potential benefits to both terminal operators and truckers
- Reservation systems and peak period surcharges appear to be competing solutions to peaking of truck movements but no influence on turn times evident

Conclusions

- Trucking industry acceptance depends on significant reductions in total turn times and improvements in the reliability
- Tension exists between terminal operators desire for tighter scheduling, and the trucking industry's need for flexibility

Conclusions

- The imposition of financial penalties for late arrivals and no-shows by terminal operators is viewed as one-sided, and pressure exists for reciprocal performance guarantees
- Attempts to more tightly schedule drayage activities appear to require increased investment in truck staging areas.

Conclusions

- Public regulation of terminal operators is often required to motivate changes in behaviour among the port community