

“Gate Technology”



AAPA

Port Operations, Safety, Information Technology

April 25, 2007

Introduction - MTC Gates

- MTC with JV partners operate 8 terminals on U. S. west coast
- Southern California
 - STS Evergreen, TTI Hanjin, WBCT Yang Ming and China Shipping
- Northern California
 - STS Evergreen, TTI Hanjin
- Pacific Northwest
 - MTC Evergreen, TTI Hanjin
- Containers handled in 2006 – 3.7 million
- Does not include MTC East activity



Gate Technology Overview

- Introduction
- Physical Infrastructure
- Preparation and community – VoyagerTrack
- Premier Appointment System
- Summary

Physical Infrastructure

■ OCR Portals

- Obtain container number, chassis number, gen-set number, truck license plate (hardest)
 - For every success = more accuracy, less input
- RFID readers can replace truck license plate

■ Pedestals

- Handles remaining data exchange
 - Driver's license (card reader), Automated scale interface
 - Human Interaction - booking number, seal number, pick-up information, trucking company

Physical Infrastructure (cont'd)

- Streamlined In moves

- Booking number, trucking company, seal number only verbal exchanges

- Hands-off Out moves

- No human intervention based on successful OCR reads
 - System evaluation that leaving with correct container, chassis, etc.
 - Automated Gate Arms



Beyond Infrastructure...

Preparation is the key



Favorite Quote about Preparation

- “It usually takes me more three weeks to prepare a good impromptu speech”
 - By Mark Twain



Preparation

- Enhanced communication
- More timely information available
- Two way communication exchange

leading to improved efficiency/performance



Preparation is...

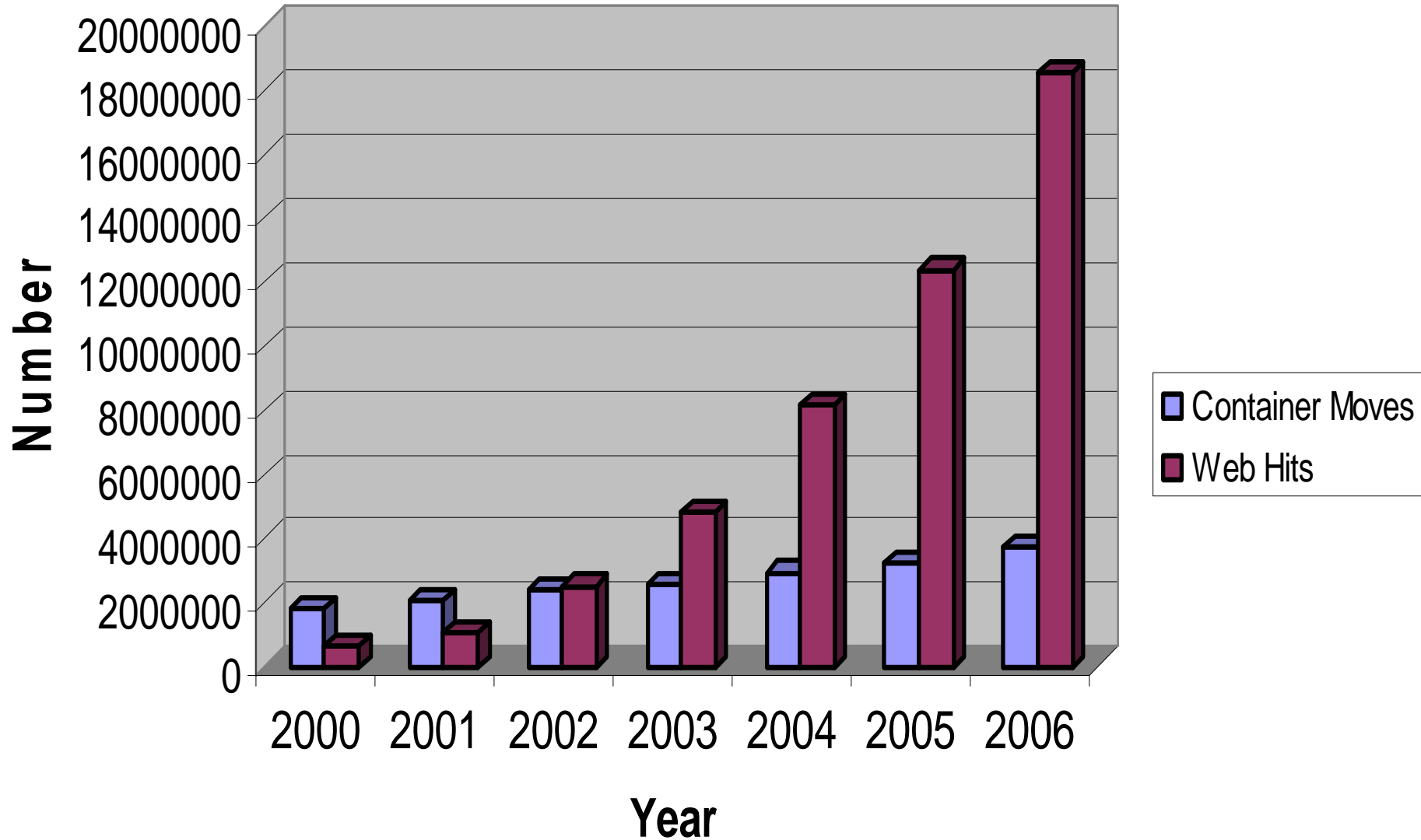
- Stimulated via available communication channels offering assistance

More on Preparation

- Web Information and VRU (Voice Response Units) for shipping community such as VoyagerTrack, eModal, WebAccess
 - Allows prechecking transaction information with terminal database
 - Minimizes Trouble Transactions
 - Allows for effortless appointment making
 - VoyagerTrack in 2006 – over 18 million web hits
 - Highest sites over 6.3 hits per vessel move
 - High saturation level – how does this happen?

Abundant opportunities to communicate both ways

Container Moves versus Web Hits





Timely Communication

- VoyagerTrack – all live information
- Event Notifications
 - ☐ Import Container Availability (can be picked up)
 - ☐ Demurrage Warning
 - ☐ Enter and Exit Gate
 - ☐ PierPASS TMF released
 - ☐ Standing Trouble Transaction Notification
 - ☐ Ready for an Appointment
 - ☐ Export Booking now in Terminal System

Appointment Systems

- Set up correctly, Appointment Systems encourage use of web sites/VRU's
 - Data is verified during appt making process
 - Booking doesn't exist in terminal system
 - Container hasn't discharged yet
 - All empties already picked up on that booking
 - That empty needs to be returned to a depot
- In addition, an Appointment System is an important terminal management tool

Appointment Systems (cont'd)

- Level the arrivals per time period
- Therefore, reduce trucker turn-time
 - Proven during initial deployment period
- Not just arrivals at the gate but per yard areas
 - Balancing effect on CHE workload
- Proactive Communication Tool
 - Terminal now knows and has communication with all trucking companies going to specific yard areas during any time period – can communicate to that group directly
 - Dangerous cargo spill, accident, etc.

Government Intervention

- Lowenthal Bill passed September 2002 (State)
- Focus on Air Quality (funded by CTA)
- CTA initially pushing for Extended Gate Hours
- **Appointment System a last minute compromise**
 - Truckers perceived as unwanted constraint
 - Terminals insisted on some control
- **Main initiative – Terminal to be fined \$250 per truck that waits more than 30 minutes outside terminal**
 - Only other fine - \$750 per truck if terminals found ramming trucks into terminals so the trucks could wait inside instead of outside to avoid fines...
- Initially Bill thought to have no chance



Premier Appointment System

(a.k.a. PAS)

- **Biggest initiative – Lowenthal Bill**
- **Approach determined by MTC/JV's**
 - **Get over it – yes, directed at terminals**
 - **Not just achieve fine avoidance**
 - **Opportunity to address future growth**
 - **Better option than longer hours with low truck participation – very costly**
- **Opportunity to improve communication**
 - **Truckers – no direct business relationship**
- **Opportunity for terminal efficiencies**
 - **Example – same day appointments accepted**

PAS Functionality Highlights

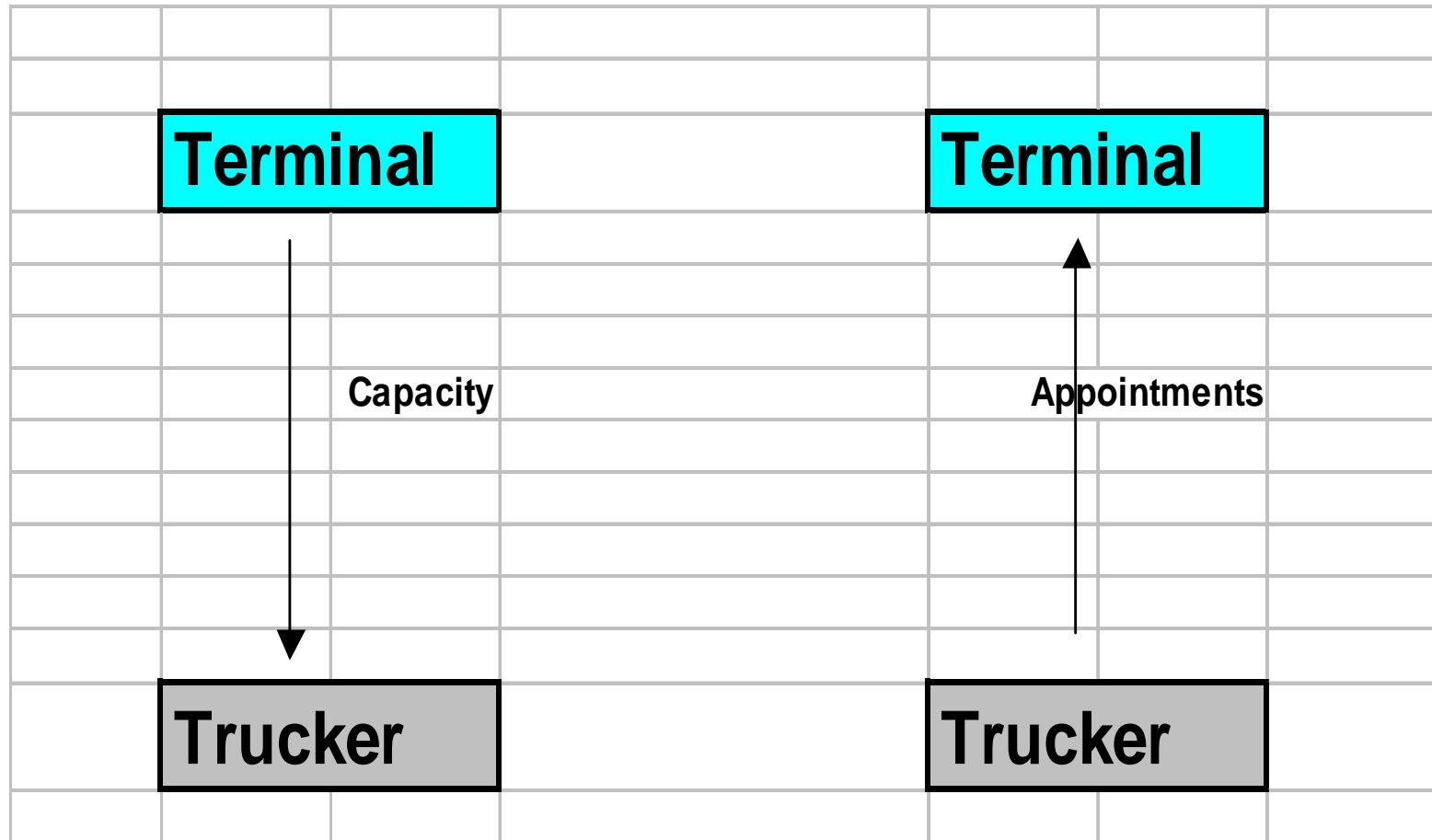
- **Import Decked – Appt limits based on yard areas / time slots / production capacity**
- **Trucks without appointments allowed in to reach limits if not all appts booked**
 - **Truckers view number of appointments left**
 - **Used to pick best time or pick best container (import)**
 - **Reports summarize the number of appointments made, appointments kept (and missed), trucks allowed in without appointment, etc. for each limit**



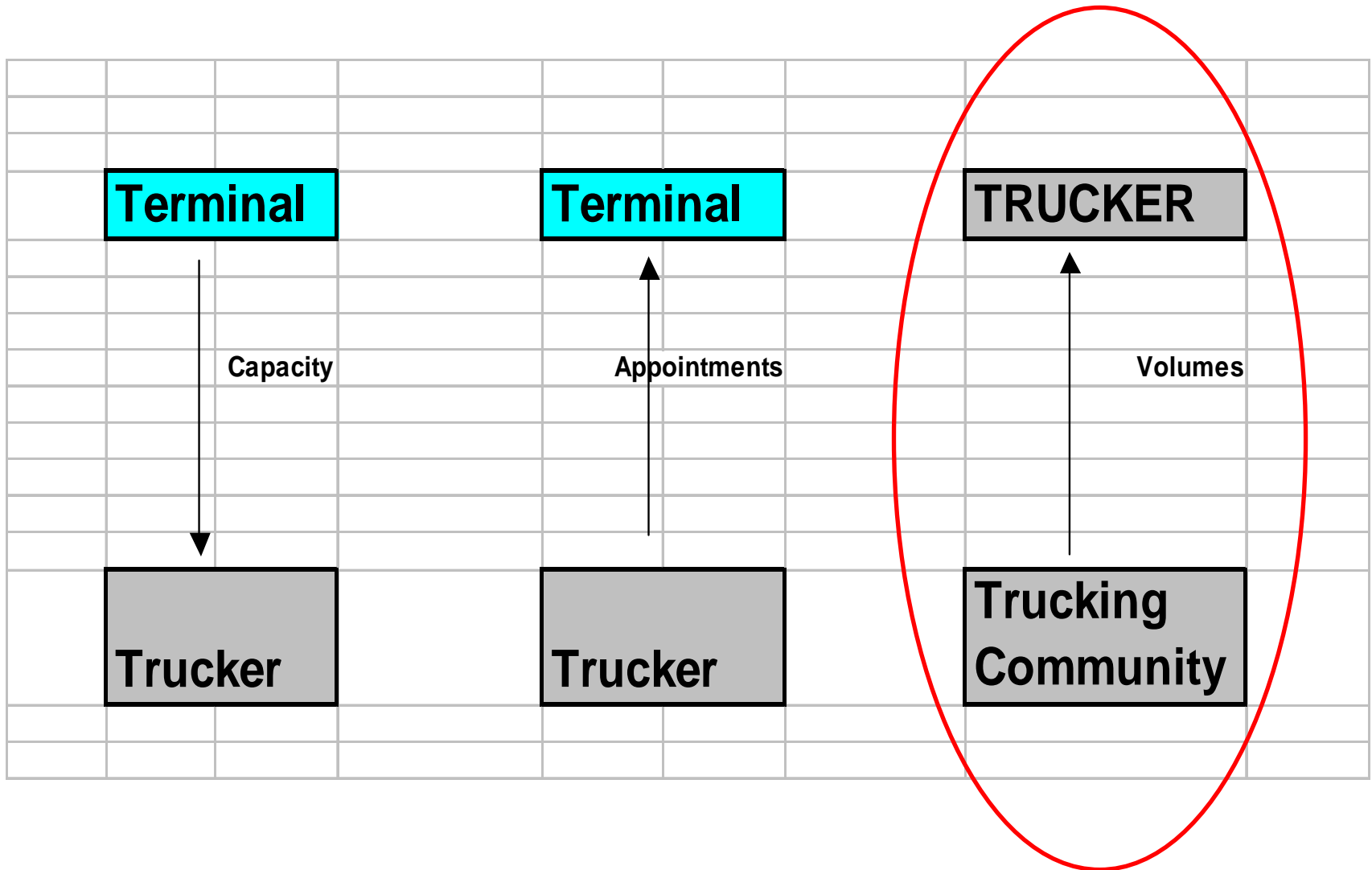
Appointment Making Process

- **Not just an act of making an appointment...**
- **Visibility to shipment status part of process**
- **Improves trucker decisions being made previously without any information**
- **Helps in preparation of transaction**
- **Diminishes trouble transactions (hang-ups at gate area)**
- **Trucker actually a participant in yard planning**

Basic View of Info Exchange



Full View of Info Exchange





PAS and Trucker Turn Times

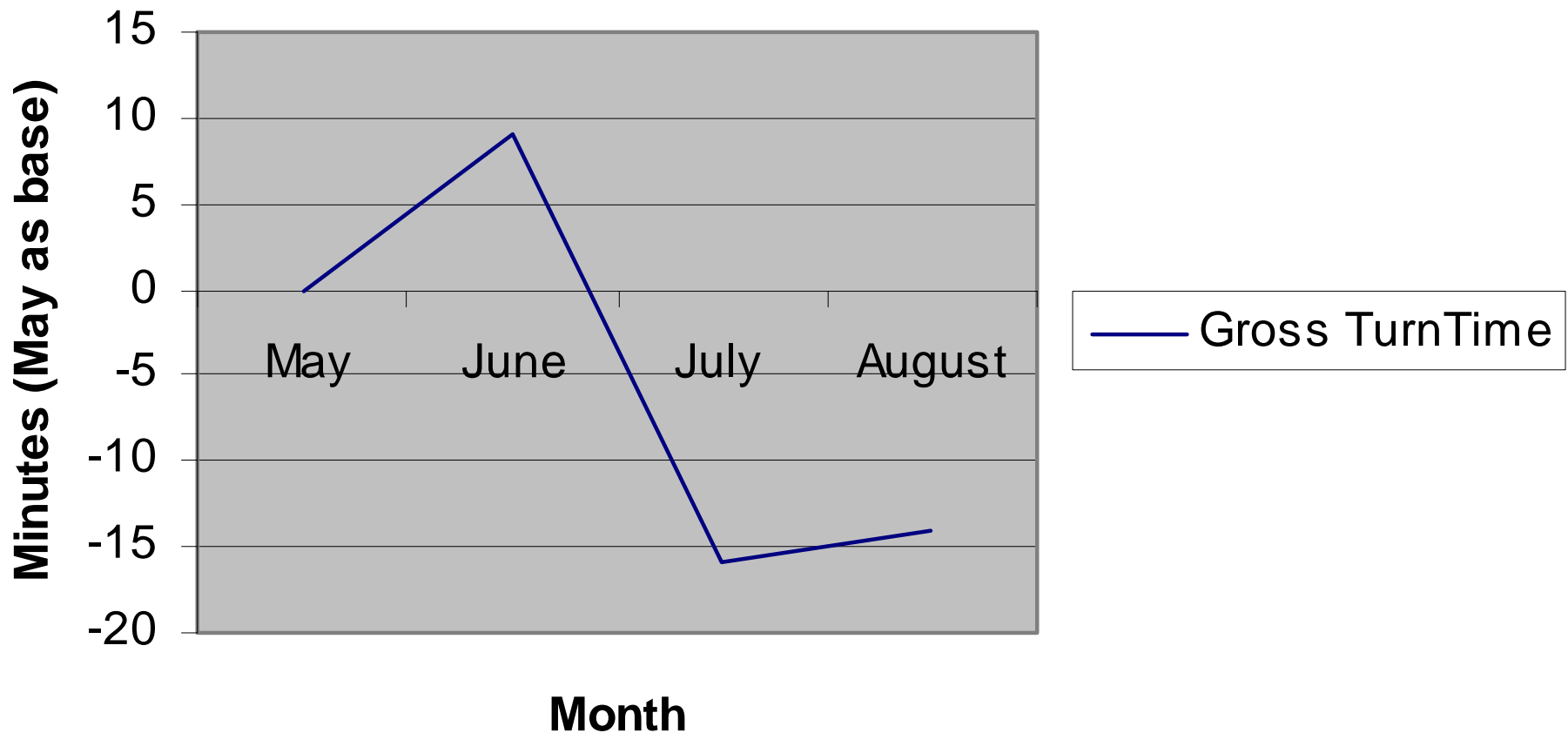
- Once PAS in place, we performed a study to see effectiveness of PAS
 - Driver time within terminal – not outside
- We measured before and after
- We did not measure with appt vs. without
- Greatest accuracy in first few months
- None of our terminals changed processes to give advantage to appointment trucks
 - Only if have appointment, guarantees entrance
- We used May as baseline (July 1st deployment) – so all months relative to May
- Statistics for Grounded Imports
 - Most important and source of most complaints

PAS Study

- Premier Appointment System at STS-OAK
 - Impact on trucker turn-times?
 - Impact on emissions?
- Graph to display turn-times
 - From May through late August
 - All comparisons relative to May turn-times
 - Decked Imports (non-MLB) since highest percentage of Appointments for this move type
- The Graph...

Turn-time Graph

Gross TurnTime during PAS Implementation



Turn-time Graph Analysis

- July* compared to May turn-times, with a 35% increase in volume:

- 2297 truck trips spent an average of 15.96 minutes less than trucks did during May.

- $2297 \text{ trucks} \times 15.96 \text{ minutes} = 611 \text{ hours}$

- 611 hours of idling trucks eliminated!

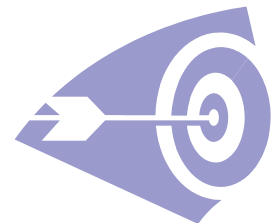
Or

- July compared to June, then $2297 \times 24.94 \text{ minutes} = \underline{\mathbf{955}}$ hours of idling trucks eliminated!

PAS Study Results

- Improved service to the trucking community
 - less time for same work
- Improved Terminal productivity
- Less pollution!
 - ☐ Imagine 955 trucks idling for one hour each*
or
 - ☐ Imagine one truck idling for over 39 days non-stop around the clock*

***Results from month of July 2003 only.**



**Gross Turn Time Change for Gate Passes with Import
Decked Moves
(Non MLB)**

BENT

Year - Month	2003 - 05	2003 - 06	2003 - 07	2003 - 08	2003 - 09	2003 - 10	2003 - 11	2003 - 12
Number of Gate Passes	1,705	1,865	2,297	2,086	2,655	1,536	1,329	1,954
Diff From May	0.00	9.14	-12.70	-6.20	2.57	-18.21	-26.46	-13.20

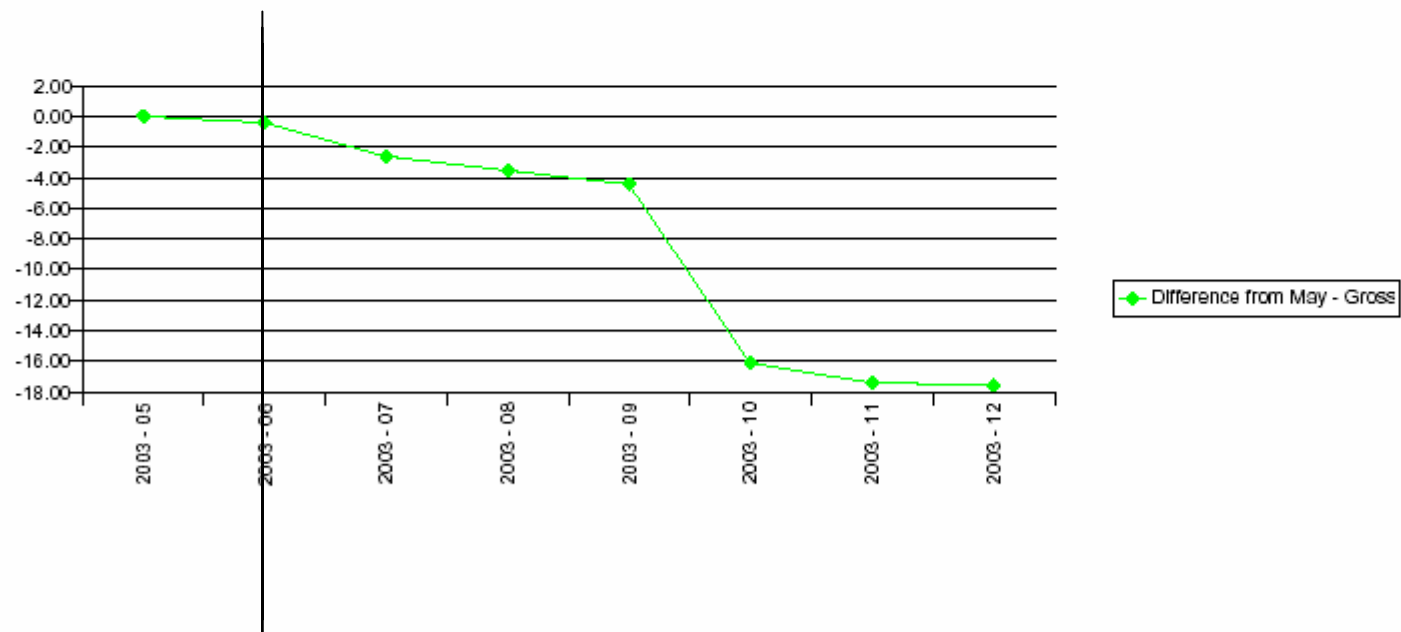




**Gross Turn Time Change for Gate Passes with Import
Decked Moves
(Non MLB)**

WBCT

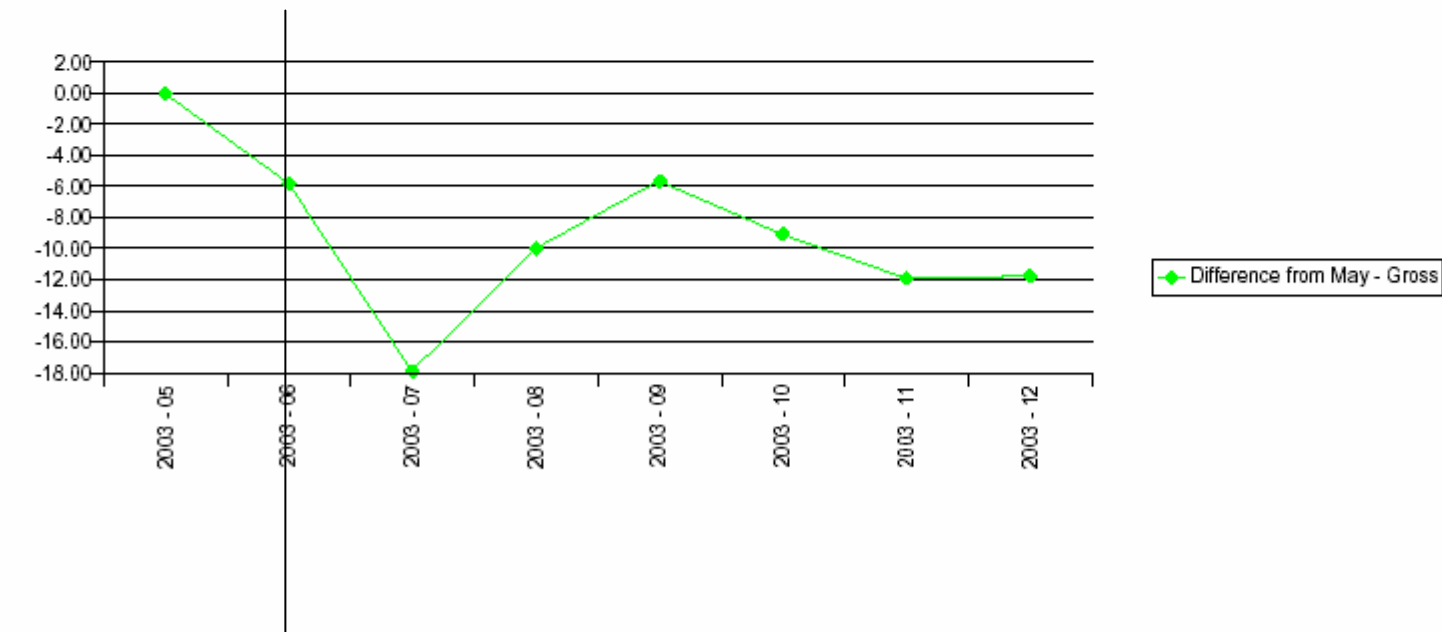
Year - Month	2003 - 05	2003 - 06	2003 - 07	2003 - 08	2003 - 09	2003 - 10	2003 - 11	2003 - 12
No of Gate Passes	8,970	10,578	9,782	9,125	9,357	8,945	7,261	8,904
Diff From May	0.00	-0.41	-2.61	-3.54	-4.44	-16.13	-17.42	-17.58



**Gross Turn Time Change for Gate Passes with Import
Decked Moves
(Non MLB)**

EGA LAX

Year - Month	2003 - 05	2003 - 06	2003 - 07	2003 - 08	2003 - 09	2003 - 10	2003 - 11	2003 - 12
Number of Gate Passes	9,113	8,126	8,274	7,784	9,023	9,964	8,008	8,757
Diff From May	0.00	-5.78	-17.89	-10.00	-5.66	-9.08	-11.91	-11.77



Trucker Time Saved

- Oakland – $2297 \times 24.94 = 951$ hrs
- EGA LA - $8274 \times 12.11 = 1670$ hrs
- WBCTLA - $9782 \times 2.2 = 359$ hrs
- TTI LGB - $9003 \times 2.94 = 441$ hrs
- TTI OAK - all wheeled

- Total savings – **3421* hours!**
 - Less pollution + Trucker savings
- Environment – non-mandatory and max 60% kept appts

*July 2003 versus June 2003 – import decked



Recent Accomplishments

- Greater than 5600 moves in 24 hours – 2 x 8 hour shifts 5676 / 16 greater than 350 moves/hour.
- PierPASS success in getting activity after lunch hour / after midnight. Not achieved by other terminals without appointment systems.
- TTI Hanjin successfully transitioned to mandatory appointments for Import Pickups
 - Improved security

Tue, 07/11/2006

**Completed Gate
Moves**

	1. 07:00 - 17:59	2. 18:00 - 02:59	Total	Night %
EGA LAX	1,904	1,159	3,063	37.84 %
TTILGB	3,708	1,968	5,676	34.67 %
WBCT	1,902	1,076	2,978	36.13 %
Total	7,514	4,203	11,717	

TurnTime

	1. 07:00 - 17:59	2. 18:00 - 02:59	Avg
EGA LAX	33.08	39.78	35.61
TTILGB	37.29	43.03	39.28
WBCT	35.42	34.49	35.08



Current statistics

- Over 100% per import pickup – about 80% utilization – fairly consistent – overbook like airlines. More of an art than a science.
- Advantage is if fall behind or get ahead can adjust system not just live with back ups or inactive assets

PAS Philosophy

- This is a trucker system
 - Analogy of webcams – great but already out of date
 - Trucking community can see what trucking community is planning and doing.
 - Not perfect but improves odds
 - Gambling analogy so no guarantees but improved chance of succeeding
 - Better decision making
 - No longer a matter of just pick up first on the list
 - Almost becomes a science
 - Make those appts with the most appts available
 - If combo decked/wheeled, then save wheeled for the tough times



User Interface

- Align with trucker process
- Easy to add, modify or delete
- Process of making appt, see all statuses
- Configuration by terminal preference
whether or not appt can be made with less
than fully available



Trucker Feedback and Advantage

- Approximately 20 to 1 ratio of communication about how to make appointment versus difficulty in getting required appointment
- Issue of lost box discovered at point of appt not when trucker arrives
- Issue of local container mixed with rail



Summary

- Physical Infrastructure is major ingredient but must not neglect fostering preparation and communication
- Areas to grow – further integration of appt system with terminal system to give further advantage to those with appts and give better prediction to the terminal operator
- Goal – all transaction information collected in appointment making process



The End



More on the Lowenthal Bill

- **Two exemptions for terminals:**

- **Open 70 hours a week (very expensive)**

- **Fully staffed gate**

- **Union contract limits shift definitions**

- **Deploy an appointment system**

Lowenthal Bill Clauses

- **Appointments available first come first serve**
- **Appointment duration at least 60 min.**
- **No discrimination against any carrier**
- **Not interfere with a double transaction**
- **Not turn away or fine a carrier if that motor carrier misses an appointment**
 - Therefore, appointments not mandatory

Note: These clauses are law – not optional