

# Faster Freight- Cleaner Air

Infrastructure:  
Regulations, Legislation and Community Health:

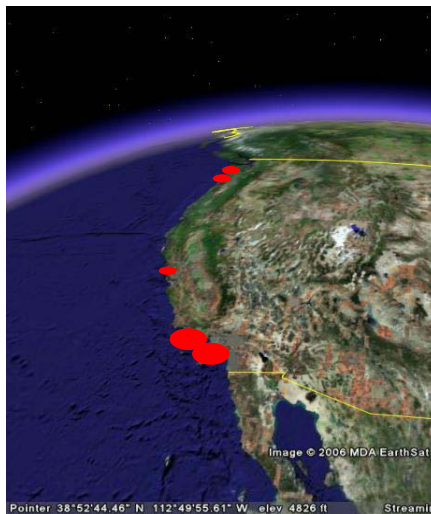
## *Prospects for Growth in West Coast Ports*

Presented by Mark Griffin, AICP  
January 31, 2006



## Major West Coast Container Ports

- Prospects for Growth are Good
- 2 WC ports in "World Top 20" for 2004
- LA/LB, 13 million TEUs
- 78% Imports, mostly from Asia



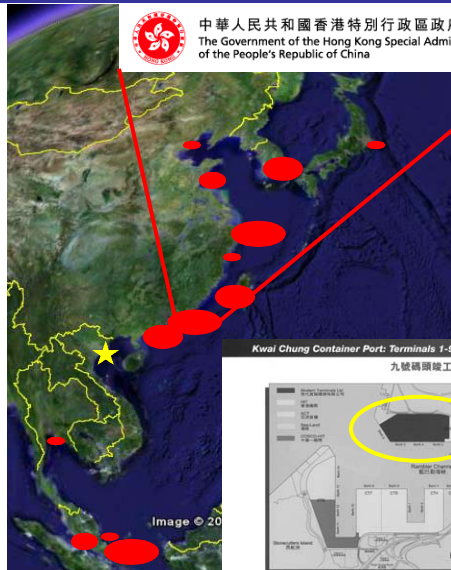
# Major Asia Coast Container Ports



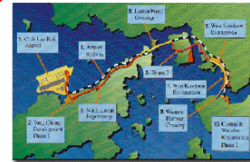
- 13 of "World Top 20" ports in Asia
- 121,306,335 TEUs (nearly 10x LA/LB)
- Ports and System  
Large  
Efficient  
Organized



# Hong Kong PADS

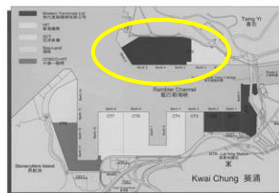


中華人民共和國香港特別行政區政府  
The Government of the Hong Kong Special Administrative Region  
of the People's Republic of China



Airport Core Programme

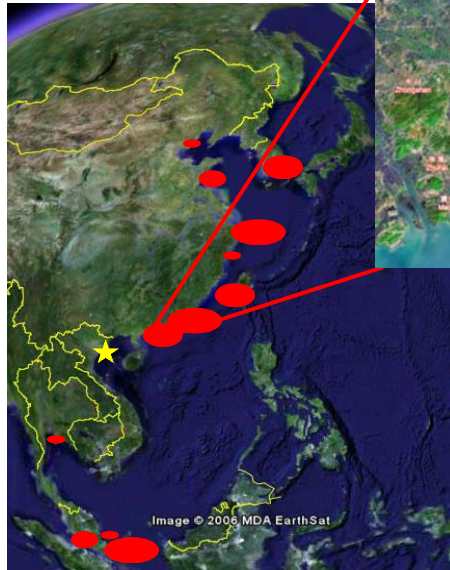
Kwai Chung Container Port: Terminals 1-9 on Completion  
九號碼頭竣工後葵涌貨櫃港全貌



21.9 million TEUs in 2004, #1



# Shenzhen



- Shenzhen Ports
  - Yantian
  - Shekou
  - Chiwan
- 13,650,000 TEUs
- Daohai Bay Port (2007)



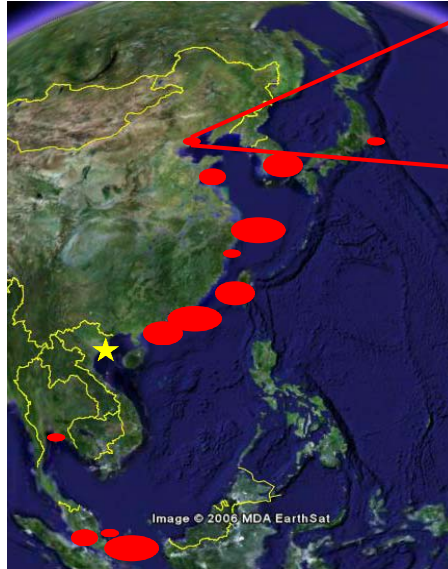
# Shanghai



- Yangshan Port (2020)
  - 20 mil TEUs
- Phase One (2005)
  - 2 mil TEUs



# Tianjin



**TIANJIN PORT**



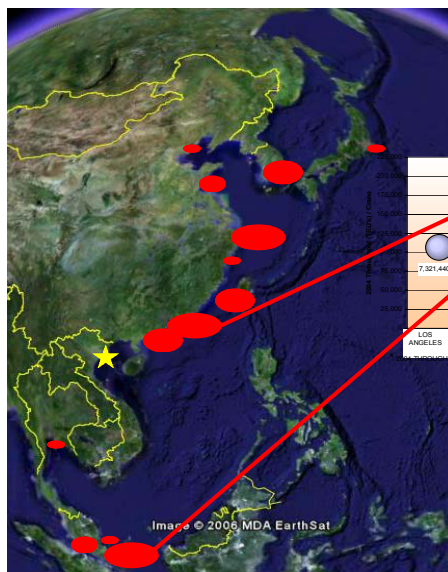
- 3.6 mil TEUs 2004
- 10 mil TEUs (2010)

## International Equity Markets

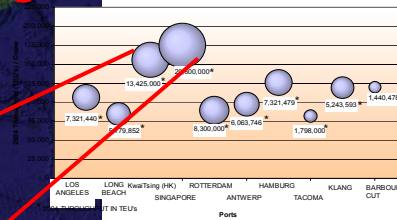
- Jan 06, \$100 mil IPO
- Xiamen, Dec 05 \$150 mil IPO



# Asian Port Efficiency



**Figure 1: Variance of Port Productivity - Throughput Per Crane -**



# National Port System Planning



# Asian Growth Strategies



## **Ambitious Infrastructure Plans**

- PADS, Yangshan

## **Efficient Ports**

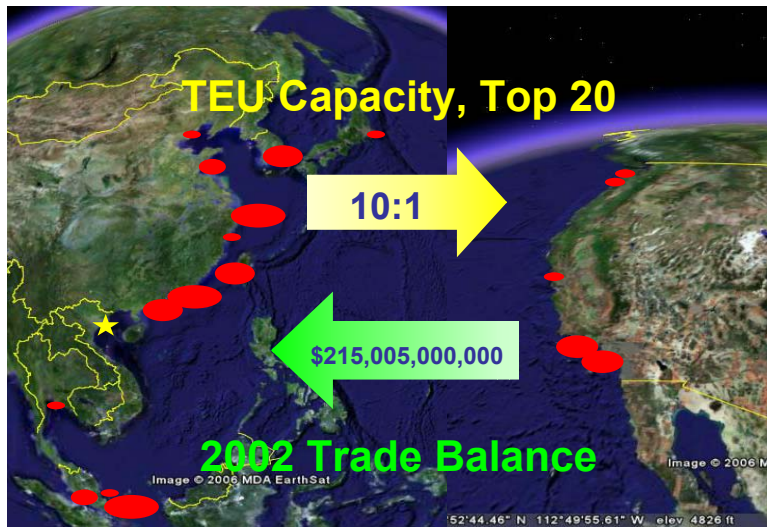
- 15,000 + TEUs /acre

## **Organized National and Regional Port Systems**

- Coast-wise shipping
- integrate landside and port investments






# TEU/Trade Imbalance



# West Coast Response (1990's)



-  LAX Master Plan
-  Piers 300/400 J
-  Alameda Corridor



## West Coast Response (2000's)

### CALMITSAC \$17.7 Billion

- I-710 Improvements + Truck Lanes
- Mainline Rail Capacity
- On-dock Rail
- Landside Grade Separations



## The Wall

### Geography

- Few natural ports
- Limited landside ROW

### Environment

- Community opposition
- Air quality
- Landside congestion

### Funding

- Few Program \$
- Private equity
- Revenue from commercial flows



2020 Plan Original Concept (obsolete)



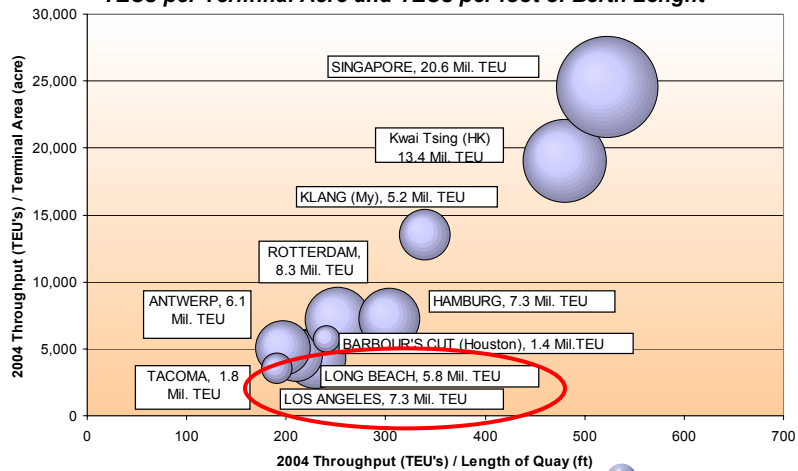
# West Coast Options

- New ports/terminals
  - Baja California
  
- Greater Productivity
  - Automated Operations (RMG)
  - Consolidation of older terminals
  - Regional port system, SSS



# Greater Productivity

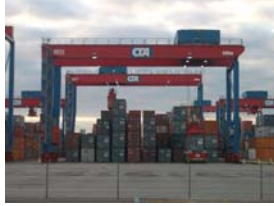
**Figure 3: Variance of Port Productivity - TEUs per Terminal Acre and TEUs per foot of Berth Length**



Source: Le/Murphy 2006



# Automated Systems— Rail Mounted Gantry (RMG)



Hamburg, Germany



Thamesport, England



Hong Kong, China



Richmond, CA



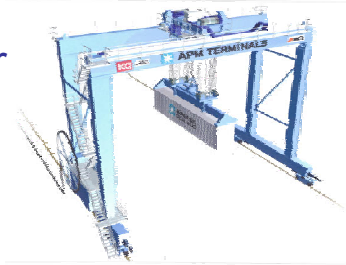
## Advantages of Automation

- Efficient Land Utilization
- Automated or Semi-automated
- Electrical Operation, fewer port emissions = **Environmentally friendly**
- Low Noise, Light Pollution



# CH2M HILL Projects Automated Systems (RMG)

- APMT - Portsmouth, VA
- New York Container Terminal – Staten Island, NY
- Port of Tacoma – Tacoma, WA



# NYCT Parcel





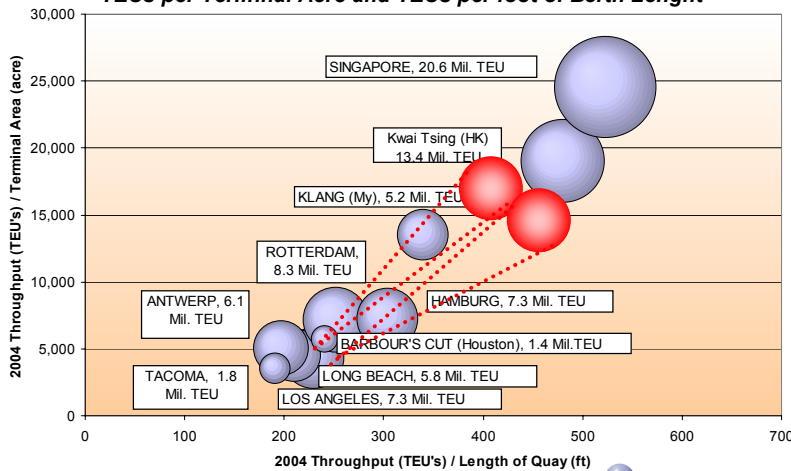
# WUT (80 Acre CY) Facts

| Operating System | Capacity (TEU) | TGS (TEU) | TEU/Acre |
|------------------|----------------|-----------|----------|
| Chassis          | 6,141          | 6,141     | 5,604    |
| RTG              | 24,300         | 5,093     | 17,658   |
| RMG              | 41,081         | 7,412     | 33,591   |



# That's Efficiency

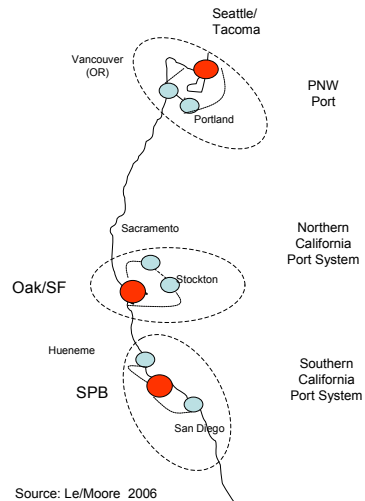
**Figure 3: Variance of Port Productivity - TEUs per Terminal Acre and TEUs per foot of Berth Length**



Source: Le/Murphy 2006



# Short Sea Shipping



# Moving Forward



- Prospects for growth are good
- Grow Larger (?)
- Grow Efficient
- Grow Organized
- Grow Green





**Thank You**

**Questions?**

