



**IAPHHAMBURG2015**  
29th WORLD PORTS CONFERENCE

# IAPH World Ports Conference 2015

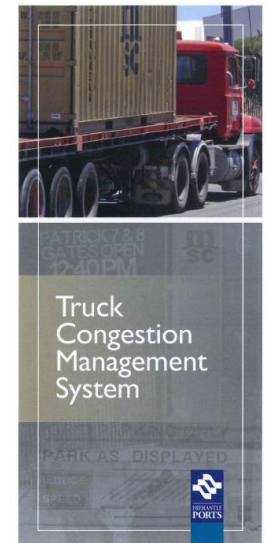
## Effective Management of Port Landside Congestion

Michael Pal

Fremantle Ports (Australia)

# Congestion Management System

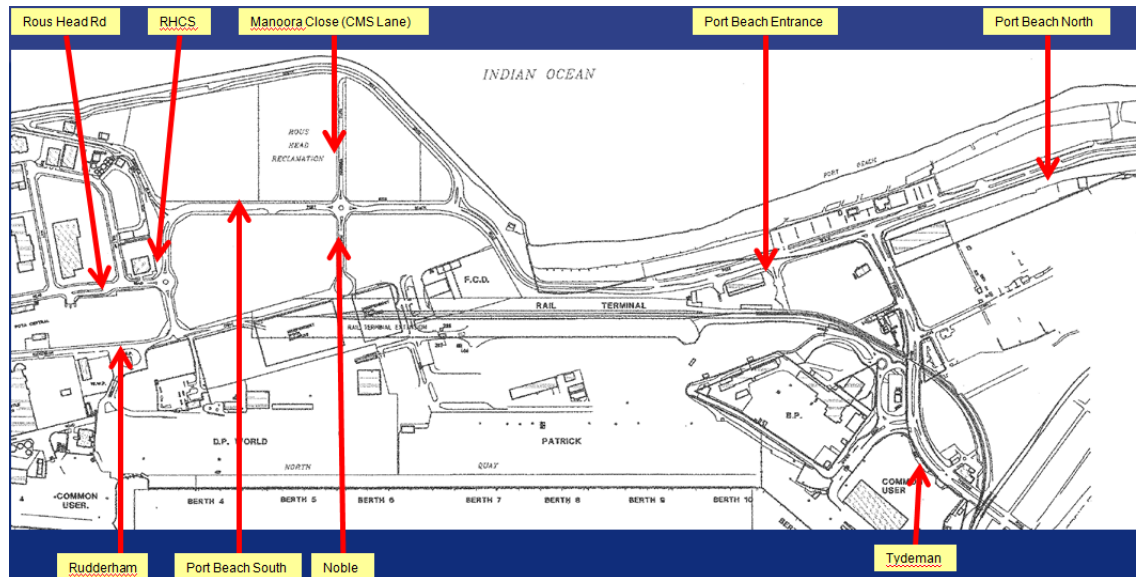
- Xmas 2009 – WA economy strong (high imports), but GFC meant no empty repos
  - Result = high volumes into parks, no containers going out (poor export season and no repos) leading to significant queues.
  - Only alternative was manual traffic management
- Need for Congestion Management System – Deciding Factors
  - Recurring congestion and threat of litigation (interaction public & heavy vehicles)
  - Newly dredged land area (Truck Marshalling Area – TMA from May '10)
  - Industry agreement on need for action (Focus sessions, Task Force Work Group)
  - Port commitment to innovation (Mgt. willing to try something new)



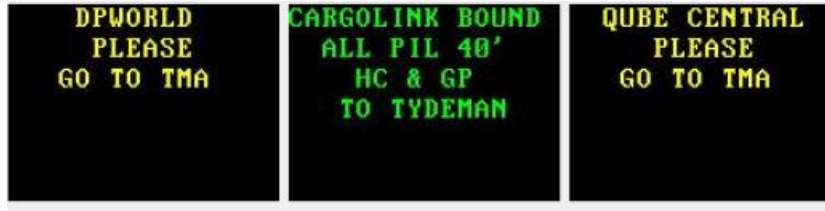
# Congestion Management System



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# Congestion Management System



Welcome to Fremantle Ports Check-in Screen. For assistance or general information please contact Fremantle Ports 1800 909 150 **13:42**

Select Site  
 DP World  
 PATRICK  
 Site Not Listed?

Please enter your BAT number Note: Ensure number is correct or you may not be called!

B1234

1 2 3 4 5 6 7 8 9 0  
 Q W E R T Y U I O P  
 A S D F G H J K L  
 Z X C V B N M

All Data Received OK



Welcome to Fremantle Ports Check-in Screen. For assistance or general information please contact Fremantle Ports 1800 909 150 **13:49**

Select Site  
 DP World  
 PATRICK  
 Site Not Listed?

**Thank you.**  
 You have been registered as 1DDB123 at 13:49 19/07/13.  
 Please return to your vehicle.  
 1DDB123 will be called up by the  
 Variable Message Signs.

For assistance please contact Fremantle Ports on  
 1800 909 150 or  
 containertransport@fremantleports.com.au  
 You are currently placed number 2 in the queue

Waiting to Send 1 packets

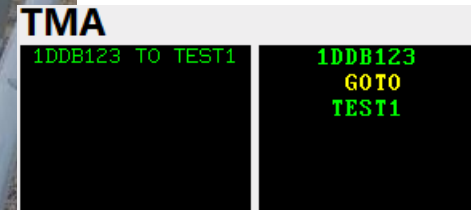
Congestion Management System

**DP WORLD**

**Marshall Yard**

Waiting Truck

Number	BAT	Added Time	time slot	wait time	Call
1	443	27/02/2014 11:01:24 AM	1200	00:47:26	<input type="button" value="Call"/> <input type="button" value="Remove"/>
2	317	27/02/2014 11:46:44 AM	1200	00:02:06	<input type="button" value="Call"/> <input type="button" value="Remove"/>
3	448	27/02/2014 11:46:30 AM	1300	00:02:20	<input type="button" value="Call"/> <input type="button" value="Remove"/>
4	432	27/02/2014 11:47:03 AM	1400	00:01:47	<input type="button" value="Call"/> <input type="button" value="Remove"/>



# New Site Key Performance Indicators

- Newly created land areas have given the Port the opportunity to guide key quay- and land-side efficiencies.
- KPIs included in all new leases – Incentive for good performance
- Tenant Operating Performance System measures results
- Tenants provide data – Exceptions only managed by port



- Financial incentives mean risk of data manipulation
- In addition, some KPIs impossible to control without independent verification method
- Verification through Intelligent Transport Systems



# Future Truck Control System

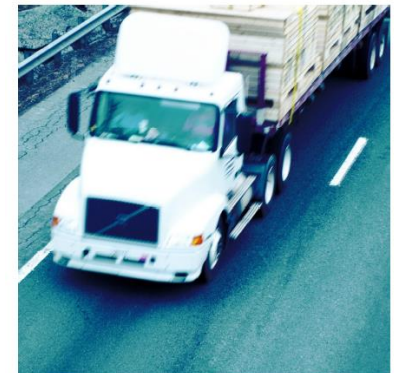
- Performance Indicators (KPIs) include:
  - Truck Turnaround Times (TTT - with incentive for handling trucks with multiple containers)
  - Queues on Roads
  - “Off Peak” (6pm-6am) operations, etc.
- Other requirements include congestion detection and providing instruction to drivers
- Fremantle Ports provided scope – Industry & consultant = recommendations
- Key considerations:
  - Minimal involvement of Fremantle Ports personnel ongoing (i.e.: no Vehicle/Traffic Control Centre)
  - Minimal ongoing cost
  - Ease of KPI comparison
- Current Developments:
  - In action = Queuing control - Video imaging processing
  - Under RFQ = TTT – likely RFID/ANPR combination

AECOM

Fremantle Ports  
14 March 2012

DRAFT

Identification of Technologies  
to Monitor and Control Traffic  
in the North Quay Precinct



# Truck Control System - Queuing Detection & TTT

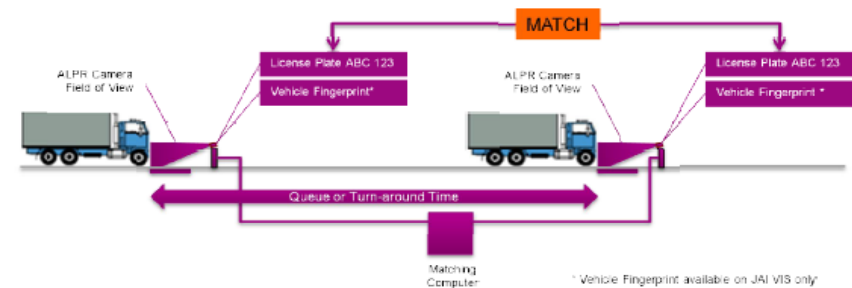
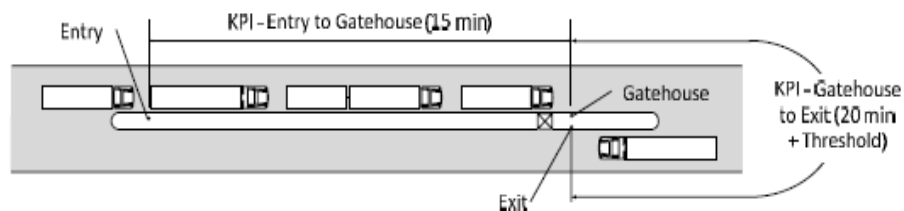
## Queuing

- KPI = No queuing on roads.
- No practical means of manually determining this
- Port has developed a system using video zoning technology (in testing and implementation – see photo)
- Warnings provided to tenant and Port officer
- Failure to act = violation



## Truck Turn Time (TTT)

- KPI = Site must service truck in given time period (TTT)
- Site can easily distort timings when incentive threatened
- ANPR to capture vehicles on entry and exit = verification



# Future Truck Control System

Further Queries

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