

# Green Flag Incentive Program



# Vessel Speed Reduction Program



- **Slowing Ship Speed Reduces NO<sub>x</sub> Emissions from Vessels**



## What is NO<sub>x</sub>?



- NO<sub>x</sub> is oxidized nitrogen
- NO<sub>x</sub> is a pollutant and can cause ozone, smog and haze



## Where does NO<sub>x</sub> come from?

- Nitrogen and oxygen, naturally occurring in air, form NO<sub>x</sub> when exposed to high pressures and temperatures
- Air is exposed to high pressure and temperature in the Diesel Engine combustion chamber – producing NO<sub>x</sub>





• 50% of NO<sub>x</sub> in the US is from mobile sources such as ships and trucks (EPA)



## Vessel Speed Reduction Program

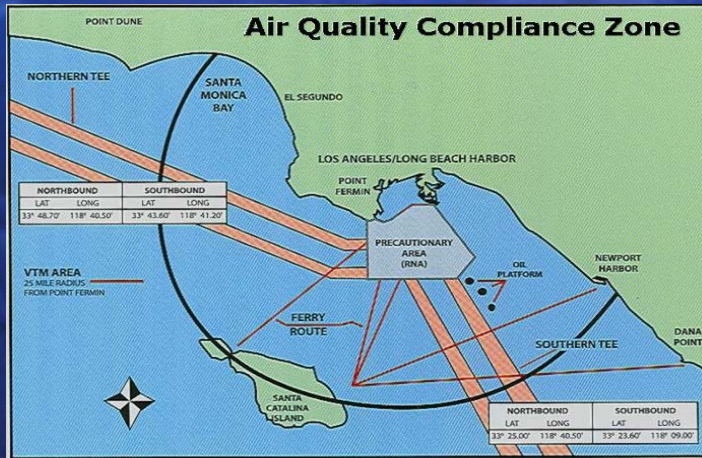


### Memorandum of Understanding between:

- Ports of Long Beach and Los Angeles
- EPA
- South Coast Air Quality Management District (AQMD)
- California Air Resources Board
- Pacific Merchant Shipping Association
- Marine Exchange of Southern California



## Vessel Speed Reduction Zone (12 Knots 20 Nautical Miles from Point Fermin)



## Vessel Speed Reduction Program

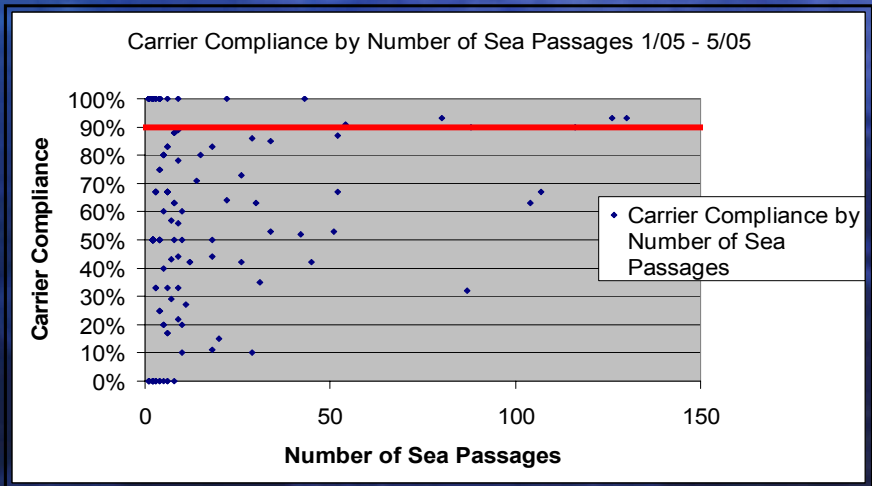
- Only about 1/3 of the vessels were in compliance with the program in 2004
- Close to 500 arrivals a month



pict0.jpg



## Choosing Program Parameters





**THE PORT OF  
LONG BEACH**

## Green Flag Incentive Program



- Awards Vessels with Green Flags for one year of 100% compliance
- Rewards Carriers with 15% reduction in dockage for achieving 90% compliance



## Monitoring Compliance

The Marine Exchange of Southern California is responsible for measuring compliance with the Voluntary Vessel Speed Reduction Program



**Marine Exchange of Southern California**



PortSource™

a non-profit organization established in 1923 / operating the Vessel Traffic Service since 1994

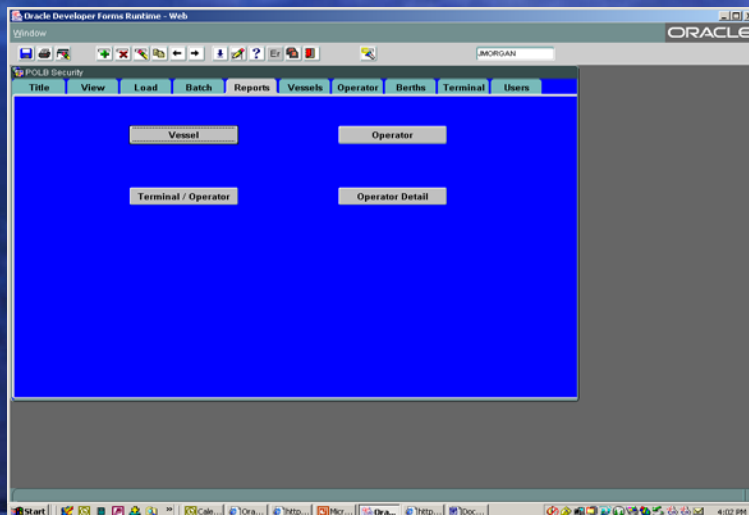


# Tracking Compliance at the Port of Long Beach

- Compliance Data is collected from Marine Exchange
- Vessel data is input into the the Port of Long Beach tracking system
- Automatic Reports can be generated by Operator, Vessel, and Terminal



## Reports



# Operator Report

Oracle Developer Forms Runtime - Web

Window

Report Parameters

Start Date: 01/01/2005

End Date: 01/02/2005

Post: LB

Operator: \_\_\_\_\_

OK CANCEL

# Operator Report

09/26/2005 03:59 PM

Operator Page: 1 of 1

01/01/2005 to 01/02/2005

Post: LB

Operator Name	Compliant	Non Compliant	Total	Percentage
CP Ships Ltd	1	0	1	100
China Shipping Container Lines	1	0	1	100
Corral Line	1	0	1	100
Eurobulk	1	0	1	100
Hanjin Shipping	2	0	2	100
Manuba	0	1	1	0
Matsuo Navigation	1	0	1	100
Mediterranean Shipping Co	0	1	1	0
Mitsui OSK Lines Ltd	1	0	1	100
Nippon Yusen Kaisha	1	0	1	100
Orient Overseas Container Line	1	0	1	100
Roefership	0	1	1	0
Tankers UK Agencies	1	0	1	100
Teekay Shipping Canada	1	0	1	100
GRAND TOTAL	12	3	15	80



# Vessel Report

The screenshot shows the Oracle Developer Forms Runtime - Web interface. The window title is "Oracle Developer Forms Runtime - Web" and the user is logged in as "JMORGAN". The menu bar includes "Title", "View", "Load", "Batch", "Reports", "Vessels", "Operator", "Berths", "Terminal", and "Users". The "Vessels" menu is active, displaying a blue background with four buttons: "Vessel", "Operator", "Terminal / Operator", and "Operator Detail". The Windows taskbar at the bottom shows the Start button and several open applications, including Oracle Developer Forms Runtime - Web. The system clock indicates 4:02 PM.

# Vessel Report

The screenshot shows the Oracle Developer Forms Runtime - Web interface with the "Vessels" menu active. A "Report Parameters" dialog box is open, displaying the following fields and buttons:

- Report Parameters**
- Start Date: 01/01/2005
- End Date: 01/02/2005
- Port: LB
- Vessel: [Empty text field]
- Buttons: OK, CANCEL

The background shows the same menu structure as the previous screenshot, with the "Vessels" menu active. The Windows taskbar at the bottom shows the Start button and several open applications, including Oracle Developer Forms Runtime - Web. The system clock indicates 4:05 PM.

# Vessel Report

09/26/2005  
04:06 PM

**Vessel Percentage** Page: 1 of 1  
01/01/2005 to 01/02/2005  
Port: LB

Vessel Name	Compliant	Non Compliant	Total	Percentage
ANDROMEDA LEADER	1	0	1	100
CIELO DE EUROPA	1	0	1	100
CSCL AMERICA	1	0	1	100
FINOLA	1	0	1	100
GLORY	0	1	1	0
HAMPSTEAD	1	0	1	100
HANJIN MARSEILLES	1	0	1	100
HANJIN PRAHA	1	0	1	100
LEYTE SPIRIT	1	0	1	100
MARTORELL	1	0	1	100
MATSONIA	1	0	1	100
MSC JENNY	0	1	1	0
NIKOLAOS P.	1	0	1	100
OOCL ROTTERDAM	1	0	1	100
SIERRA LAUREL	0	1	1	0
<b>GRAND TOTAL:</b>	<b>12</b>	<b>3</b>	<b>15</b>	<b>80</b>



# Terminal Reports

Oracle Developer Forms Runtime - Web

Window: ANORGAN

POLB Security

Menu: Title View Load Batch Reports Vessels Operator Berths Terminal Users

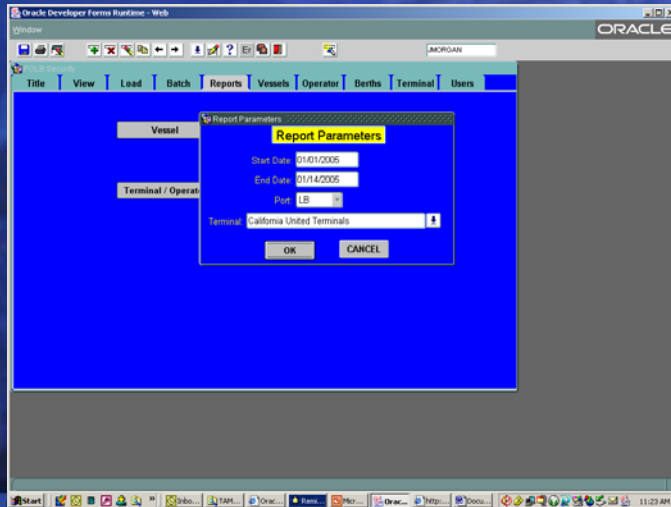
Buttons: Vessel, Operator, Terminal / Operator, Operator Detail

Taskbar: Start, Calc, Oracle, Http, Doc...

System Tray: 4:02 PM



# Terminal Reports



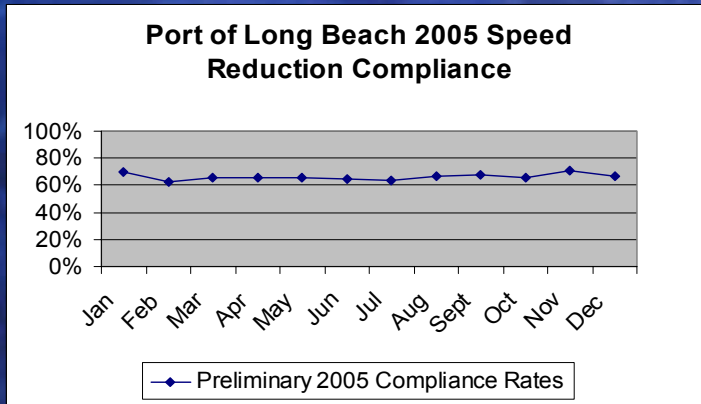
# Terminal Reports

The screenshot shows a Microsoft Internet Explorer browser window displaying a report titled 'Terminal / Operator'. The report is for the date 01/01/2005 to 01/14/2005, generated on 09/27/2005 at 11:22 AM. The report is for Port: LB and Terminal: California United Terminals. The data is presented in a table with columns for Operator, Compliant, Non Compliant, Total, and Percentage.

Operator	Compliant	Non Compliant	Total	Percentage
China Navigation	2	0	2	100
Eurobulk	1	1	2	50
Hyundai Merchant Marine	4	0	4	100
Inul Steamship	2	0	2	100
<b>Terminal Totals</b>	<b>9</b>	<b>1</b>	<b>10</b>	<b>90</b>



## 2005 Compliance Statistics



## Green Flag Incentive Program

