

Day 1: Setting the Stage

Welcome Address & Update on Port Operations During the Age of Tariffs

Dr. Noel Hacegaba, Deputy Executive Director, Port of Long Beach



POLB: Port Efficiency & Productivity

Innovation, Digitization and Collaboration

2019 FTDC | October 28, 2019

Dr. Noel Hacegaba, Deputy Executive Director





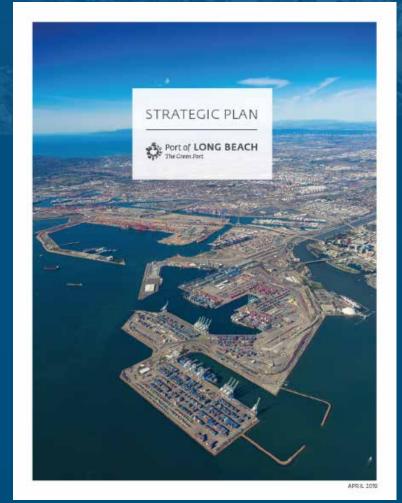






POLB Strategic Plan

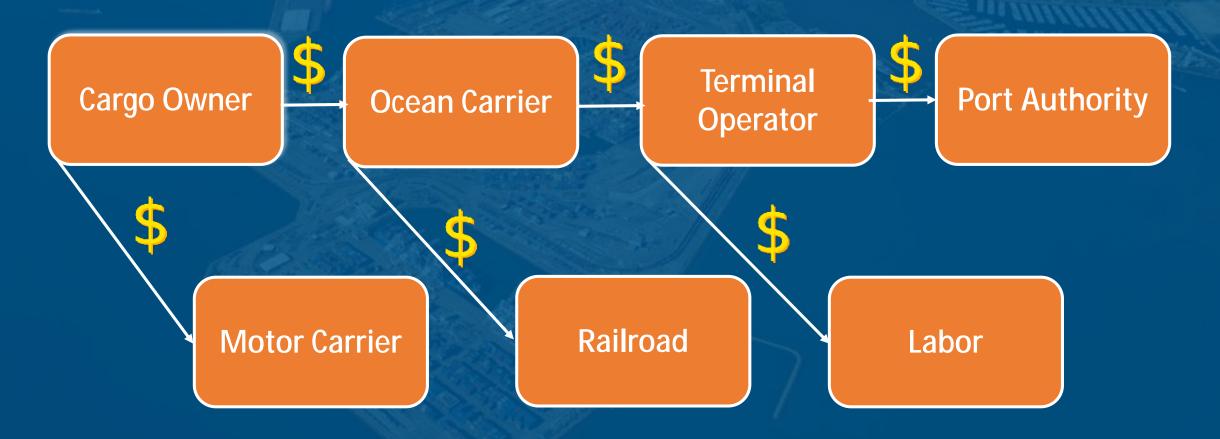
Goal #1: Strengthen the Port's competitive position through secure and efficient movement of cargo while providing outstanding customer service







Complexity in the Supply Chain



Ocean Carrier Alliances





OCEAN Alliance



MAERSK LINE ZIM HMM

2M+H+Z Alliance



Independent Carriers





Port's Role in Optimizing Operations

- -Facilitating communication and collaboration
- -Enabling innovation and information-sharing
- -Enhancing velocity and reliability
- -Creating value for the end-user

Port Efficiency Overview

Tenant Services and Operations Division | December 17, 2018



CUSTOMER NEEDS

- Speed
- Reliability
- Cost

SUPPLY CHAIN RELATIONSHIPS



LANDLORD PORT - ROLE & CHALLENGES

- · Transfer of cargo between water & land
- · Building Infrastructure & Facilitating process improvement
- Rail Challenges: Terminal work rules, Class Is train scheduling
- · Terminals Challenges: Chassis & export empties on terminal

CURRENT ISSUES

- PierPass 2.0 launch
- Free Time & Demurrage
- · Chassis Provisioning
- · Container Delivery
- Cargo information access
- · Rail transfer between terminal and railroads

SOLUTIONS

- · Optimizing terminal gate hours
- Maximizing cargo availability
- · Reducing cargo dwell time
- Optimizing chassis availability to truckers/cargo owners
- Maximizing the terminal cargo delivery capabilities

KPIS

- · Truck turn time
- Truck dual transactions
- · Terminal dwell Time
- · Chassis availability
- Highway congestion

NEXT STEPS

- · Form team
- Prioritize
- Flow chart issues
- Lead meeting with supply chain

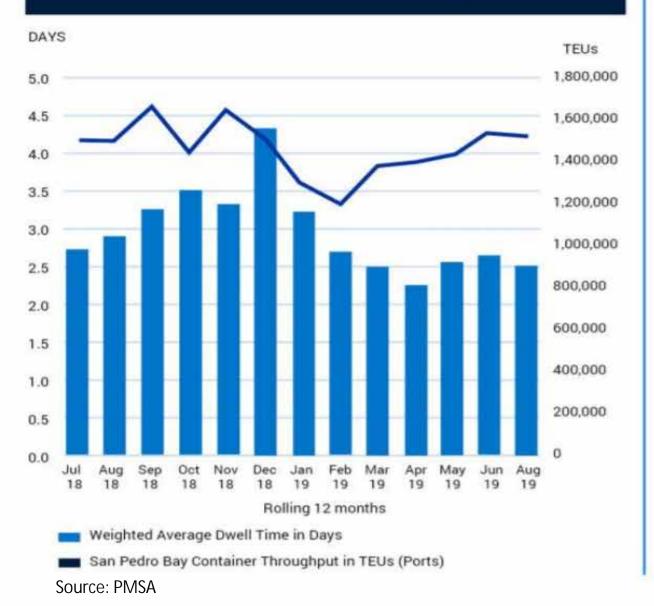
Challenges



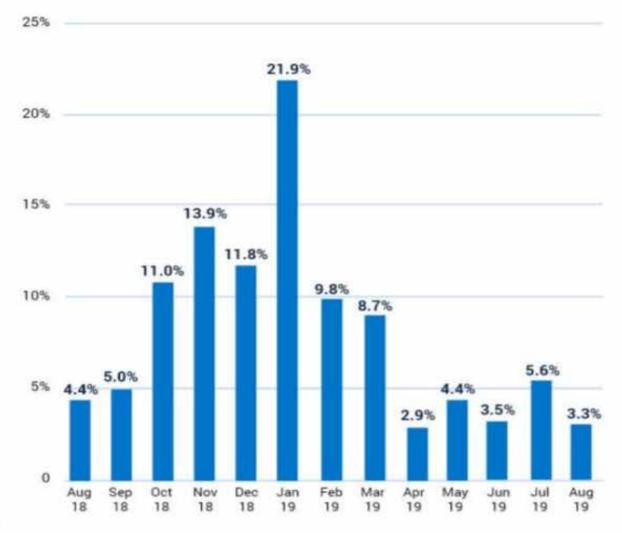
- Truck Appointments
 - Terminal operators: missed appointments
 - Cargo owners (trucking companies): appointment availability
 - Ocean carriers: repositioning of empties
- Chassis Availability
 - Dislocation
 - Repositioning

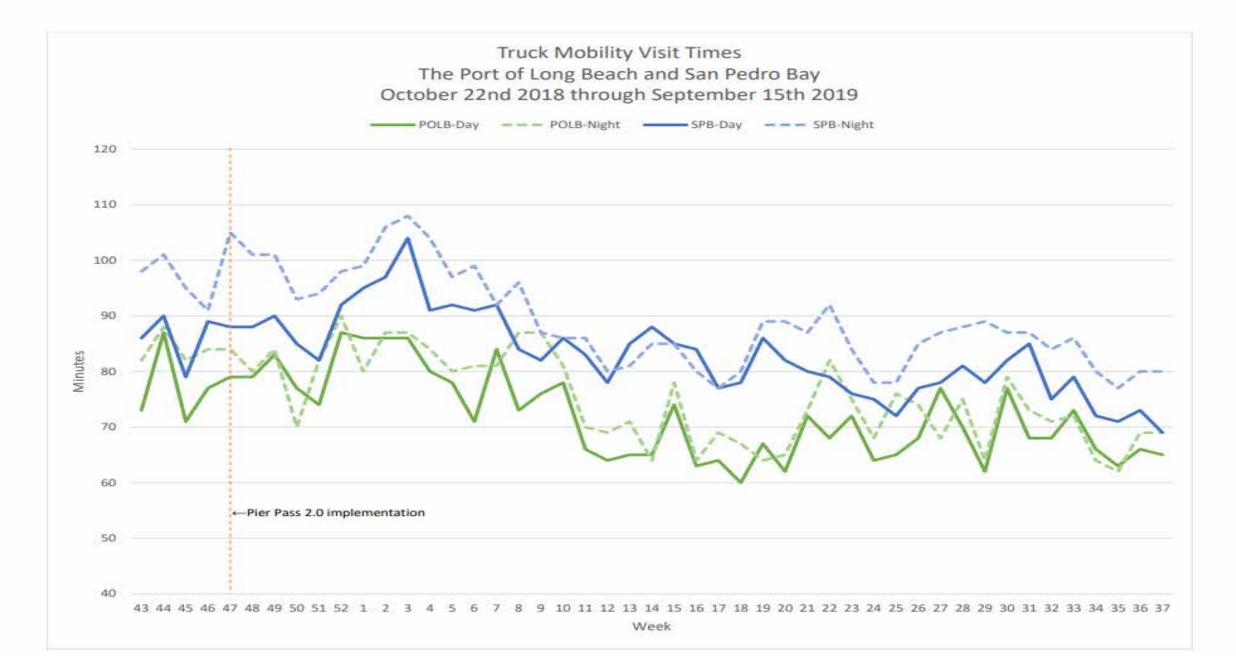


San Pedro Bay Weighted Average Inbound Laden Container Dwell Time in Days



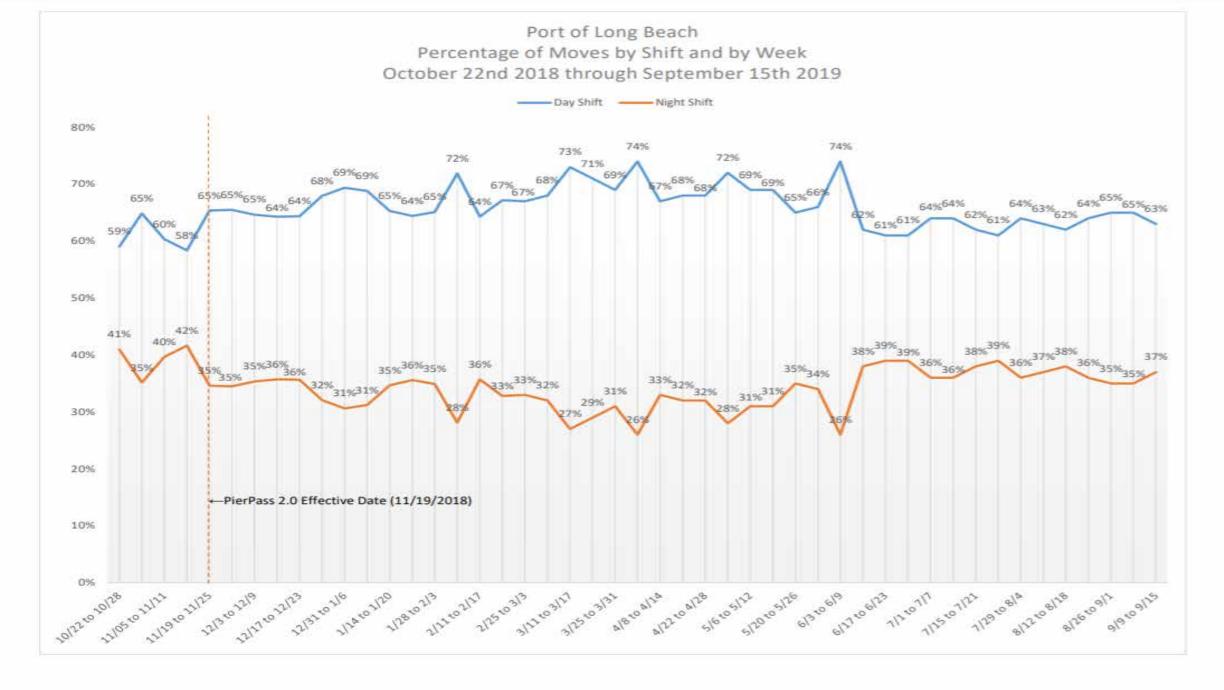
Dwell Time in Days % > 5 Days





^{*} HTA Truck Mobility Data powered by GeoStamp

^{*} Data includes queue time



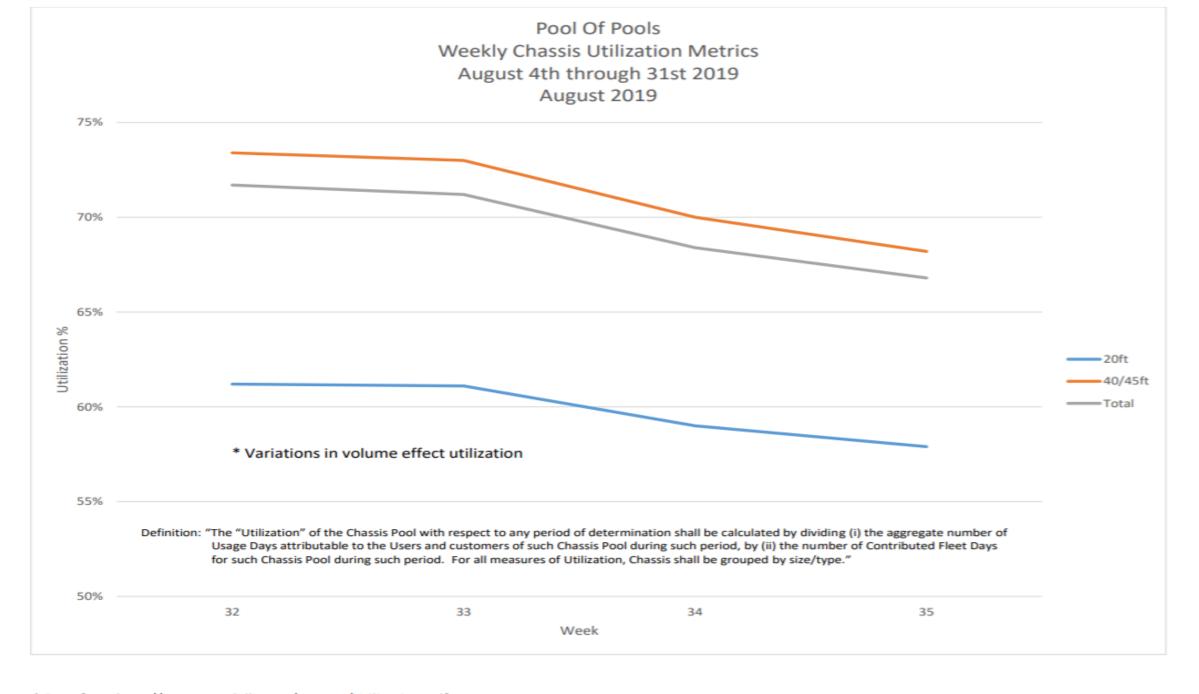
^{*} Data provided by Tetra Tech





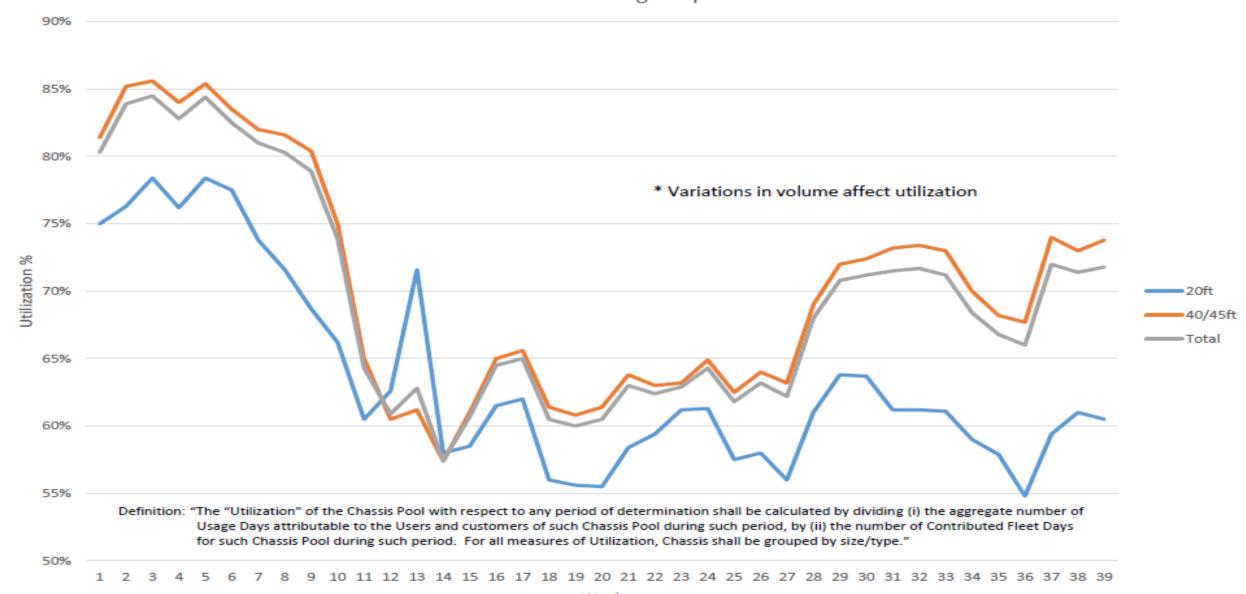
San Pedro Bay Chassis Provision

- "Pool of Pools" model commenced operation in March 2015
- 3 participating IEPs: DCLI, FLEXI-VAN and TRAC
- 67,500 "interoperable" chassis as of Q1 2019
- 18 Start/Stop locations: MTOs, R/Rs and PCMC



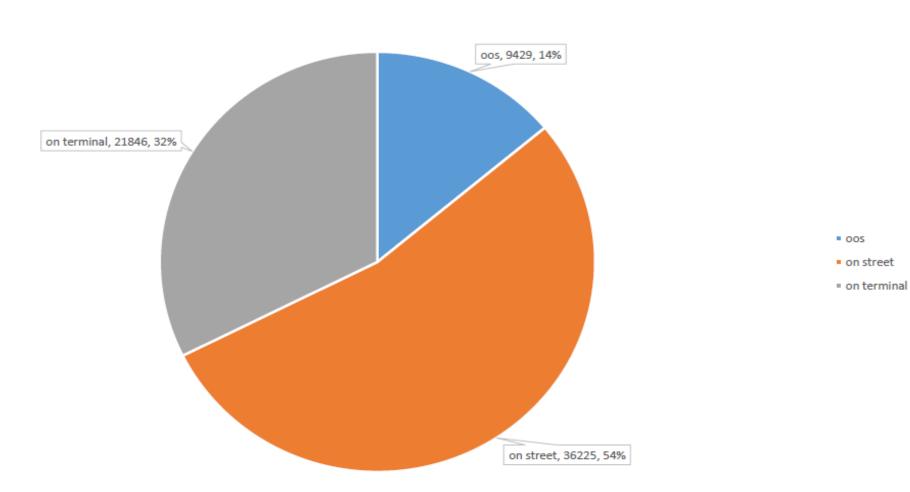
^{*} Data from http://www.pop-lalb.com/reports/Utilization.pdf

Pool Of Pools Weekly Chassis Utilization Metrics December 30th 2018 through September 28th 2019



Pool Of Pools Chassis on Port & Rail Terminals Week 38 2019 September 15th through 21st 2019

Total Chassis Fleet is 67, 500





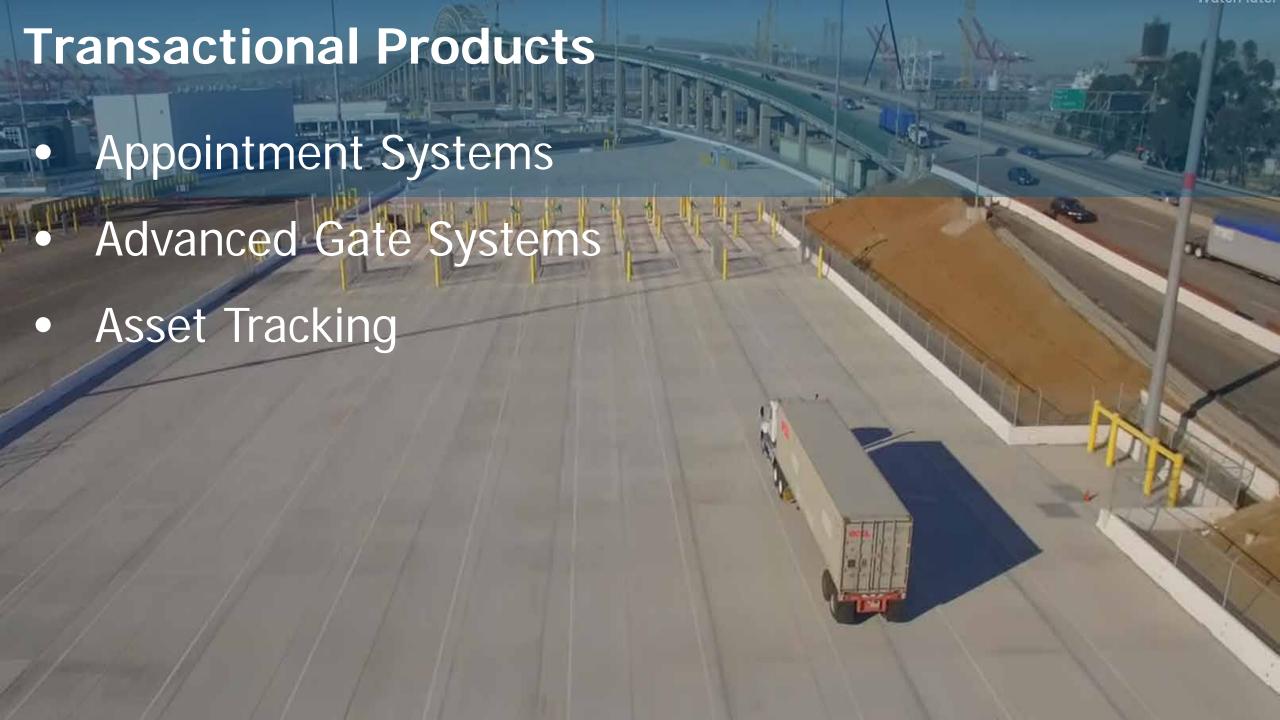


- Reduce friction
- Standardization and interoperability
- Data exchange, information visibility and predictability

Digitization in Port Operations

- Transactional Products: How fast can we move containers through the gate?
- Visibility Products: Where is my box and when can I get it?





Visibility Products

- GE Port Optimizer
- Maersk TradeLens
- Predictive Availability



- allowing for that time slot to be made available to other truckers
- Automatic grouping of appointments to facilitate dual transactions.





Dr. Noel Hacegaba Deputy Executive Director

noel.hacegaba@polb.com (562) 283-7071



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Setting the Stage

Keynote: The Global Supply Chain, Yesterday, Today, and Tomorrow

Sam Ruda, Director, Port Authority of New York & New Jersey

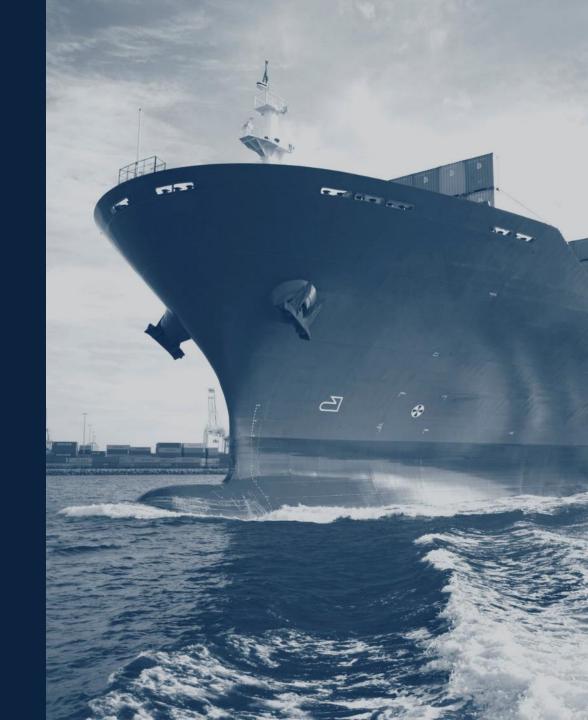


FDRA

The Global Supply Chain

October 28, 2019

Long Beach, California

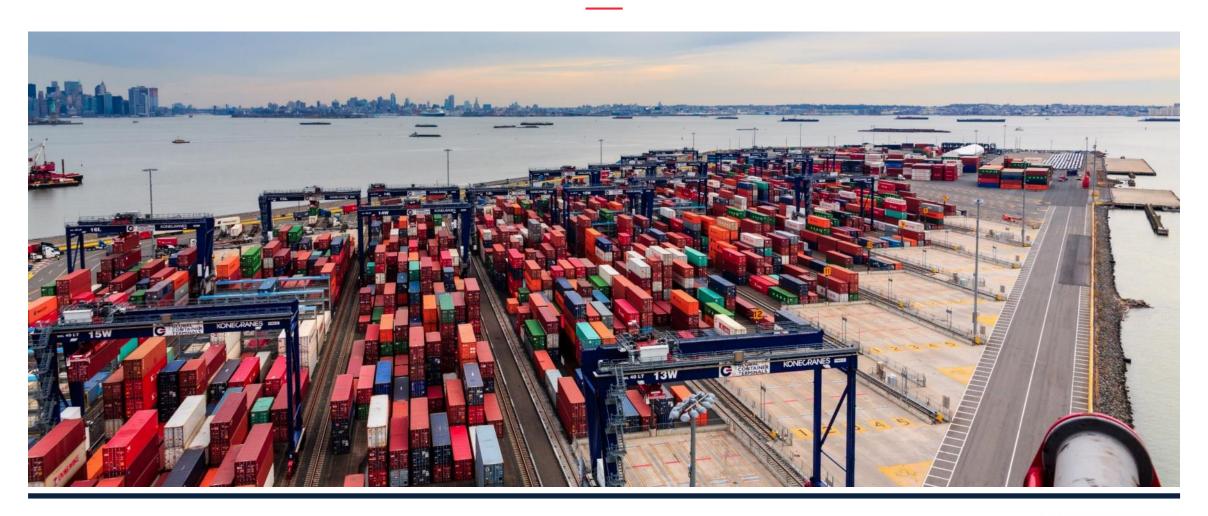


Discussion Topics for PANY&NJ

- S Brief Updates from PANY&NJ
- § Bayonne Bridge Project: Status and Impacts
- \$ Late Gate, Weekend Hours: Pros and Cons
- S Demurrage: Impacts on Terminal Operations
- § Tariffs: Impacts on Port Activity



Largest East Coast port. 2nd largest in the U.S.



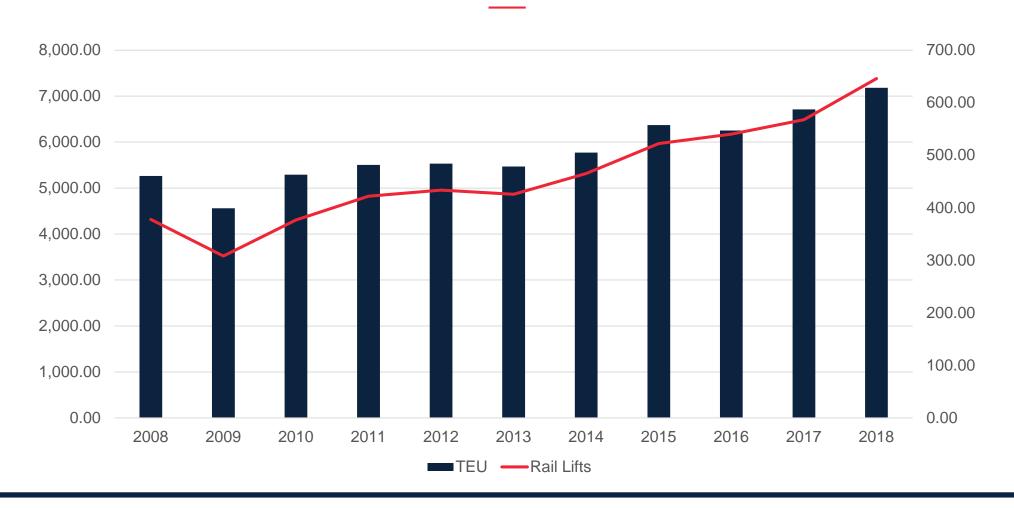


44 million consumers within a 4-hour drive

13 million people Within 1 Hour NJ/NY Within 2 Hours 27 million people Within 4 Hours 44 million people



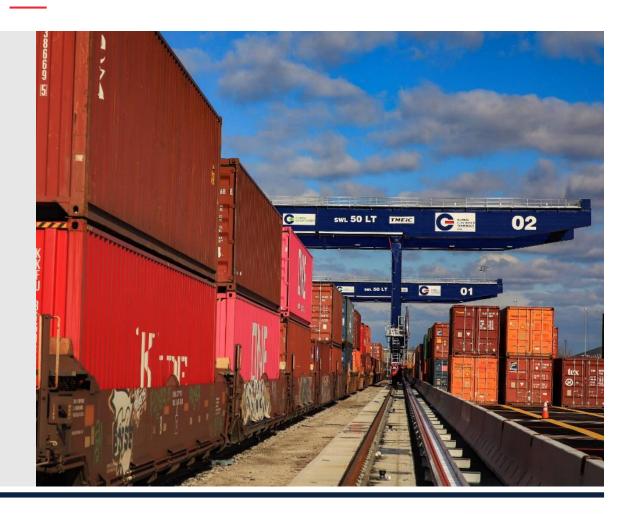
Container throughput (in thousand units)





1.5 million annual rail lift capacity

- Four on-dock ExpressRail facilities serving all six marine terminals.
- ExpressRail Elizabeth, Newark,
 Staten Island and Port Jersey.
- ExpressRail Port Jersey at GCT Bayonne completed in 2019.
- Connection to three Class I railroads, CSX, Norfolk Southern, and CN (Eastern Canada)





Phased Rail Network improvement

PHASE 1 (2004-2008)

\$25 million in Port Authority Funds \$39.1 million in Conrail Funds

- Strategic double-tracking and interlocking improvements.
- Improved connections to mainline networks.

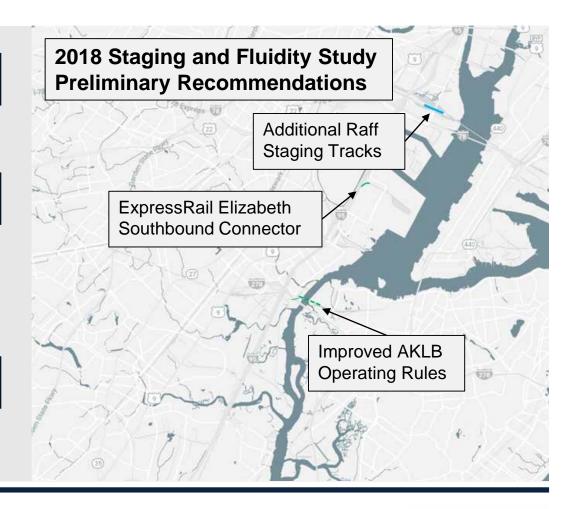
PHASE 2 (2016-2020)

\$38 million in Port Authority Funds \$21 million in Conrail Funds

- Capacity and staging improvements to support Greenville Yard ICTF.
- Waverly Loop (2) approximately 10,000' track lengths, additional entrance/exit into Port Newark and additional staging, 2020 completion.
- Raff tracks (2) 5200 feet of staging tracks, 2019 completion.

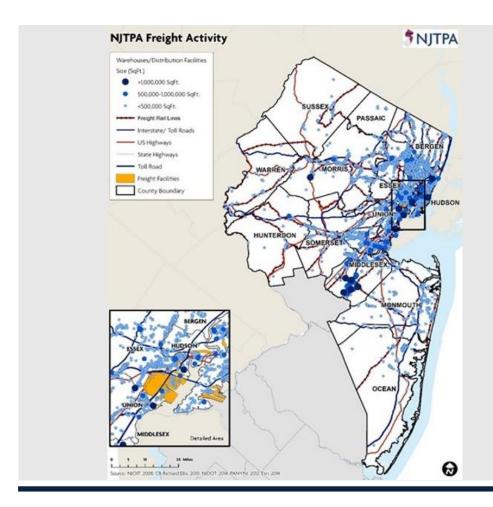
PHASE 3 (2020-Beyond)

ExpressRail Elizabeth Southbound Connector "Wye." Additional staging tracks at Raff Yard.





1 billion square feet of warehousing and distribution space



- 1 billon square feet of warehousing and distribution space within 50 miles of the port.
- High concentration of warehouse and distribution centers near the port and located on key freight routes.
- Significant growth in E-Commerce and Perishables/Food & Beverage



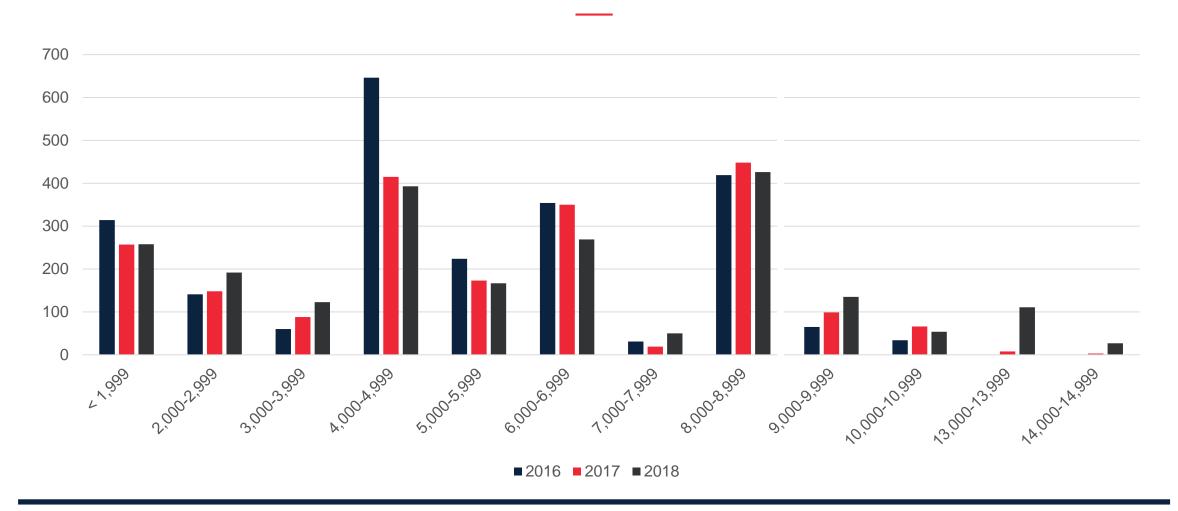
215-foot Bayonne Bridge Impacts

- Mix of vessel types calling Port is evolving
- Increased access by ultra large container vessels between 10,000-18,000 TEU
- Not seeing Port consolidation (yet) on East Coast
- Commenced "New Start" Study with Army Corps





Vessel calls by class





Late Gates/Weekend Gates: Pros & Cons

- § Weekend gates and late gates happening today, but terminal specific
- § Generally in response to "events" including holidays and response to weather
- § Not a Collective Bargaining issue
- § Efficient means to add capacity
- **§** Response to strong intermodal growth
- There is a cost
- S Also requires coordination with CBP



Tariff Impacts YTD

- Top Line impacts have been limited (thus far)
- Some shifts in seasonality attributable to "go live" dates for tariffs
- Share declines from China, but this pre-dates the start of tariffs
- Too early to tell on Europe tariffs that were effective 10/18/19
- Cargo mix for exports has moderately changed but not declined in the aggregate
- Strong interest in FTZ Applications



Foreign Trade Zone No.49

- Port of NY and NJ is located in Foreign Trade Zone No.49.
- Zone users total 81, including:
 - Warehouses/distribution centers.
 - Processing and assembly/manufacturing.
 - Crude oil importing and refining.







sruda@panynj.gov

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Setting the Stage

Keynote: Brimstone or Hellfire? How lowering sulphur will impact the future of sustainable shipping

Takashi Masuda, SVP Marketing and Commercial, Ocean Network Express (ONE)

Footwear Trade Distribution and Customs Conference 2019

AS ONE, WE CAN.



Oct 28 2019

Takashi Masuda



Surveys 1-3

Survey One:

What is ONE sym ask ets hare in term so fF te etS cate Size?

Survey Two:

How much fuel is being consumed by the Global container ship fleet annually?

Survey Three:

How big is the financial impact of IMO2020 to the container shipping annually?



Survey One Choices

1. 17.9%

2. 12.2%

3. 6.7%

4. 2.8%



1. 70 million metric tons

2. 2 million metric tons

3. 275 million metric tons

4. 45 million metric tons

Disclaimer: All figures guesstimates based on various published data



Survey Three Choices

1. usd14 billion

2. usd21 billion

3. usd100 billion

4. Usd1.3 billion

Disclaimer: All figures guesstimates based on various published data



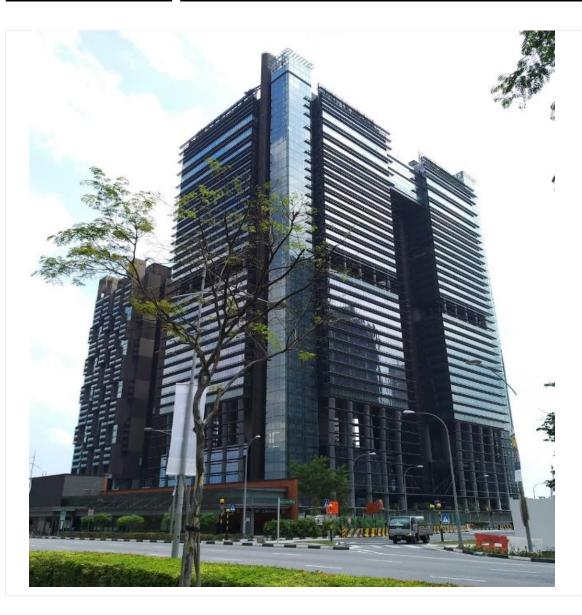
Agenda

- Introduction ONE
- " IMO 2020 Recap
- IMO2020 PreparationsOperationsInvestments
- " Summary : ONE Approach
- " Q & A





Operating Company Profile



Company Profile

- Tradename
 OCEAN NETWORK EXPRESS PTE, LTD.
- CEO
 Jeremy Nixon
- Global Head Quarters
- Republic of Singapore
- North America (Richmond, VA)
 South America (Sao Paolo, Brazil)
 Europe (London, UK)
 East Asia (Hong Kong)
 South East Asia (Singapore)

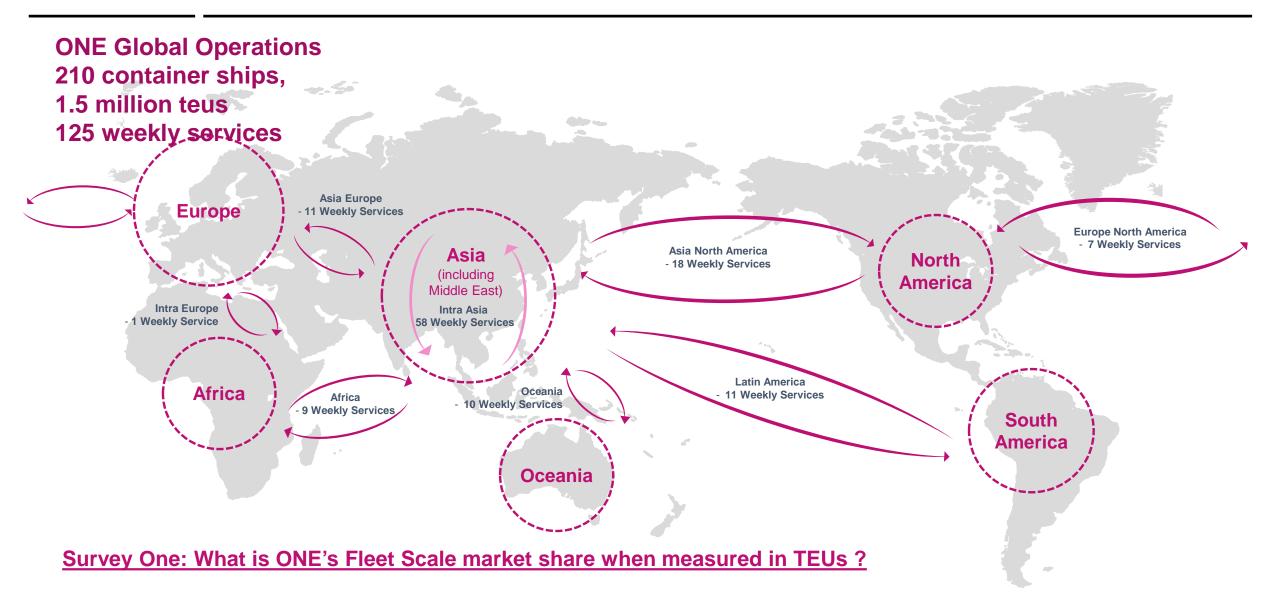


Date of Establishment* July 7^{th,} 2017

^{**}Date of Establishment* in this section refers to the date MOL and "K" Line add their investment to the new company. Company registration was done earlier on March 27, 2017, with NYK as the initial investor based on the terms of the business integration agreement.



Global Network – www.one-line.com





Survey One Choices

1. 17.9%

2. 12.2%

3. 6.7%

4. 2.8%

Disclaimer: All figures guesstimates based on various published data

Survey One Answers

1. 17.9% Maersk

2. 12.2% Cosco Group

3. 6.7% ONE

4. 2.8% Yang Ming

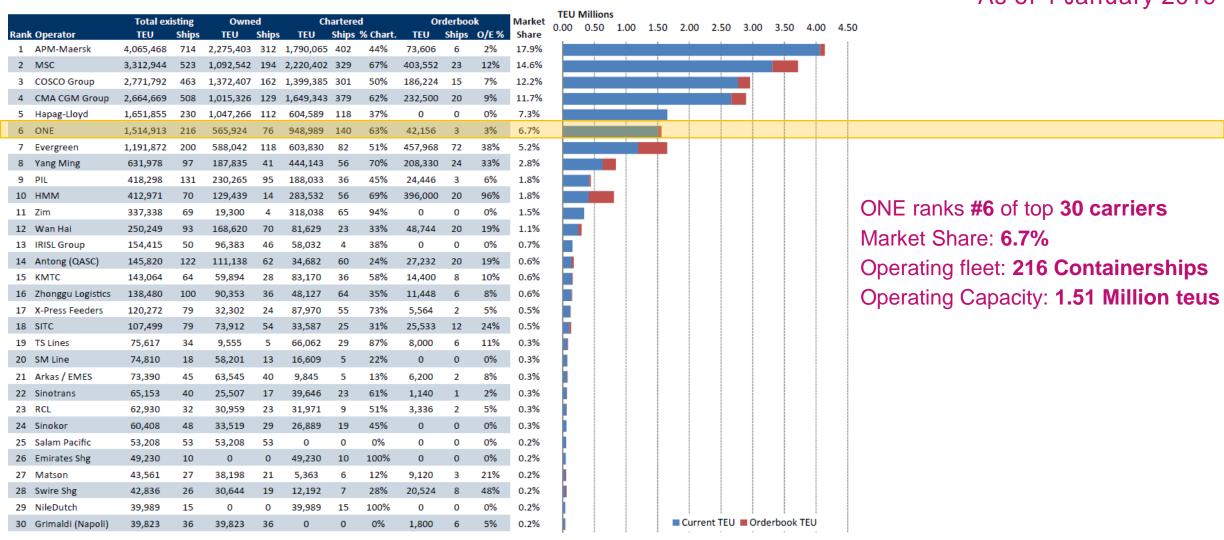
Disclaimer: All figures guesstimates based on various published data



ONE Fleet Scale (6.7%)



As of 1 January 2019



Source: Alphaliner Monthly Monitor January 2019



"IMO 2020 Recap



MARPOL 2020 Global Sulphur Limit

Recap:

The International Maritime Organization (IMO) will regulate Ocean Carriers to limit the sulphur content of emissions from fuel oil in open waters to be less than 0.5% starting Jan 1, 2020. It is 3.5% in open waters and 0.1% in Emission Control Areas (ECA zones) today.

Methods available:

- 1. Change fuel from High Sulphur Fuel Oil to Low-Sulphur Fuel Oil or Low Sulphur Gas Oil
- 2. Install Exhaust Gas Cleaning Systems (Scrubbers)
- 3. Use new alternative fuel Engines that comply such as LNG(Liquefied Natural Gas), Methanol etc.





MARPOL 2020 Global Sulphur Limit

Enforcement/Penalties for non compliance:

- Policies and penalties set by each Port State
- No set global penalties.
- Industry hope is focus will be on enforcement of compliance without disruption to services.
 - IE minimize disruption to vessel operations while controlling emission levels.





"IMO2020 Preparations

- **Operations**
- Investments



Step 1: Fuel Switch Tank Preparation

Tank preparation method determined by the Owner of the vessel (Various)

Manual Cleaning Physical cleaning of fuel oil storage tank.



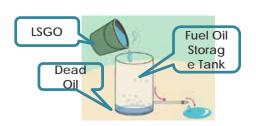
Maximize use of HSFO, pump LSFO for use No preparation required.

ØLSGO Flushing

Flush dead oil by LSGO for all tanks. LSGO amount is based on the calculation. Dead oil: Un pumpable oil

ØSequential Dilution

Dilute the dead oil by LSGO or ULSFO for multiple tanks. Calculate the sulphur content based on the volume of oil.





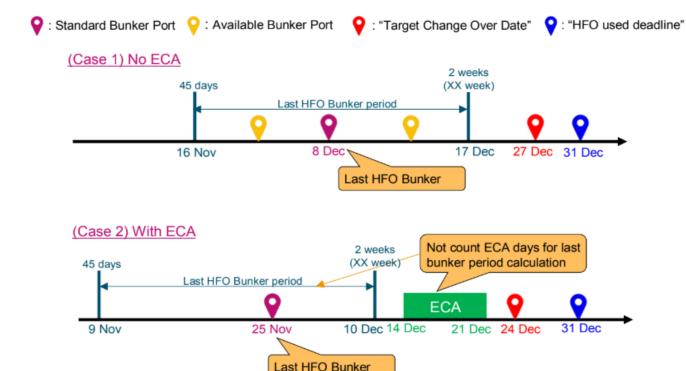
Step 2: Preparing a Operational Schedule

Operational Schedule determined by the Charterer (ONE)

Last HFO Bunker

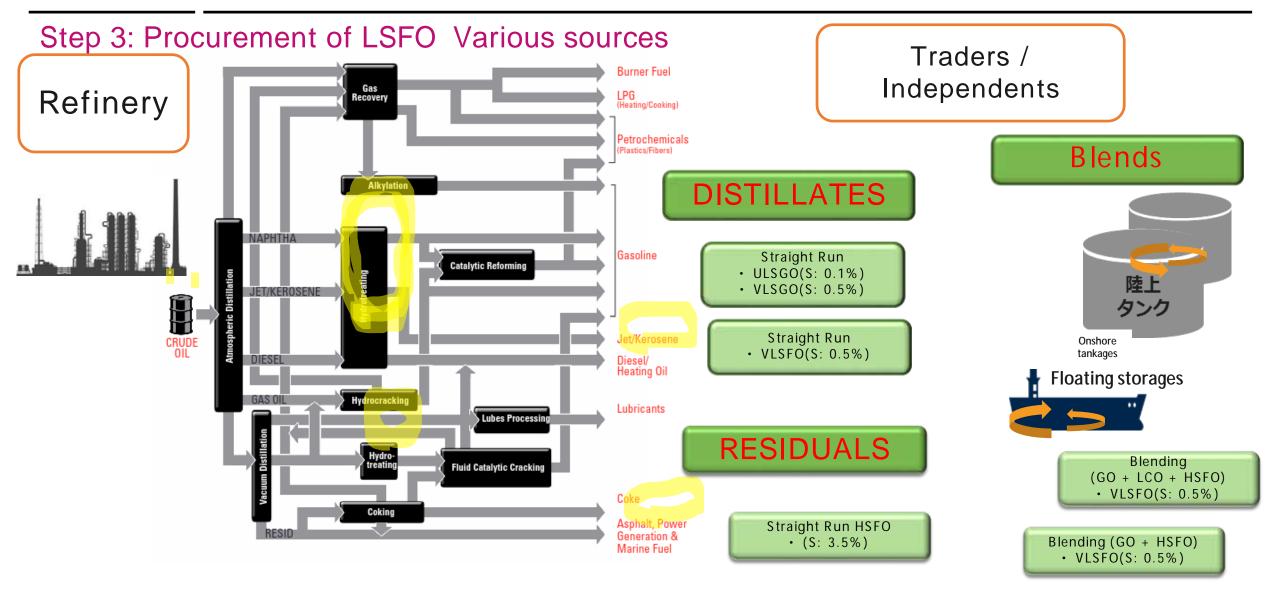
Last HFO bunker shall be taken according to following rules.

1) Last HFO bunker shall be taken at standard bunker port between 45 days and "XX" weeks before "HFO used deadline". "XX" weeks is 2, 3 and more weeks and it is subject to service. ECA period shall not be counted when you calculate last HFO bunker period.



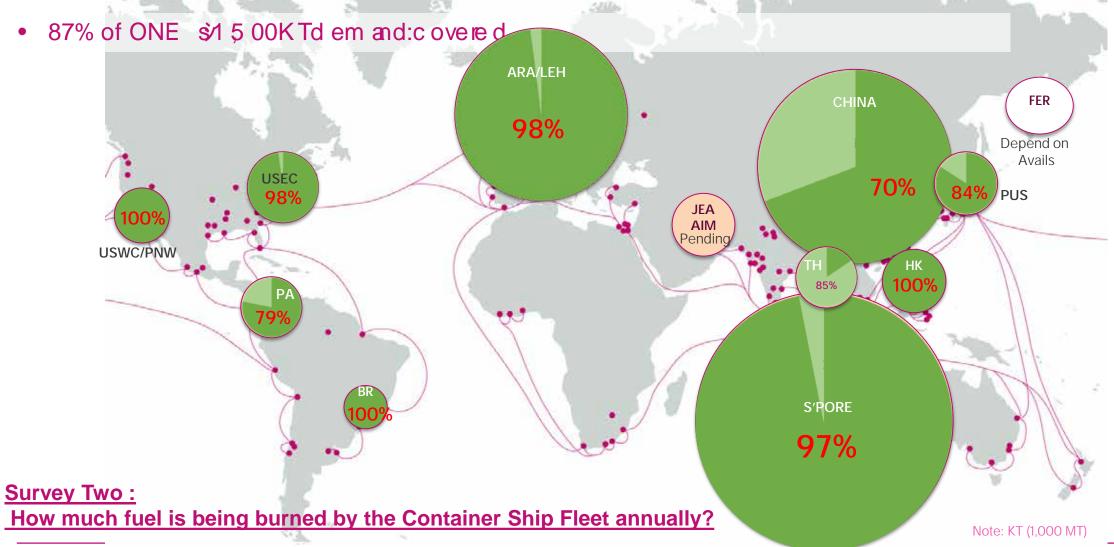
- Plan for all 200+ ONE vessels
- Fuel availability varies by port
- No HSFO on board by March 2020







Step 3: VSLFO(0.5%) Procurement 2019/4Q to 2020/1Q





1. 70 million metric tons

2. 2 million metric tons

3. 275 million metric tons

4. 45 million metric tons

Disclaimer: All figures guesstimates based on various published data



Survey Two Answers

1. 70 million metric tons

@

Disclaimer: All figures guesstimates based on some published data

2. 2 million metric tons LA/LBC

3. 275 million metric tons All ship types

4. 45 million metric tons Singapore



Investment Solutions:

Option 1: Exhaust Gas Cleaning Systems (Scrubbers)

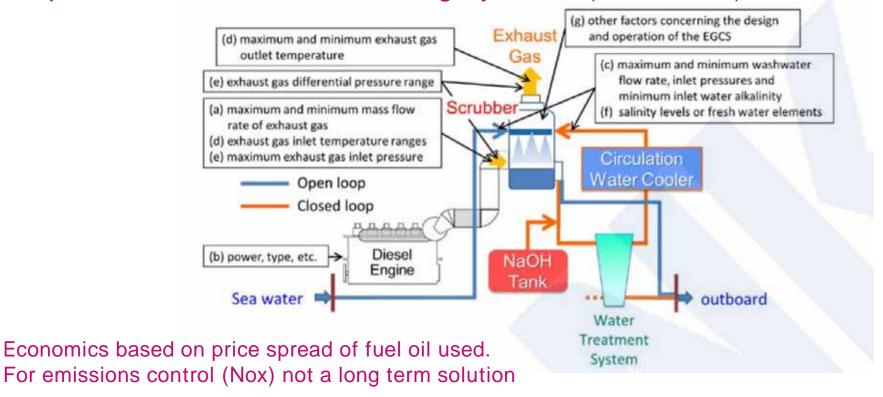
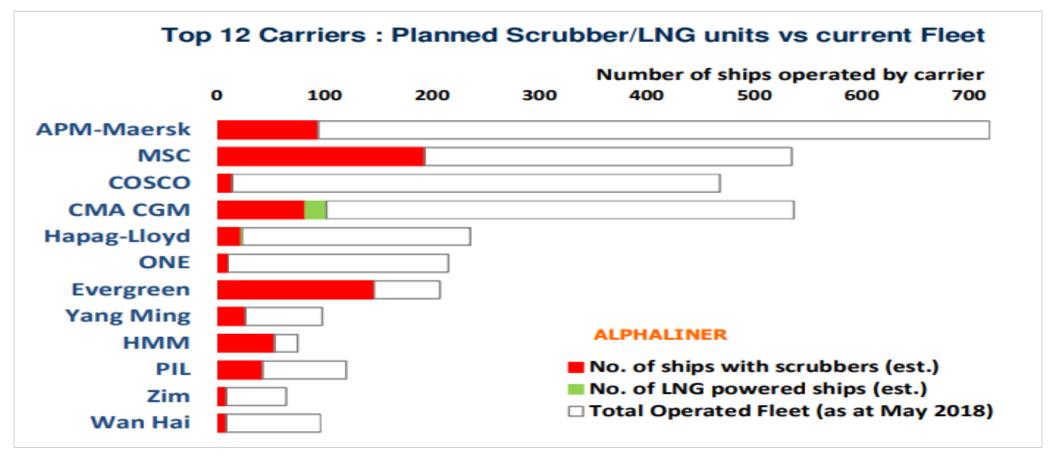


Illustration extracted from Class NK Guidelines for Exhaust Gas Cleaning Systems v3.



Investment solutions: Landscape



- Alpha Liner estimates including new builds shown above
- ONE will equip some vessels scrubbers using dry dock opportunities.
- Not a lot of vessels intending to using alternative fuel solutions at this moment.

Survey Three:

What is the potential cost impact of IMO2020 to the container shipping industry?



1. usd14 billion

2. usd21 billion

3. usd100 billion

4. usd1.3 billion

Disclaimer: All figures guesstimates based on various published data



Disclaimer: Figures single transactional estimates based on various data

1. usd14 billion usd200/mt fuel differential

- 2. usd21 billion scrubber to existing vessels
- 3. usd100 billion engine conversion to LNG fuel

4. usd1.3 billion cost of Singapore LNG terminal (4 mts/yr)



"Summary: ONE Approach



Summary ONE MARPOL 2020 Global Sulphur Limit

- ONE to be fully compliant
- ONE main solution to be switch of fuel
- Minimal disruptions to ONE vessel operations due to fuel switch
- ONE will continue to study alternative longer term solutions
- ONE will need to recover the incremental cost of compliance

subject to change.