

California Marine Affairs and Navigation Conference
Winter Meeting – Marine del Rey
Jan. 22, 2016

The New World Order in Containerized Ocean Shipping



Port of
LONG BEACH
The Green Port

Michael Christensen

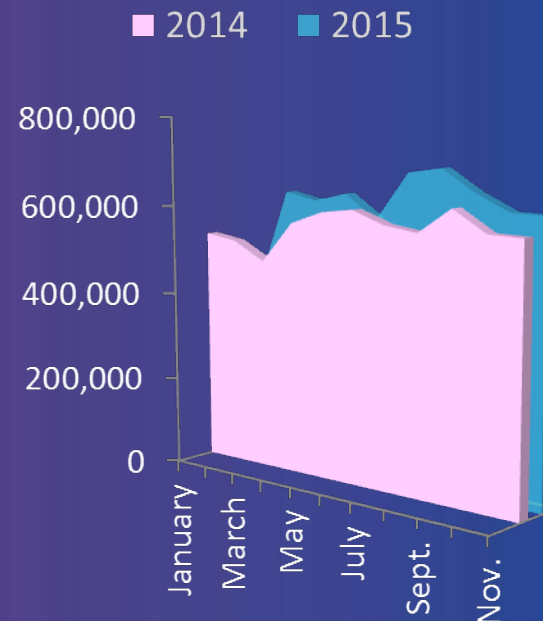
Senior Executive Lead,
Supply Chain Optimization

TRADE ON THE RISE

Cargo volume up 5.4% for 2015.

7+ million TEUs

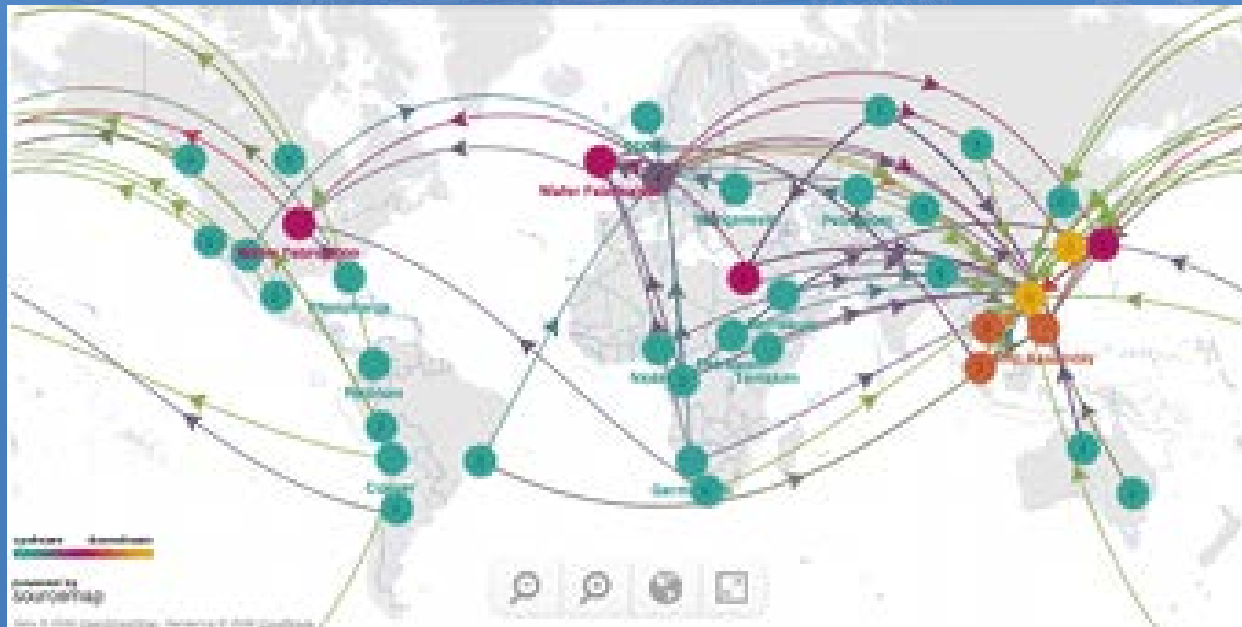
For only the 3rd time in
the Port's 104-year
history



Twenty-foot Equivalent Units (TEUs) or
20-foot-long containers

Drivers – Logistics & Globalization

“The Internet of Things (IoT) is the network of physical objects or “things” embedded with electronics...experts estimate that the IoT will consist of almost 50 billion objects by 2020...” Wikipedia



www.sourcenmap.com

Drivers - Industry “Evolution”

“...it seems some shippers noticed they could adopt a different plan other than preparing for the peak season. So for 2015, they ordered earlier than normal, they spread the entry lanes, and they watched the carriers create a significant overcapacity situation. Rates declined...”

“Is there a new norm emerging, not by the carriers but by customers who didn’t like peak seasons or the hoops they had to jump through for space and equipment? It sure looks like it to me. So now what? How does that change our world? Or does it?”

Journal of Commerce

Shippers managing change, planning ahead

Gary Ferrulli, president-North America, Unicon Logistics | Oct 24, 2015 9:00AM

Weekly vessel calls from East Asia to U.S. West Coast

(1 line = 2 calls)

PRINCE RUPERT, 2

VANCOUVER, 16

SEATTLE-TACOMA, 16

LONG BEACH/SAN PEDRO BAY, 40

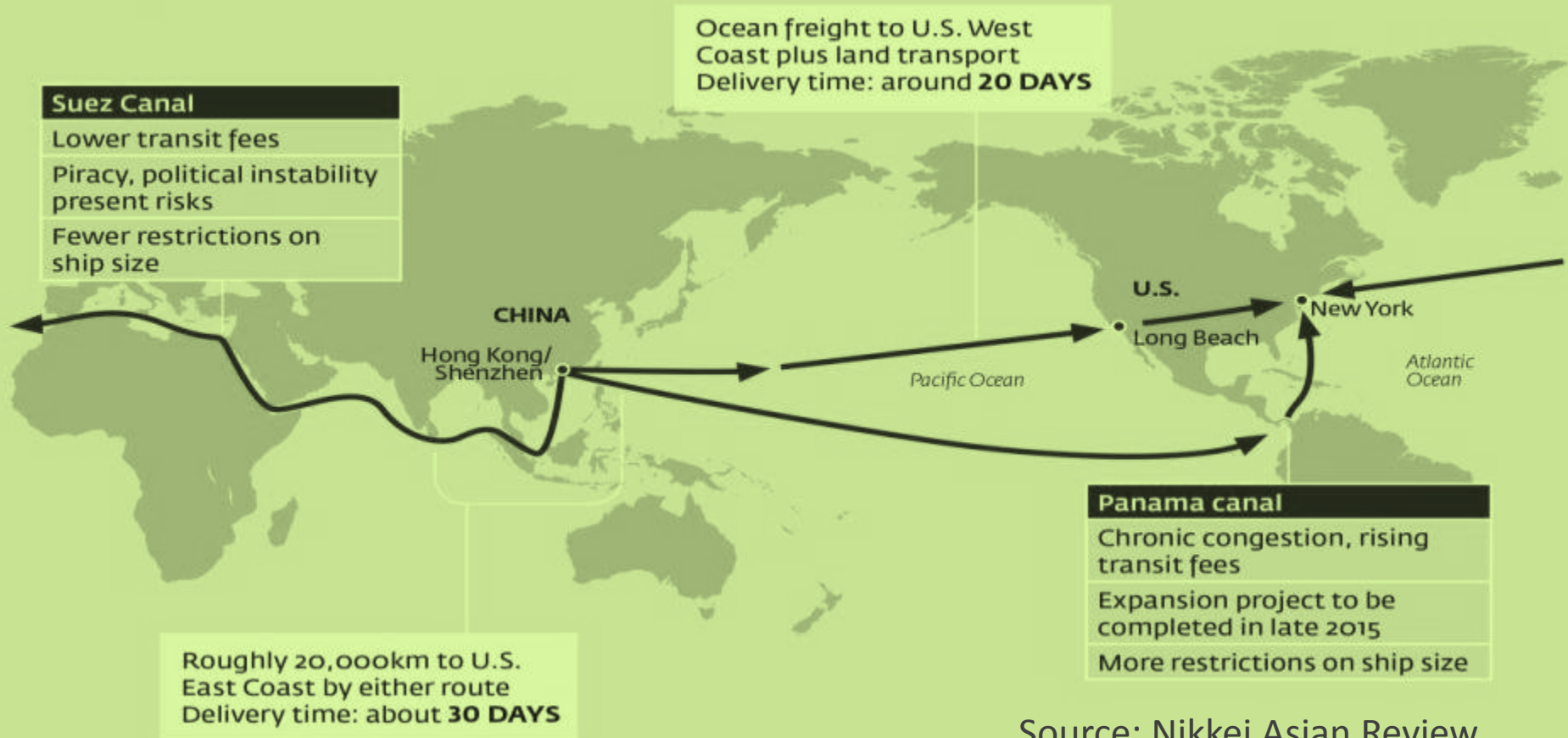
OUR **VALUE PROPOSITION**

Fastest, most direct route from Asia to U.S. Markets

MOST DIRECT ROUTE

Far East to East Coast via POLB saves 10 DAYS

Growing competition among canals



TIME IS MONEY

From Shanghai to Chicago

Via
**Port of
Long Beach**

19 days

Via
**NY/NJ and
Panama Canal**

30 days

Via
**NY/NJ and
Suez Canal**

36 days

*8% corporate cost of capital

The San Pedro Bay Advantage



WEST COAST DOWN, EAST UP

Market share shifts through Aug. 26, 2015



Source: Zepol Corp.



What's the BIG deal??

Bigger Vessel Alliances, Bigger Ships

Carrier Alliances Capacity Share

Alliance	West Coast America	East Coast America	Asia-Europe	Asia-Mediterranean
<u>2M</u> Maersk and MSC	15%	17%	32%	39%
<u>CKYHE</u> COSCO, K Line, Yang Ming, Hanjin and Evergreen	34%	30%	26%	20%
<u>G6</u> APL, Hapag-Lloyd, Hyundai, MOL, NYK and OOCL	32%	36%	23%	8%
<u>Ocean Three</u> China Shipping, CMA CGM and UASC	13%	13%	19%	17%
Other	6%	4%	0%	5%

Ocean Carrier Alliances

Driving the new realities of ocean shipping.

G6



Ocean 3



2M



CKYHE



Ocean Carrier Alliances

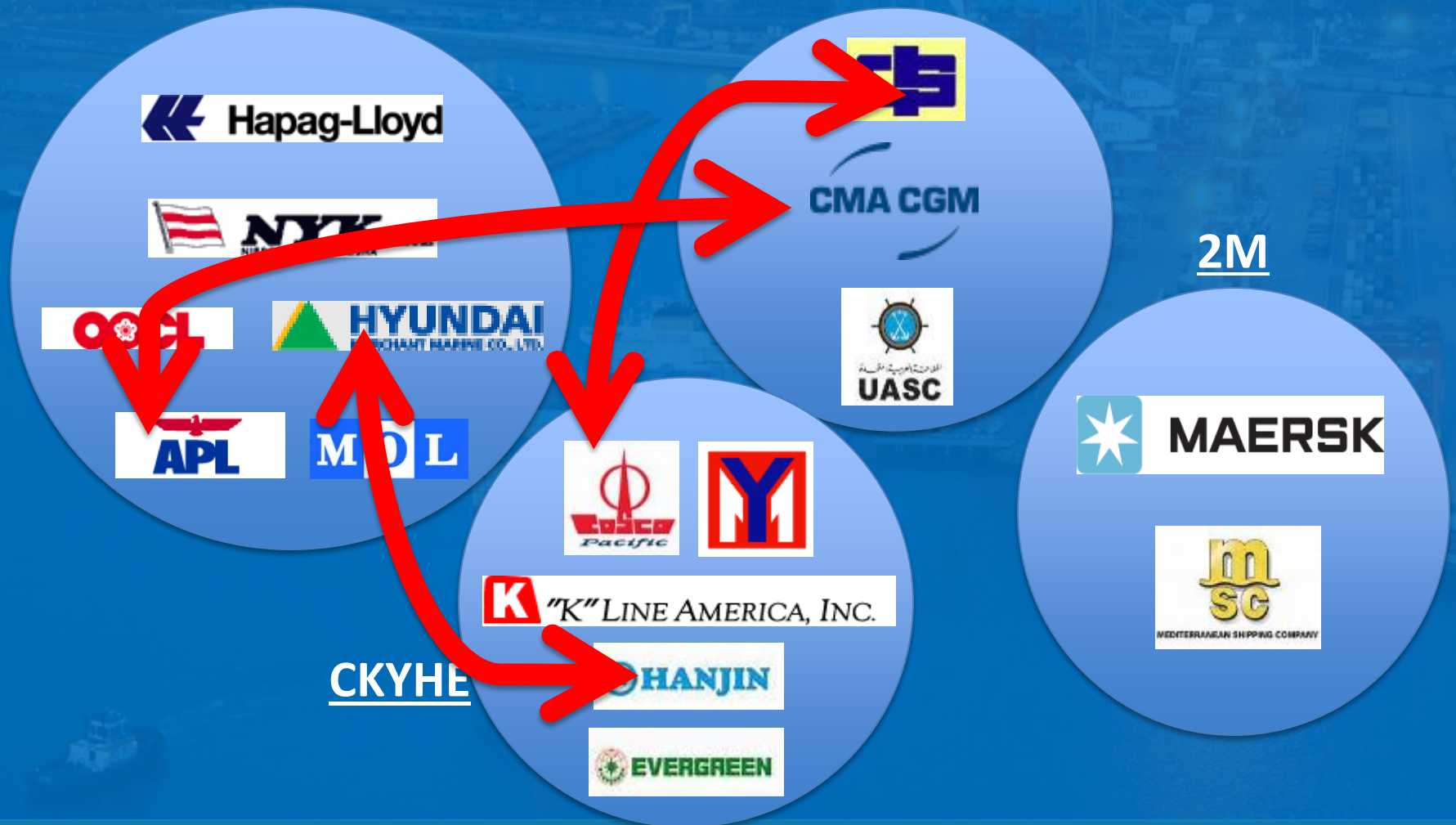
Driving the new realities of ocean shipping.

G6

Ocean 3

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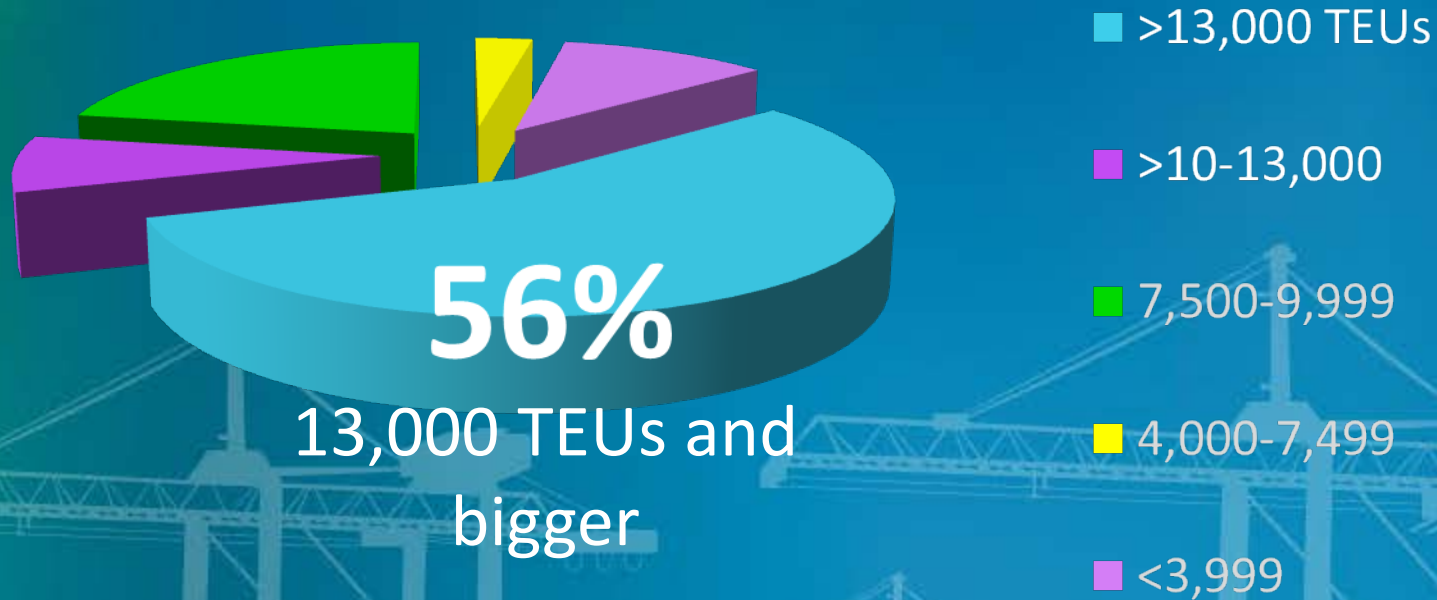


BIG SHIP READY?

Big ships are arriving, and even bigger ships are coming.

BIG SHIPS ~~COMING~~ ARE HERE

Of ships on order, more than half can't pass through expanded Panama Canal.



Source: Alphaliner, April 2015



18,000 TEU

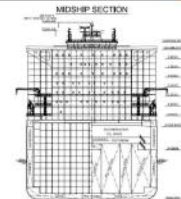
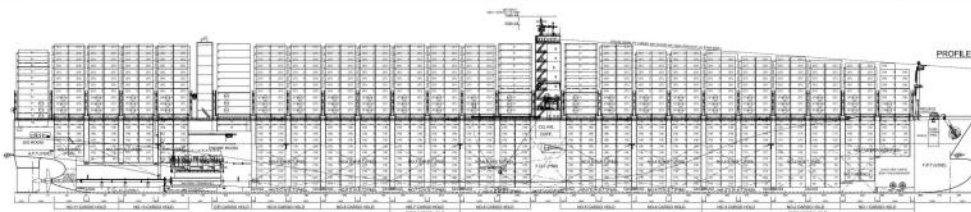
CMA CGM Benjamin Franklin

SCO Drivers – Big Ships...and getting Bigger



CMA CGM NEWBUILDING 18000TEUS

15 September 2015 / 30 September 2015 / 30 November 2015



MAIN PARTICULARS

Length over all	399.0	m
Length between perp.	382.0	m
Breadth	54.0	m
Depth to main deck	30.2	m
Draught, design	14.5	m
Draught, scantling	16.0	m
Air draft without / with tilting	73.36/70.06	m
Deadweight on Ts	185,000	Ton
Lightship weight	abt. 55 000	Ton
Service Speed @14.5m	tbc	knots
Contract Speed @16m	22.0	knots
(90% MCR, 15% power margin)		
SWBM	t.m	

CLASS : BV

I, Container Ship, Unrestricted Navigation, *Hull, *Mach, *Aut-UMS, *Aut-Port, Lashing, *Veristar hull (DFL 25 years), In Water Survey, SDS, Monshaft, ALP, CPS(WBT), Cleanship (3), SYS-NEQ-1, WHISP 2, FORS

TANK CAPACITIES

Heavy fuel oil	15,000	m ³
Marine diesel oil	900	m ³
Lubricating oil	500	m ³
Fresh water	400	m ³
Ballast water	48,000	m ³

MAIN ENGINE

MAN B&W Licensee	11S90ME-C9.2 Tier II
SMCR – EGB Part Load	63910 kW x 84 rpm
HFO Spec (ME:Aux.Eng/Boiler)	700/700/700 cSt
Heating	1000cSt
MDO/MGO	min 2cSt
Fixed-pitch propeller	6 Blades
TKLSR rudder	
Bow thruster	2 x 2,000 kW

FUEL OIL CONSUMPTION OF MAIN ENGINE

(L.C.V=10,200kcal/kg)	
D.F.O.C at NCR	apprx. 228.6 MT/day
Cruising range	apprx. 33,000 NM

POWER SUPPLY

Diesel Generators	4 x 4,320 kW
Emergency Generator	1 x 300 kW

CARGO HATCH COVER

Type	: Steel pontoon type
Stack weight	: 90MT/20ft & 160MT/40ft
Panel weight	: Max.45 tons of each panel (excluding container loose fittings)

COMPLEMENT

Crew of 35 P + 5 Passenger cabins + 7 Suez crew

CONTAINER CAPACITIES

With max. number of Containers

IMO visibility guideline

On deck (11 tiers)	10,378 TEU
In hold	7,481 TEU
Total	17,859 TEU
Three 9'6" in hold without losing space on outermost row.	

Rows max. in holds/on hatches	19/21 Rows
Tiers max. in holds/on hatches	11 / 11 Tiers

El. Plugs (for reefer Container)	1400 FEU
On deck	1400 FEU

Stability : Homo : 11903 TEU of 14MT each
Hetero : 16189 TEU of 10.326MT average each
(based on 8ft 6inches, 45% Container VCG)

NAVIGATION EQUIPMENT

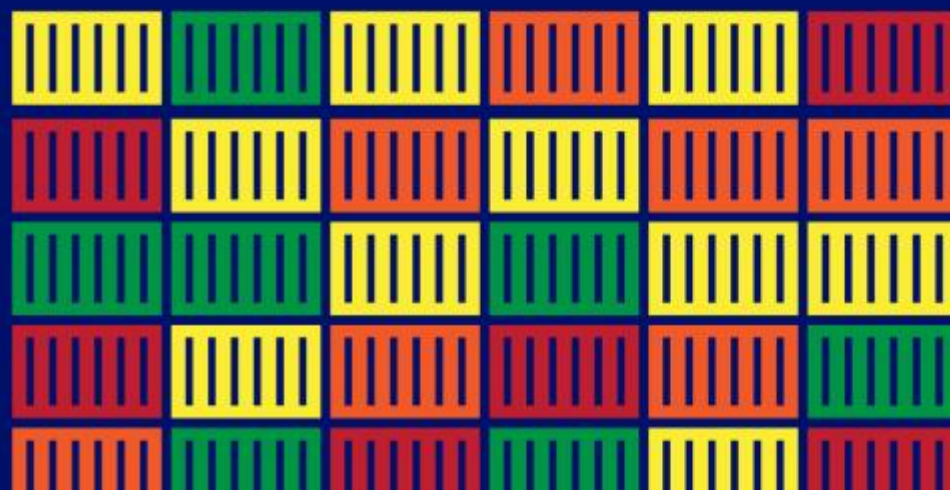
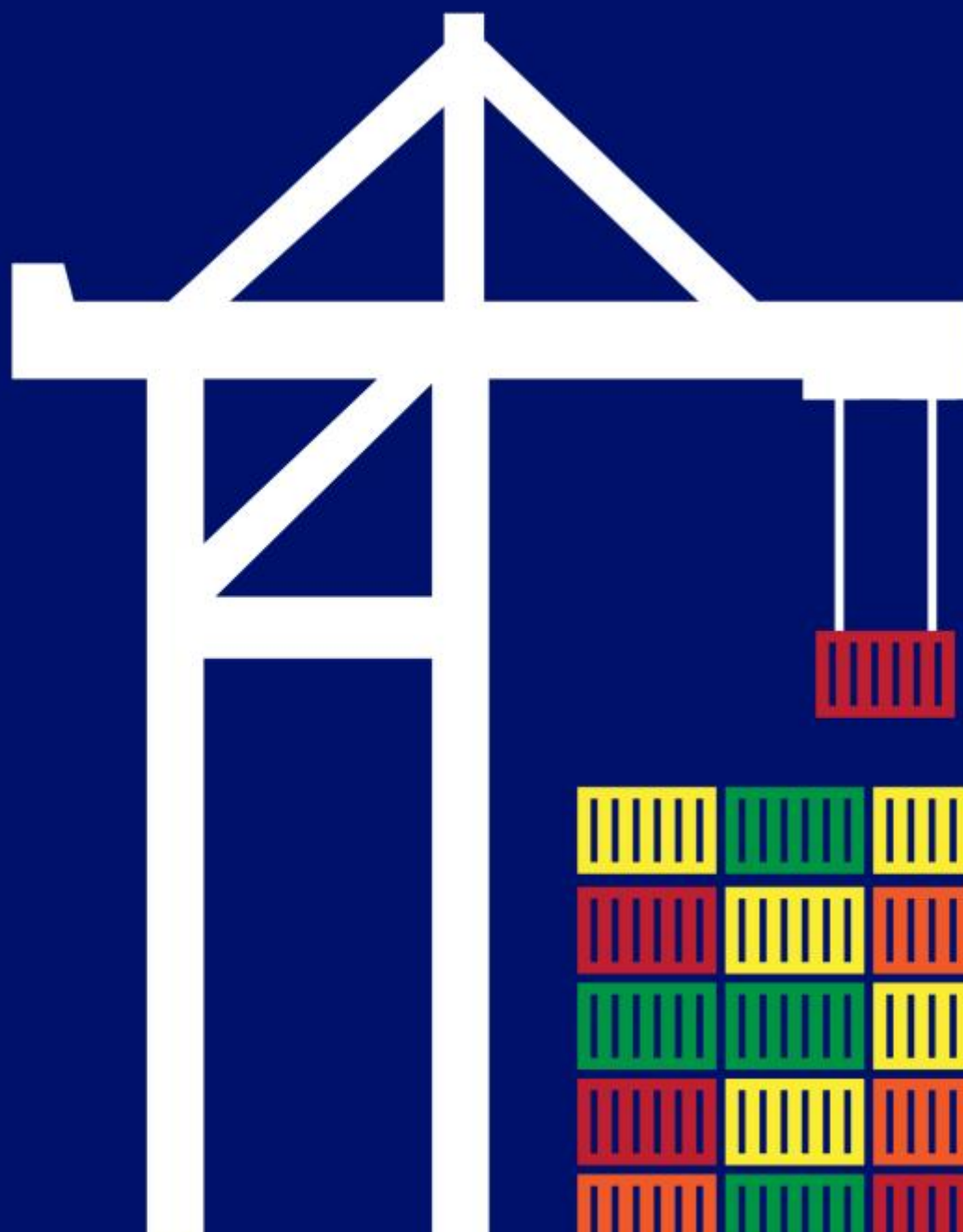
- 3 - Radar Plant with ARPA
- 1 - Auto Pilot / 2 Gyro compass
- 2 - DGPS navigator, 2 ECDIS,
- 1 speed log dual axis

TONNAGE :

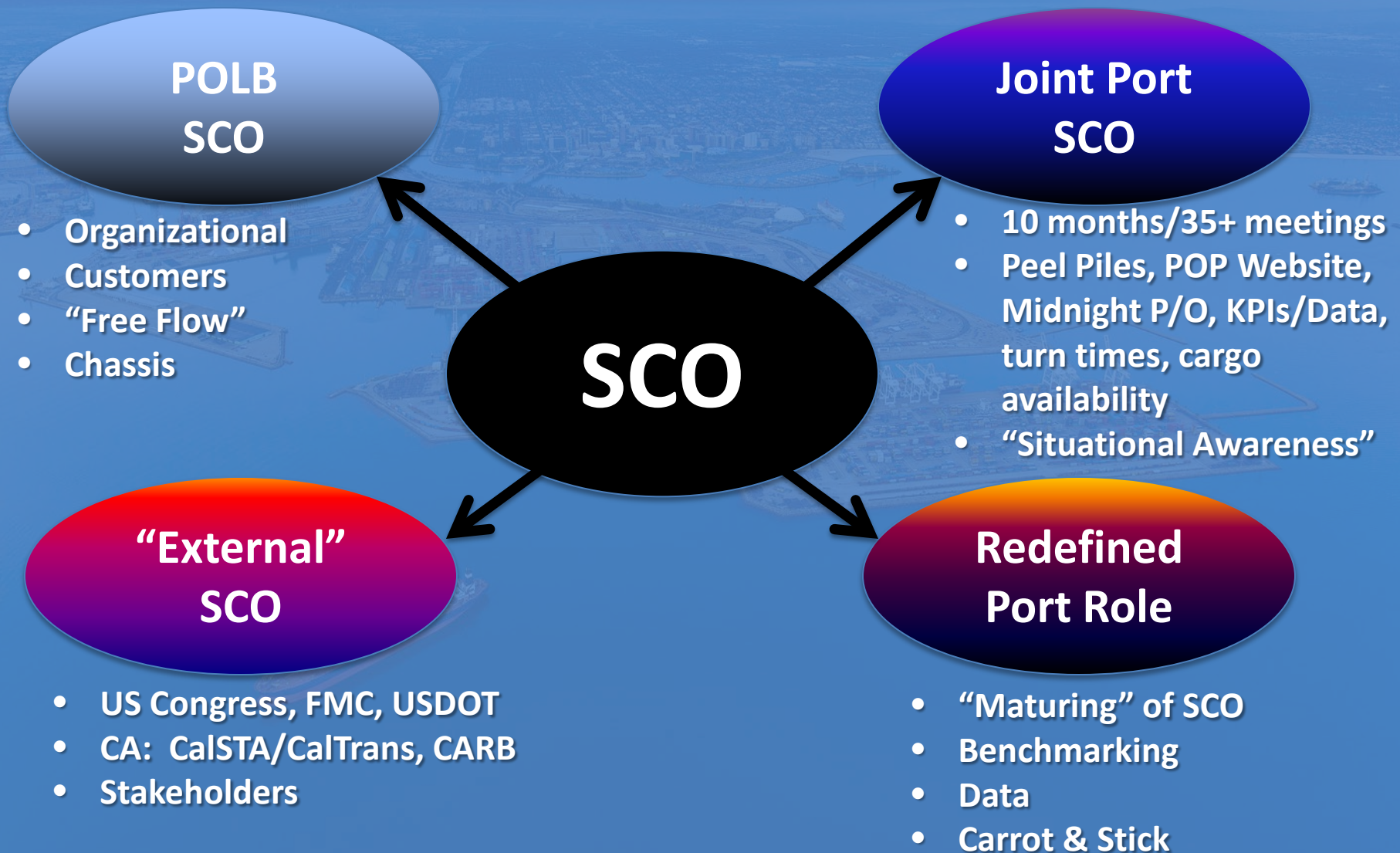
GT abt UMS NT abt UMS



**Alliances: With bigger ships, come more
“colorful” loads**



Supply Chain Optimization Elements & Status



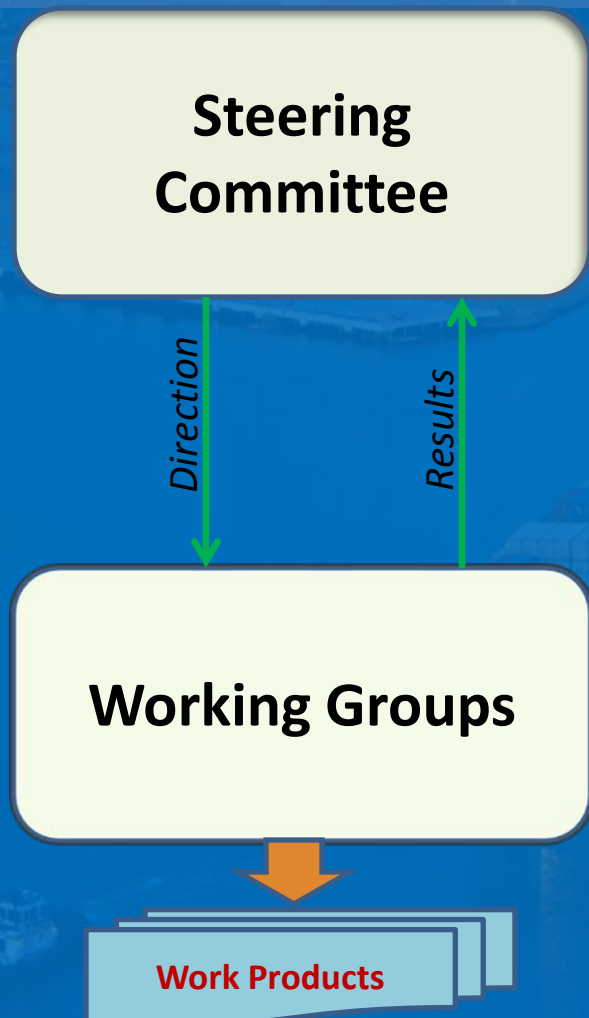


SUPPLY CHAIN OPTIMIZATION

Joint Long Beach and L.A. initiatives to improve velocity

SCO Joint Ports Initiative

Supply Chain Optimization Task Force Relationships



Stakeholder Participants :

- Beneficial Cargo Owners
- Marine Terminal Operators
- Shipping Lines
- Motor Carriers
- Chassis Pool Operators
- Railroads
- Brokers & Freight Forwarders
- Warehousing & Dist. Centers
- Labor & Management

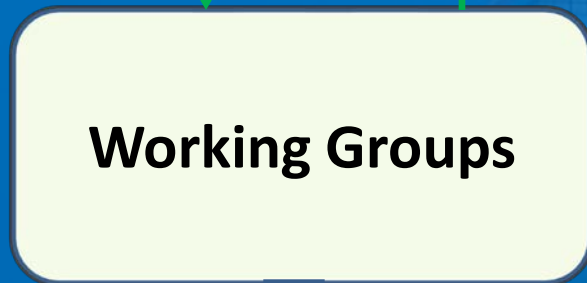
SCO Joint Ports Initiative

Supply Chain Optimization Task Force Relationships



Direction

Results

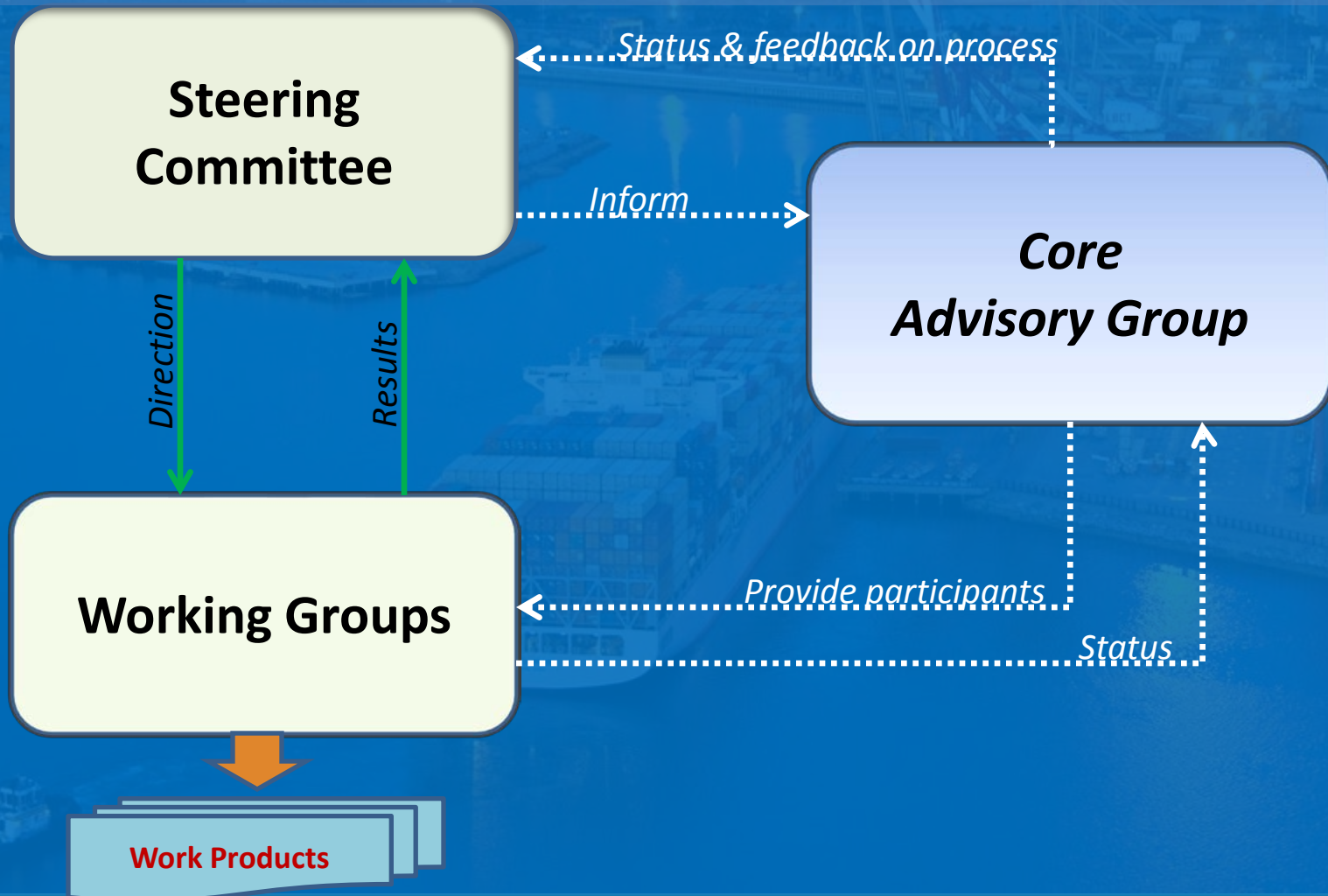


Working Groups:

- *Peak Season 2015*
- *Container Terminal*
 - *Chassis*
 - *Rail*
- *KPI & Data Solutions*

SCO Joint Ports Initiative

Supply Chain Optimization Task Force Relationships



SCO – In Progress

- Gate Operations/Turn Times

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- “Peel-Off” Operations

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- “Push” System

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SCO – In Progress

- Gate Operations/Turn Times
- “Peel-Off” Operations
- “Push” System
- KPIs
- Information Systems & Data
- Rail
- Chassis



Chassis “Pool of Pools”

Interoperable chassis fleet increasing availability

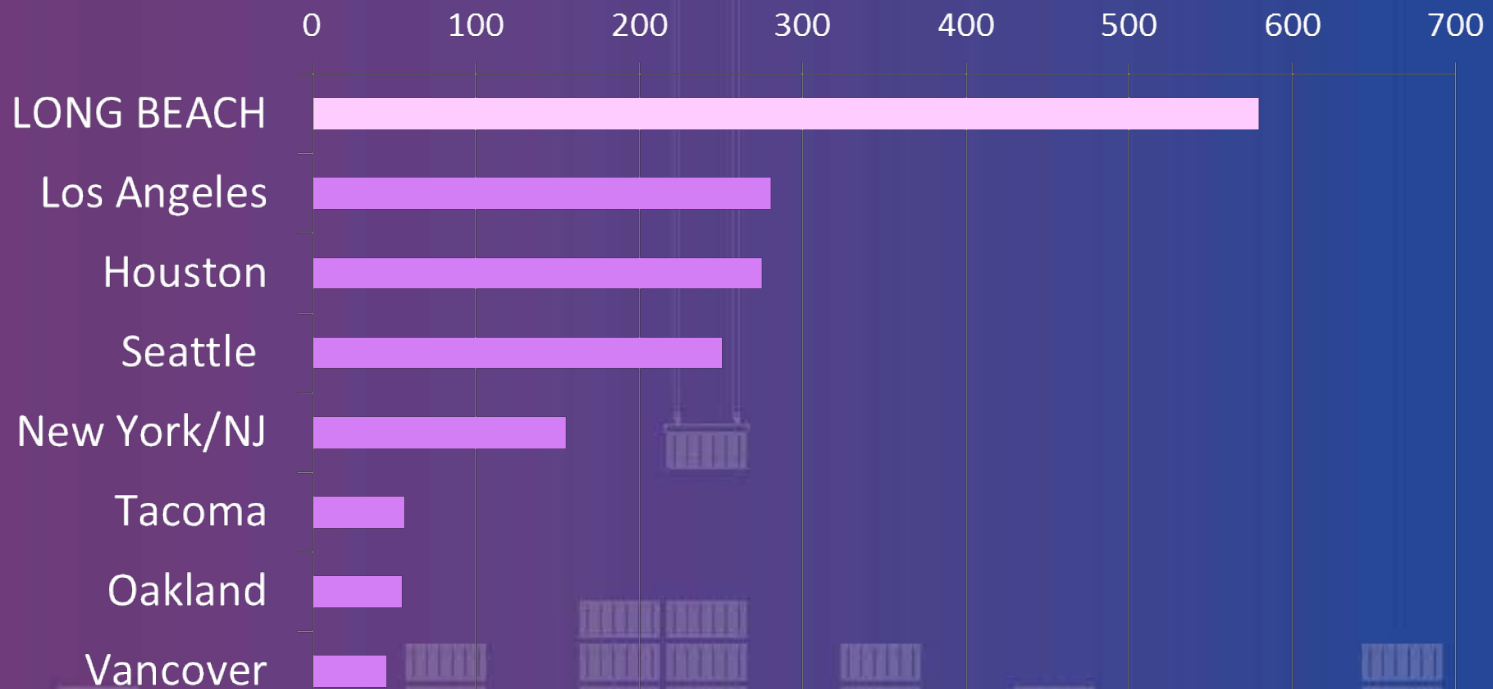
Port of LONG BEACH

BETTING ON THE FUTURE

POLB leads No. Am. ports in capital spending

Millions of dollars in FY2015 capital budget

Source: Ports





Coming soon: **MIDDLE HARBOR**
No. Am.'s most advanced, automated terminal



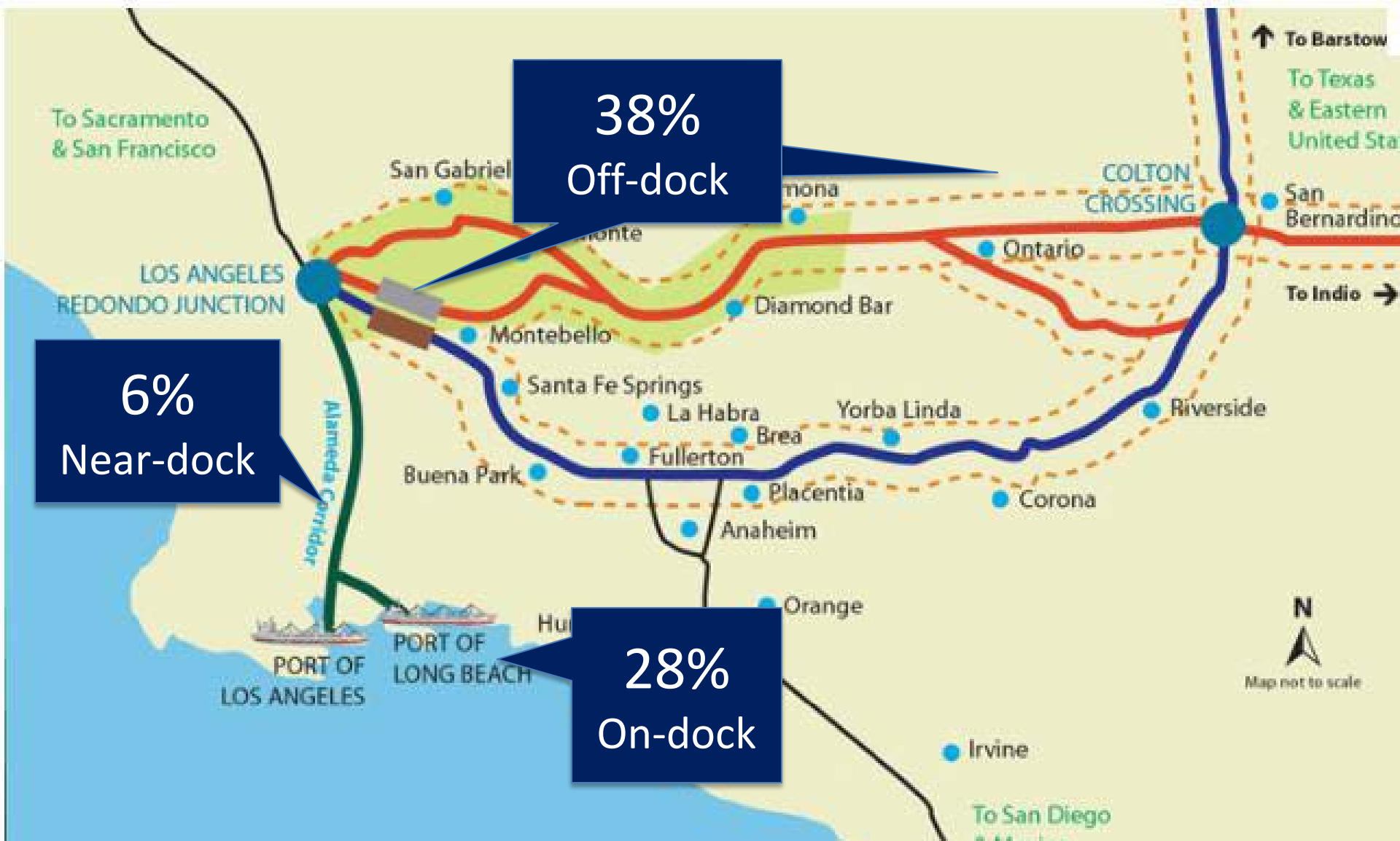
BRIDGE REPLACEMENT

\$1.5 billion, carries 15% of U.S. trade volume



What About Rail??

% Imports Shipped by Rail



Port Railroads

- Pacific Harbor Line (PHL Short-line)
- Class I Union Pacific Railroad
- Class I BNSF Railway



BIG TRAINS ARE HERE

BNSF moves two-mile train from TTI terminal.





ON-DOCK RAIL EXPANSION

\$1+ billion, doubling capacity this decade



ON-DOCK RAIL

New Middle Harbor Terminal Rail Cranes.

An aerial night photograph of a large COSCO container ship docked at a port. The ship is white with 'COSCO' written in blue letters on its side. It is heavily loaded with colorful shipping containers in shades of red, green, blue, and yellow. Several large white gantry cranes are positioned along the ship's length. The port area is illuminated by bright lights, and stacks of containers are visible on the pier. Two tugboats are positioned near the ship's bow. The water is dark, reflecting the lights from the port and the ship. The sky is a deep blue, suggesting twilight.

*THE FUTURE IS **BRIGHT***