

An aerial photograph of a coastal region, likely the Mississippi River Delta. The image shows a complex network of waterways, including a large river that branches out into numerous smaller channels and distributaries. The surrounding land is a mix of green vegetation and brown, marshy areas. The water is a deep blue, while the land is a mix of green and brown. The overall scene is a detailed view of a coastal ecosystem.

APH & PPHTD:

Innovation:

Global Trade and Inland Waterways

A New Paradigm in International & Domestic Freight Movement

Marine Board Presentation - May 16, 2019

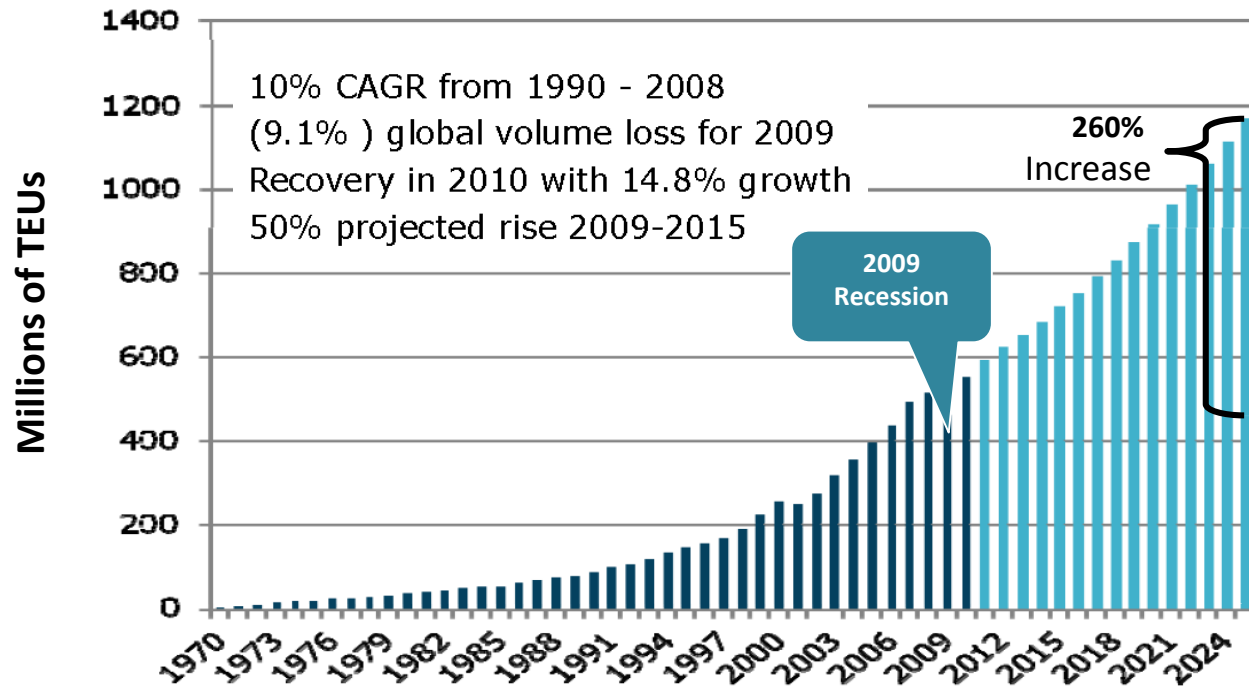
Global Maritime Trade to Double by 2030

- Significant growth in world trade projected in next 10 years
- Doubling of seaborne trade volumes
- Trade to grow from 10 Billion Tons to 20 Billion Tons by 2030



Source: Danish Maritime Forum, 24-28 October 2016

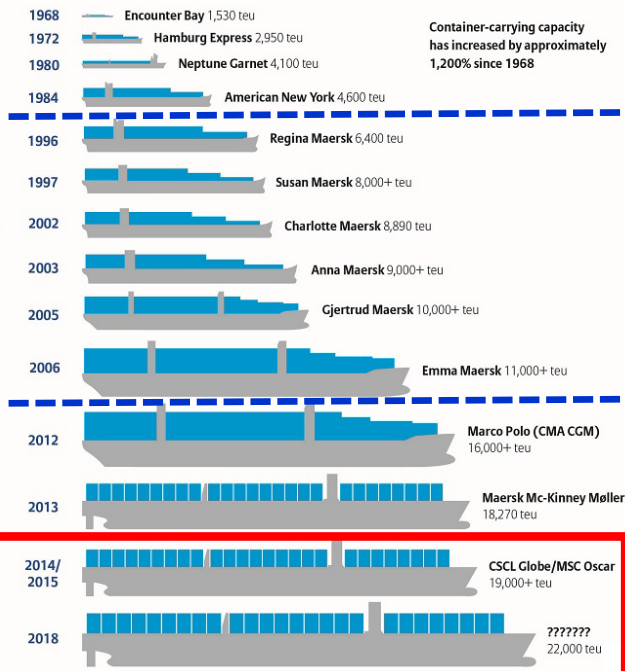
2025 World Container Port Market Demand



Source: Drewry Shipping Consultants

50 Years of Container Vessel Evolutionary Growth

50 years of Container Ship Growth



Old Panamax:
4,800 TEUs

Neo-Panamax:
14,800 TEUs

Near Term
Mega Vessel:
24,000 TEUs



Historical Trade Patterns

Pre-Panama Canal Expansion

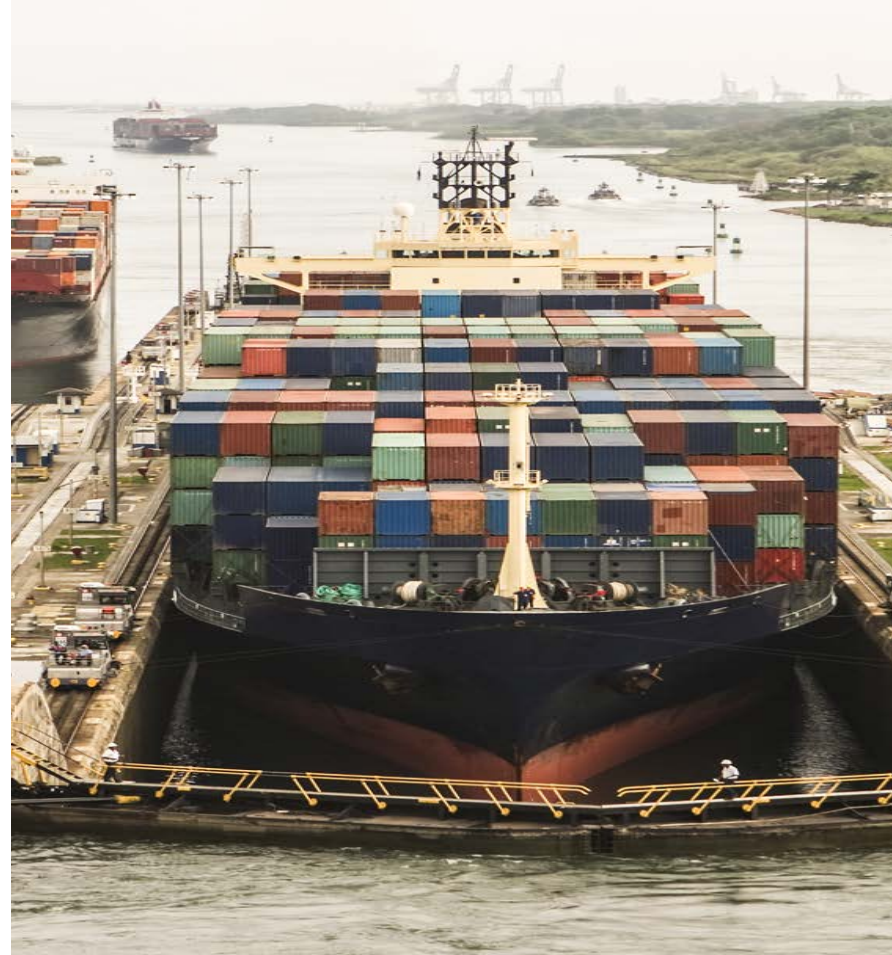
- Gulf Coast Ports handled 6.4% of total U.S. container volume

Mid-West Represents 40% of U.S. Land Area

- 15% of U.S. GDP
- 92% of the U.S. agricultural exports
- 60% of U.S. grain exports
- Approximately 200 million metric tons of exports

Pre-Panama / Suez Canal Expansions – Mississippi Watershed Trade

- Majority shipped through West Coast Ports



Post Panama / Suez Canal Expansions

Canals Handling Larger Vessels

- Panama Canal now handling up to 18,000 TEU vessels
 - Beam limit 51.25 Meters as of June 1, 2018
- Suez Canal has no existing limits on vessel size
- Larger vessels have inherent cost efficiencies

Additional Sailing Time to Gulf Coast Offset by Growing West Coast Delays

Gulf Coast Ports “Market Share” of U.S. Container Trade Up to 8.48% in 2017

- U.S. Container market share increased from 9.5% to 11.9%

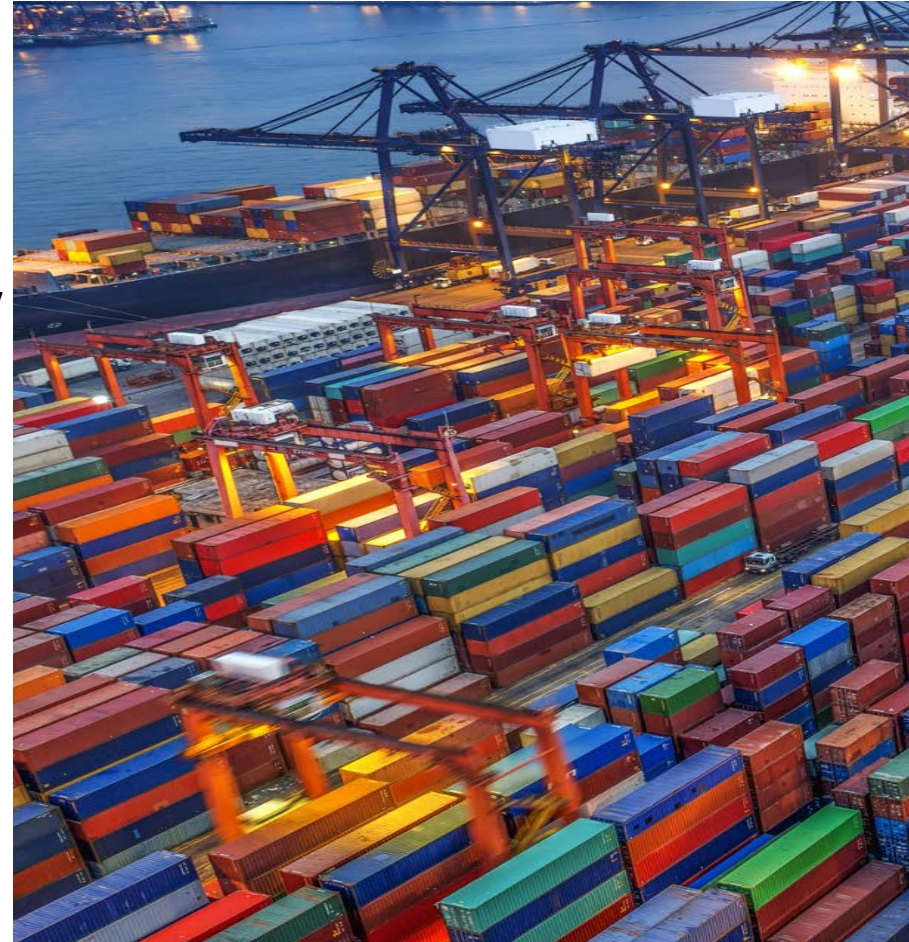
Recent Shifts in Trade Patterns

Ocean Carrier Alliances = Fewer / Larger Vessels

- Pooling assets / slots to improve vessel utilization
- Expectation - terminals will improve productivity

Existing Gulf Coast Ports Have Inherent Inefficiencies:

- Originally built for smaller vessels
- Have limited expansion capability
- Growing dwell times and intermodal delays



Pre-Expansion Panama Canal Market

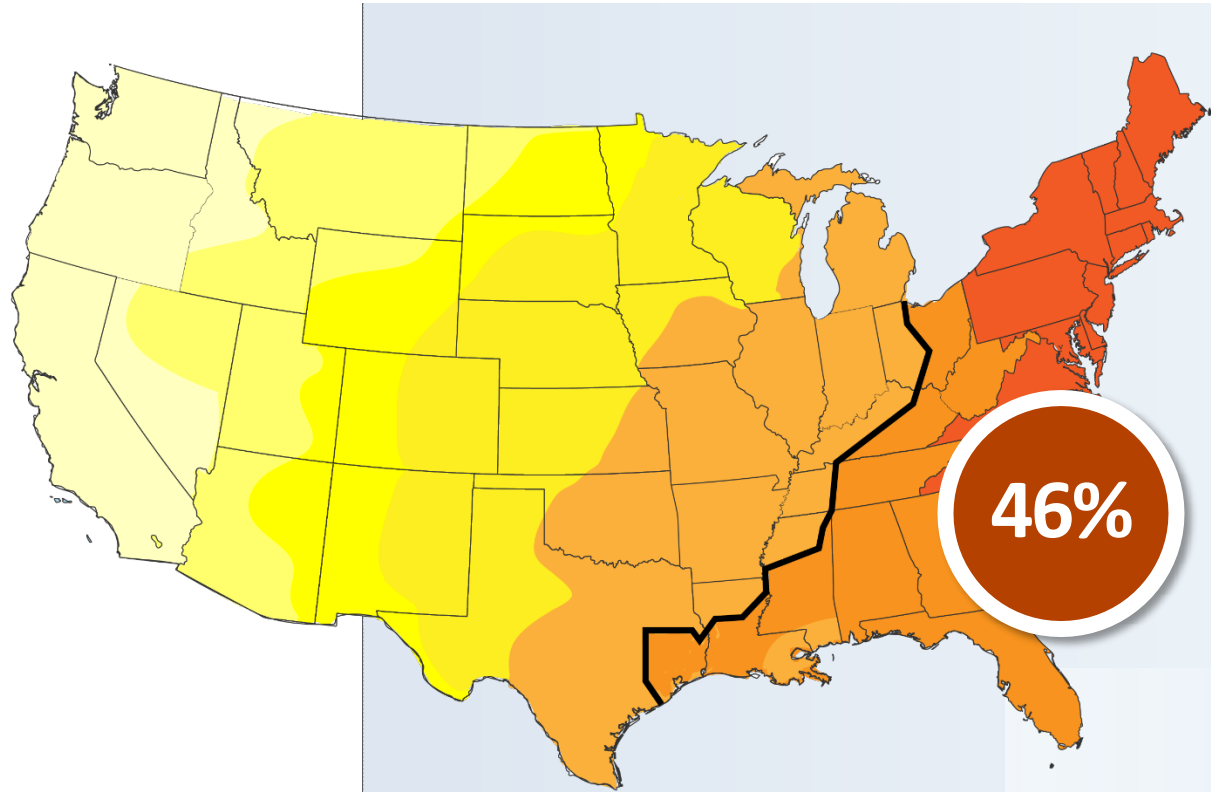
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Economies of Scale:

- 60 percent of all ocean going vessels could not access the canal
- 4,800 TEU ship, all-water

Reachable Market:

46% of U.S population



Access Mid-America, the 5th largest GDP in the world

Post-Expansion Panama Canal Market 2016

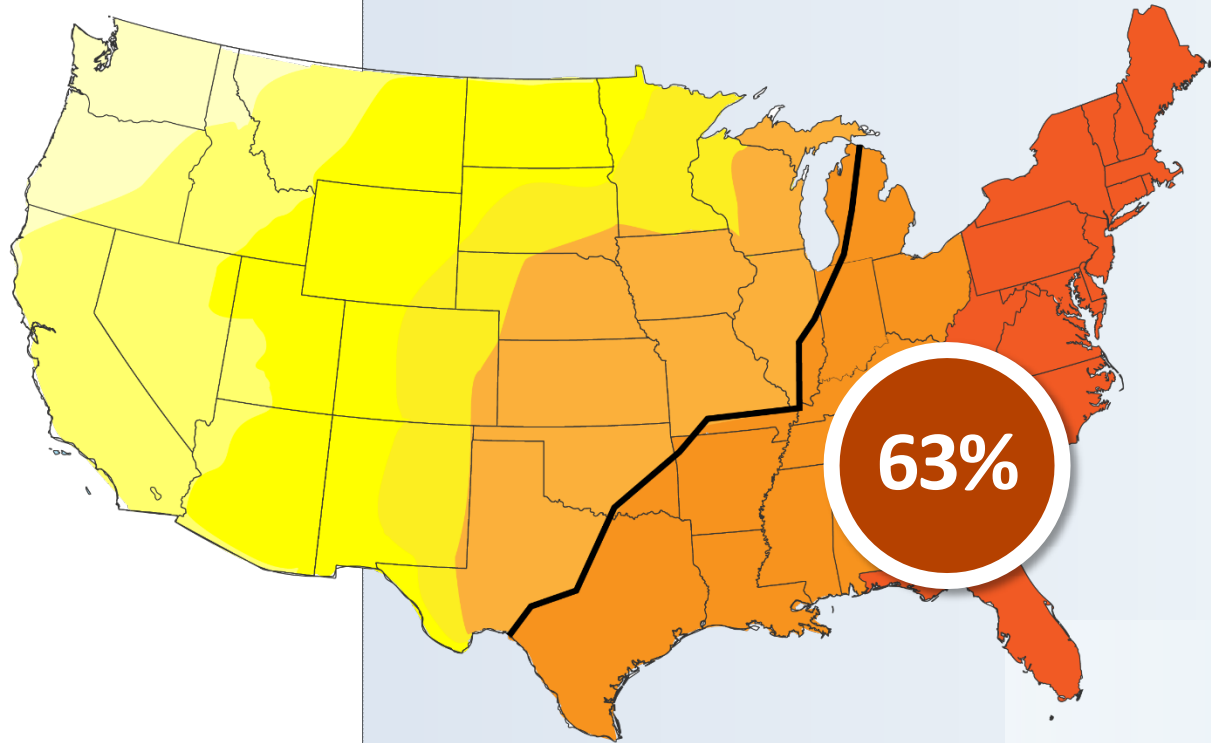
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Economies of Scale:

- Expansion of the Panama Canal will permit deeper market penetration into the US
- 14,400 TEU ship, all-water.

Reachable Market:

63% of U.S population



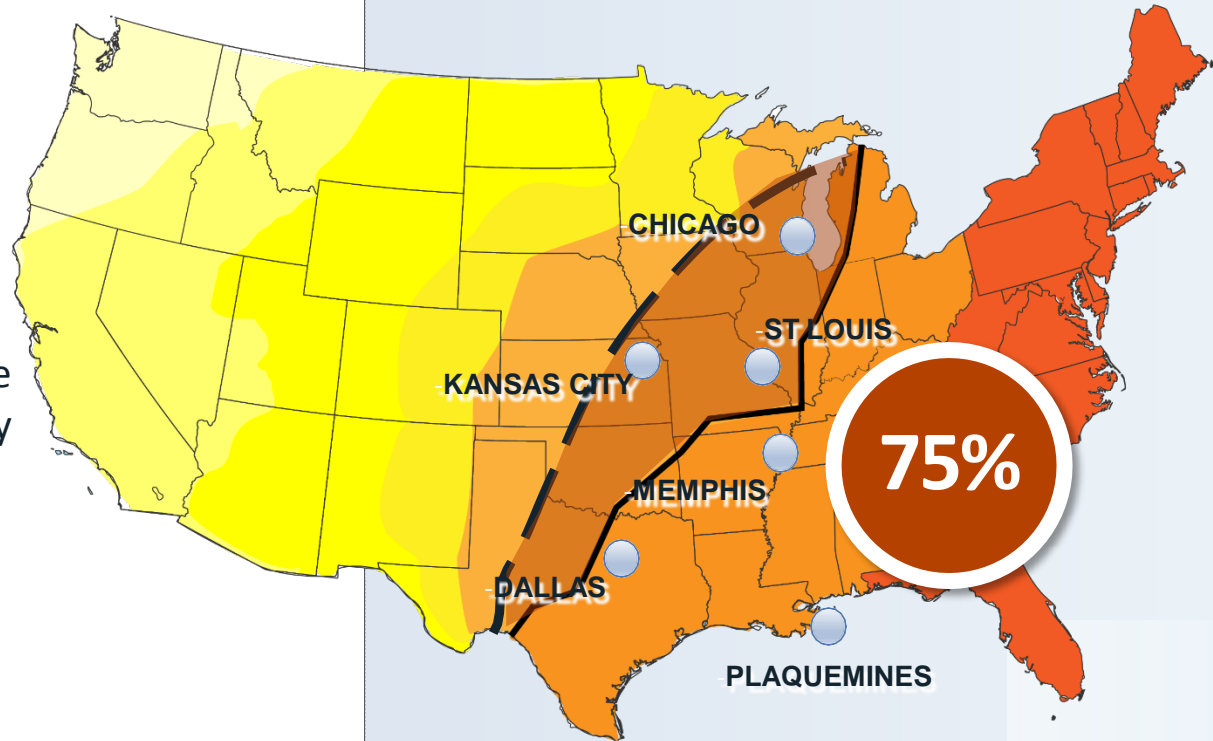
Access Mid-America, the 5th largest GDP in the world

Economies of scale

- Collaboration between Plaquemines, Dallas and Kansas City
- Increases market penetration
- Provides increased market share opportunity through a vertically integrated logistics network
- Potential for 20,000 TEU ships

Reachable Market:

75% of U.S population



Access Mid-America, the 5th largest GDP in the world

Problems with North American Logistics Alternatives

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- Reliability - Uncertainty domestic transportation and terminals
 - Transit schedules, ongoing labor issues
- Increasing terminal dwell times and slower intermodal times
 - Chassis availability, truck drivers timing out (EDL)
 - Terminal capacity limitations (productivity / storage)
- Increasing terminal handling costs and other surcharges
- Increasing rail cost, reduced options and less customer service
- Negative public reaction
 - Noise,
 - Growing congestion on roadways in major cities
 - Hazardous material transits populated areas
 - Air Pollution

- ✓ Develop a “TRUE” Mid-America Gateway Port
- ✓ Ensure reliability with an unparalleled domestic transportation via:
 - Expandable terminal capacity & efficient handling of large ocean carriers
 - “Best of Class” terminal box handling technology (expedite box handling / inter-modal transfer)
 - Provide terminal automation and flexible labor work rules
 - Shipper options for all transportation modes (dray, rail, “water” and “air”)
- ✓ Minimize terminal dwell times and slower intermodal times
 - Guaranteed chassis pool with cost efficient dray
 - Minimal long haul dray expected due efficient water option to Mid America
 - Analysis demonstrates very positive results vs. New Orleans locations
 - Best of class gate technology with high capacity lanes

- ✓ Mitigating increasing terminal handling costs and surcharges
 - Provide on dock transfer to dray, rail and highly efficient “Inland River Transportation Mode”
 - Adjacent DC's - consolidation, de-consolidation
- ✓ Increasing rail cost coupled with reduced rail options and less customer service
 - Provide shippers with multiple domestic transportation options, including:
 - Efficient “Marine Highway’ alternative
 - Rail
 - Air
 - Dray
- ✓ Positive public support
 - Location in rural area with no NIMBY reaction
 - No major city congestion due road traffic
 - Terminal and vessels to provide green “clean air” solution

Plaquemines Port, Harbor & Terminal Overview

Plaquemines Port, Harbor & Terminal District

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Louisiana Gulf Gateway Terminal
*"50 Miles Closer to Deepwater than any other
Port on the Mississippi River"*

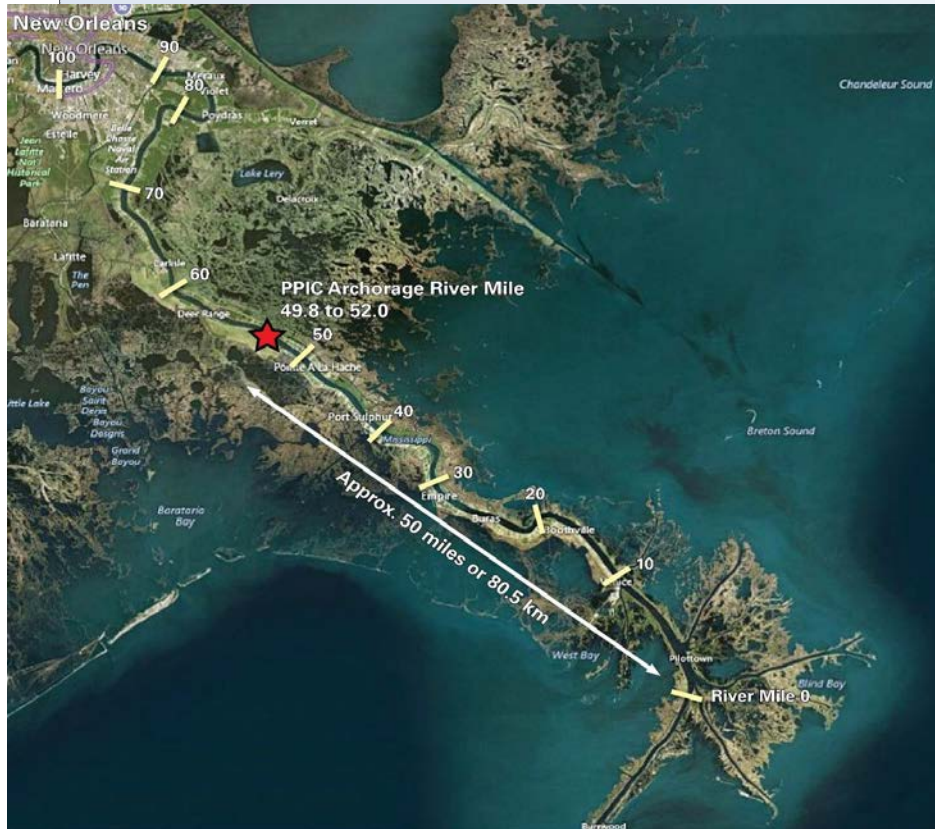
***"Most Southern Port
Terminal on the
Mississippi River"
Gateway to Mid-America***

PPHTD includes first 100 miles of the Mississippi River from Gulf of Mexico

- 8,000 acres for development on West Bank of river
- Southernmost deep draft port on Mississippi River (55 ft.)
- Largest part of river averaging no less than 2,500 feet
- No air draft restrictions
- Full intermodal connectivity
- Rural setting with positive public support
- Jobs and taxes

Sites suitable for:

- Gas processing and refining
- Manufacturing
- Bulk commodities, including agricultural products
- Tank farms
- Container terminals with on dock rail and logistics park
- Southern terminus for all water river transportation
- Distributions centers
- LNG export terminal



Multimodal Connection

The Louisiana Gulf Gateway facilities have access to all modes of transportation:

- **Deepwater Marine** – Direct access to Gulf of Mexico with similar aperture to Panama Canal
- **Inland Marine** – Exclusive arrangement with APH innovative Container on Vessel for Mississippi River and tributaries
- **Rail** – Class 1 access to: BNSF, CN, CSX, NS, UP, and KCS
- **Highway** – LA Hwy 23 direct ties into US I-49 at New Orleans
- **Air** – Commercial air cargo at NAS Belle Chasse – JRB New Orleans
- **Pipeline** – Comprehensive pipeline network for both raw and refined products



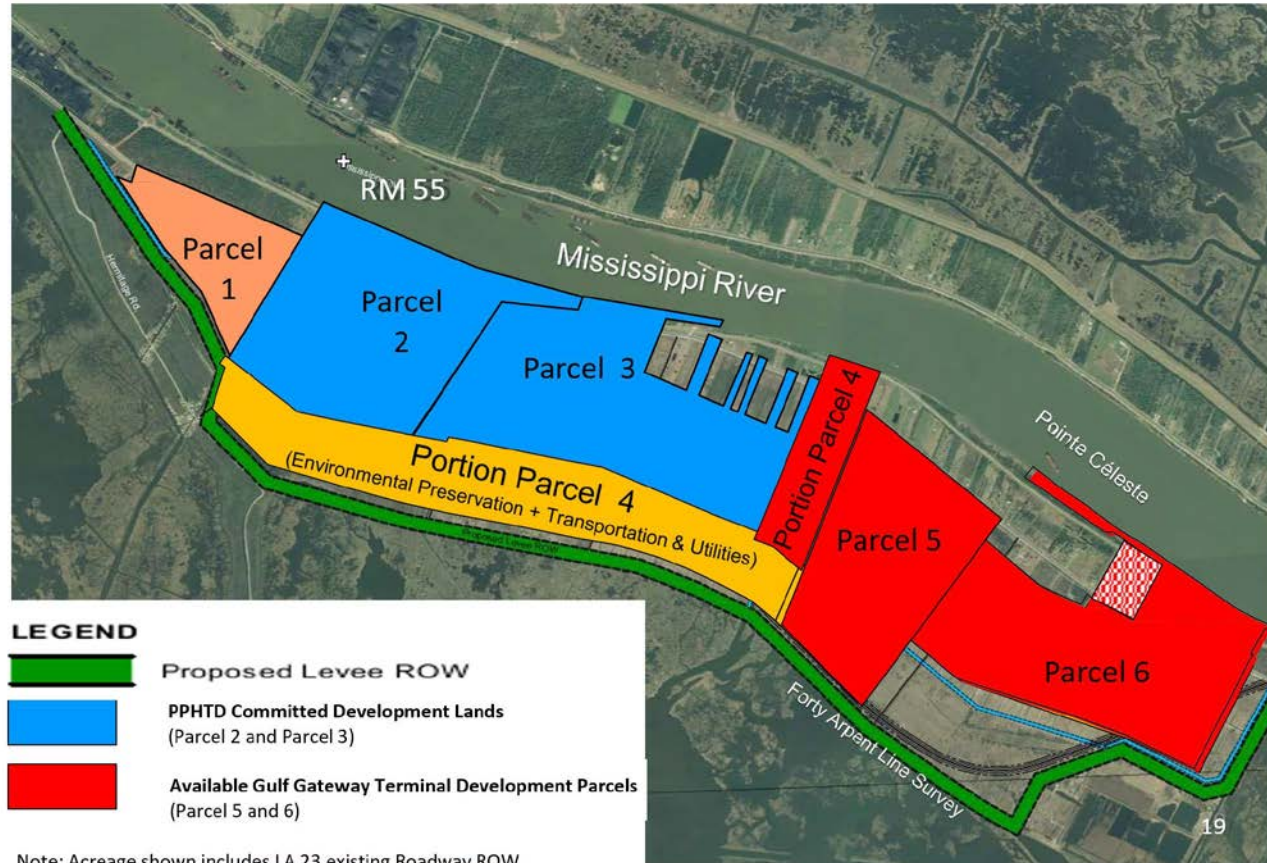
Southern Campus Development

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The Louisiana Gulf Gateway southern campus attributes:

- **Area** – 5,500 acres
- **River Frontage** – 21,620 feet
- **River Dimension** – 55 foot to 113 foot depth; 2,600 foot width
- **Air Draft** – unrestricted
- **Flood Protection** – Existing along river; federal back levee under construction; minimal seasonal wind and wave action
- **Fuel** – LNG bunkering on campus

USACE deepening project 2019 Federal WorkPlan
NOV flood protection completion estimated 4Q20



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LAGG Container Terminal Requirements

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The Louisiana Gulf Gateway container terminal attributes:

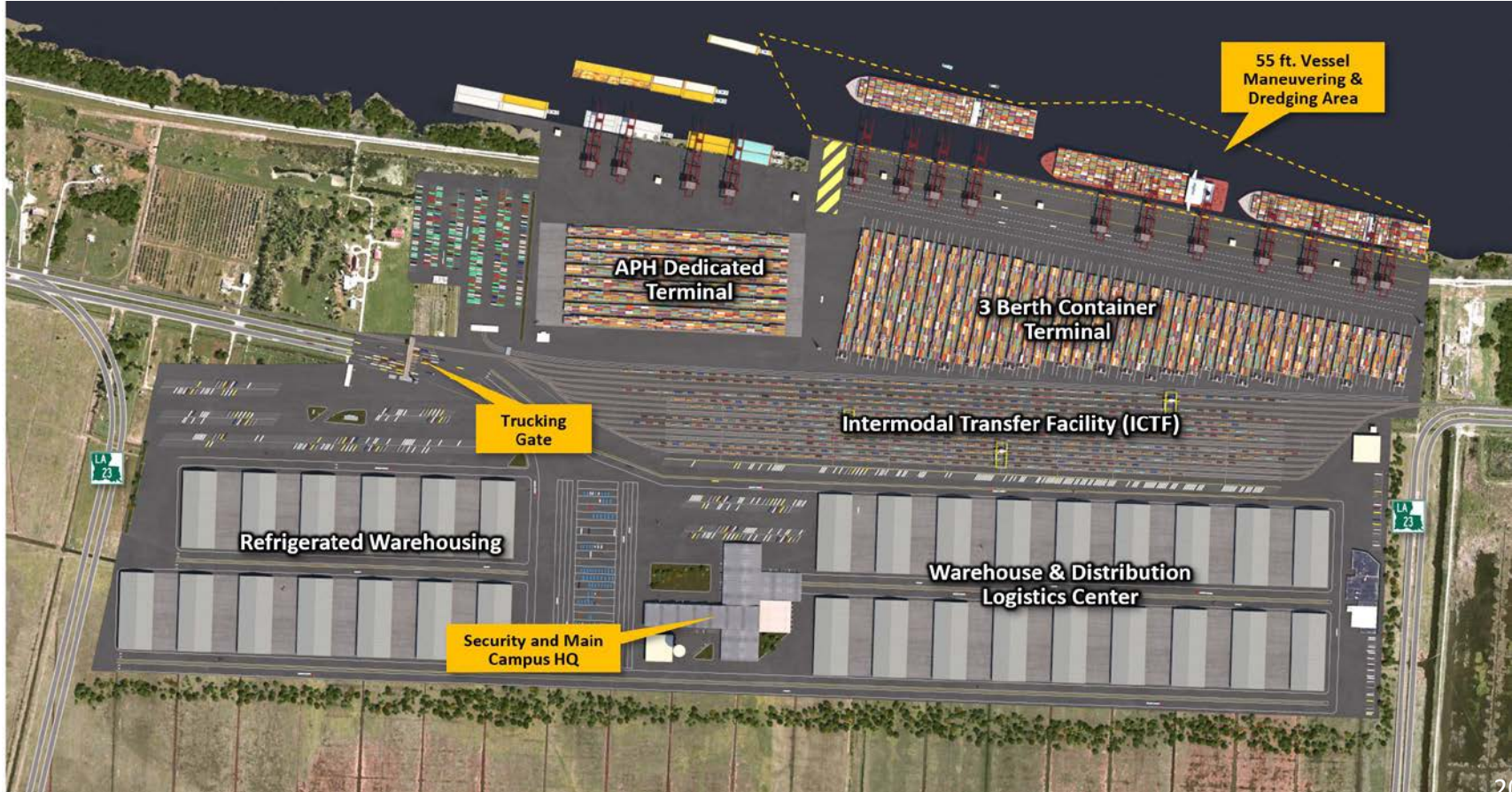
- ✓ Modern and competitive labor agreement and work rules
- ✓ Seamless multimodal conductivity
- ✓ On dock intermodal rail integration and capacity
- ✓ Adjacent on dock logistics-distribution center park
- ✓ Minimum semi-automation to full automation
- ✓ Environmentally sustainable
- ✓ Information Technology (IT) platforms:
 - ✓ Transparency
 - ✓ Security
 - ✓ Cyber protection
 - ✓ Vertically integrated logistics solutions
 - ✓ Satisfy “Cold Iron: Low Sulphur, LNG bunkering:



RESULT: OPTIMIZED LOGISTICS SERVICE PROVIDER

Private & Confidential

Louisiana Gulf Gateway (LAGG) Container Terminal



American Patriot Holdings – Advantages to Mid-America



APH Inland Carrier

Proven
Pre-Feasibility
Commercial
Viability Study



Ocean Transshipment

“Offering Shippers New Flexibility – Lower Cost via All Water Routing utilizing the U.S. Marine Super-Highway”

Conventional Container on Barge Operations

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*Loading and Unloading-
Conventional Cranes
Utilizing Hopper Barges*



Inherent Operational Shortcomings: (Currently used in Port of New Orleans)

- ✓ Hopper barge stability issues with high loads
- ✓ Limited cargo payload capacity
- ✓ Conventional speed underway (4-5 mph) and low capacity cranes
- ✓ Potential barge breakaways

APH's Innovative / Patented / Efficient Vessels



APH Competitive Advantages vs. Dray, Rail or COB

- **Reliability**

- Significant vessel speed coupled with high capacity cranes and productive terminals
- Vessels designed to minimize lost time in high / low water situations

- **Cost Efficiency**

- No assist tugs – designed for parallel docking / undocking
- Automation facilitates unattended engine spaces

- **Speed**

- Minimum Resistance Bow (Patent) - optimizes speed (Upriver speeds of 13 MPH vs 4-5 MPH for COB)

- **Cargo Payload**

- Exoskeleton Hull (Patent) - optimizes cargo payload by reducing lightship weight

- **Safety and Environmental**

- No wake, low emissions, no hydraulics on deck
- Propulsion drives and DPS eliminates need for flanking in turns
- State of the art navigational tools for improved navigation
- Ability to turn in own length
- Redundant propulsion and take me home power

Liner Specifications – Mississippi River Service

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Length Overall	595+ ft.	Ballast Tanks	Eight (8)
Beam	134 ft.	Fuel	LNG
Height Above Water	48 ft. at 9' Draft	Fuel Capacity	1000cm (3 trips)
Speed (Upriver)	13 MPH	Power Plant	Diesel Electric
Operating Draft	Up to 10 ft.	Main Generators	Four (4) – 2880 kW each
DWT	13.7k - 15.7k LT (9-10' Drafts)	Horsepower	14,850
TEU Capacity	2375	Propulsion Drives (Stern)	Three (3) Drives
Reefer TEU Capacity	500+ Electric power as needed	Bow Drives	Two (2) (1000kw Each)
Crew Size	Expect 10-12	Deck Machinery	Electric
Trading Range	Mississippi River	Gross Registered Tons	> 10,000 & Confidential

Hybrid Specifications Tributary River – Above Locks

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Length Overall	595 ft.	Ballast Tanks	Eight (8)
Beam	100 ft.	Fuel type	LNG
Height Above Water	42 ft. at 9' Draft	Fuel Capacity	3 trips
Speed (Upriver)	13 MPH	Power Plant	Diesel Electric
Operating Draft	Up to 10 ft.	Main Generators	Three (3) 2880 kW each
DWT	10.0k-11.5k LT (9-10 ft drafts)	Horsepower	11,600
TEU Capacity	1700	Propulsion Drives (Stern)	Three / Four Drives
Reefer TEU Capacity	300+ Electric Power as Needed	Bow Drives	Two (2) 750kW each
Crew Size	Expect 10-12	Deck Machinery	Electric
Trading Range	Tributary Rivers	GRT	TBD

Private & Confidential

Strategic Inland Waterway Consolidation & De-Consolidation Locations

- St. Louis Region
- Kansas City
- Memphis
- Cairo
- WAIA – Western AR (Fort Smith)
- Little Rock
- Jefferson City-Mo.
- Joliet



Port Coordination

Jointly working Imports / Exports w key Regional and National BCO's

Coordinating “Common” Site Planning:

- 100 acre minimal footprint - out of 100 year flood plain
- Consolidation / de-Consolidation center, warehousing, cold storage
- Access to multimodal corridors (Railroad & Highway)
- Community support
- Terminal requirements (Entry/Exit Gates, Rail tracks, Inspection Facilities, APH berths, etc.
- Stevedore options – local or national, APH berths and general operations plan
- Phase 1 acreage, anticipated future phased growth plans
- “Common” terminal equipment incl. reefer connections
- Terminal automation requirements

Concluding “Specific” terminal planning timelines, including:

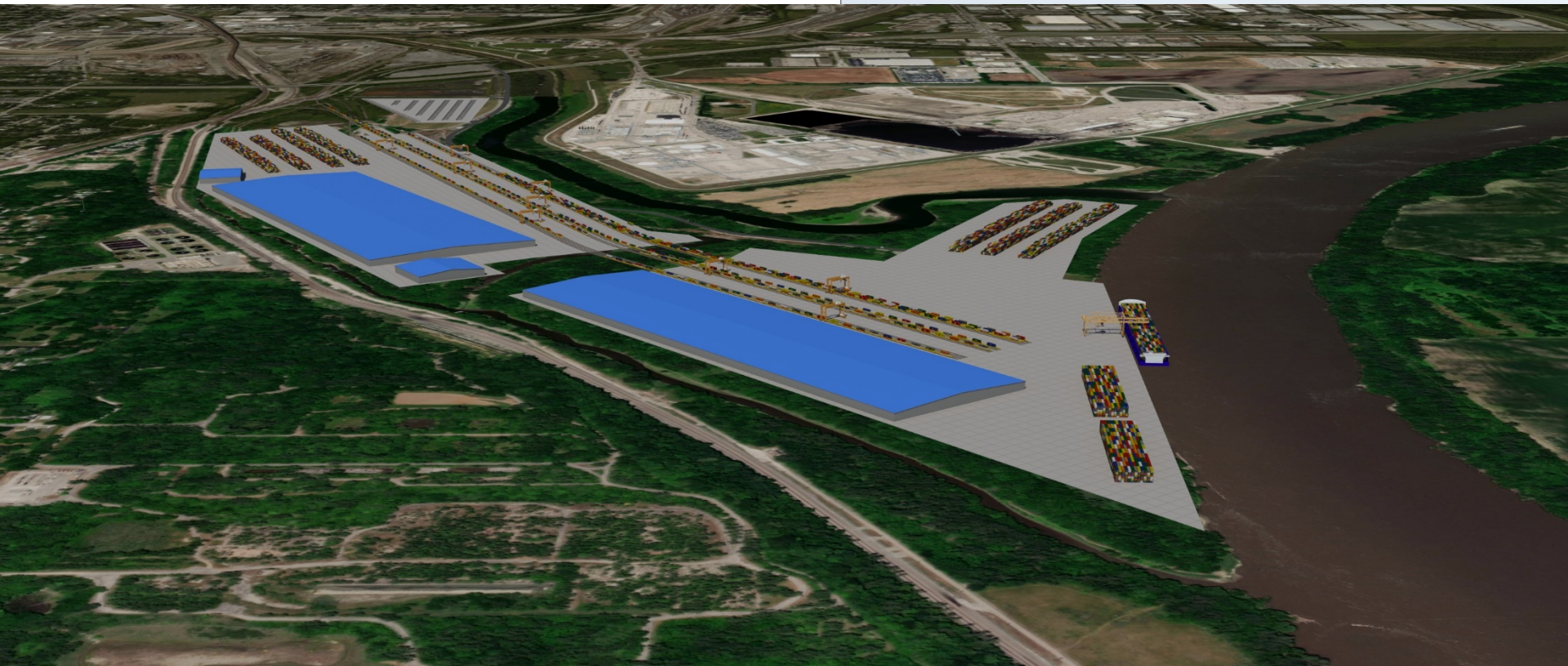
- Engineering, Ground Stability, Environmental Assessments, Permits, Phase 1 Construction

Working Options to Consolidate plans for:

- Terminal Operator(s)
 - Union / Local Work Rules
 - Flexible Work Rules
 - Allowance for terminal automation



PORT KANSAS CITY CONCEPT



Little Rock Arkansas Concept



Third Party Competitive Analysis - Conclusions

Study 1- CK Americas – PPHTD vs. East and West Coast Ports to Mid-America

- Evaluated competitiveness of LAGG location for Mid-America Imports and Exports vs. Gulf, East and West Coast Ports

Study 2-Informa Economics- STC ISA AG Export Study (on the Soy Transportation Coalition website)

- Evaluated Container Exports of Agricultural products via LAGG and vs West Coast ports

West Coast container congestion has been increasing steadily for the past five years:

- LBCT in 2018 saw dwell times for freight forwards to BNSF and UP extend up to 6 to 12 days
- A significant portion of delays were associated with containers into Mid-America.

Cost:

- Traditionally the cost differential from West Coast to Gulf is \$1,000 to \$1,500 per container
- Lower terminal throughput costs, rail and road interface and transport cost reductions are equal or greater than the additional water freight costs
- The APH all water opportunity provide substantial savings

Time:

- Transit time to Gulf compared to California are 10 to 14 days longer depending on vessel speed
- California port dwell time, time to access rail and rail times exceed the longer transit time
- LAGG's same day multi modal conductivity assures competitive transit times
- BCO's confirmed California dwell and transit times far exceed the additional transit time to the Gulf

CK Americas – Project Competitive Advantages

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FEU IMPORTS - from Shanghai (Dry Goods)				FEU EXPORTS - to Shanghai (Dry Goods)			
		APH Cost	APH Time			APH Cost	APH Time
Final Destination->	<u>MEMPHIS</u>	<u>Incentive</u>	<u>Advantage</u>	Final Destination->	<u>Shanghai</u>	<u>Incentive</u>	<u>Advantage</u>
Ports of Entry	LA	26%	5.0	EXPORT-via LA	<u>Origin</u>		
	Houston	26%	1.0		STL	78%	4.0
	NOLA	17%	4.5		Memphis	73%	3.0
	Mobile	12%	-1.0		Fort Smith	68%	4.0
	PPHTD						
				EXPORT-via HOU	<u>Origin</u>		
Final Destination->	<u>SAINT LOUIS</u>				STL	63%	-1.0
Ports of Entry	LA	29%	5.0		Memphis	46%	1.0
	Houston	41%	-1.0		Fort Smith	22%	-2.5
	NOLA	37%	2.5				
	Mobile	32%	-2.5	EXPORT-via NOLA	<u>Origin</u>		
	PPHTD				STL	49%	2.5
					Memphis	23%	4.5
Final Destination->	<u>FORT SMITH</u>				Fort Smith	28%	1.0
Ports of Entry	LA	48%	5.0				
	Houston	22%	-2.6	EXPORT-via Mobile	<u>Origin</u>		
	NOLA	31%	1.0		STL	49%	-2.5
	Mobile	28%	-4.0		Memphis	22%	-1.0
	PPHTD				Fort Smith	31%	-4.0

Major Objective:

Determine competitiveness of grain exports via all water route to Asian Markets vs. current inter-modal to LA/LB pattern

Conclusions:

Significant savings result from all water routing of containerized grains

Longer trade routing LAGG to Asia offset by persistent LA/LB delays

New system should increase demand for containers vs. bulk shipments

- Non-GMO quality commodities increasing in popularity
- Buyers procure smaller volumes for easier delivery upon arrival

ALL WATER TRANSPORTATION vs. INTER-MODAL: Asia Markets (% Saving with APH)

<u>Origin</u>	<u>Road WT</u>	<u>Rail WT</u>
Memphis	40 %	33 %
St. Louis	44 %	39 %

Access the Soybean Transportation Coalition web site to see entire report

Marine Operations to commence Sept 2021

- Finalize MOUs with high impact BCOs by June 15
- Finalize MOU with Major Ocean Carrier / Terminal Operator by June 15
 - Terminal Design, Permitting
- Secure Financing for LAGG / APH / Upriver Ports
- Obtain ABS Approval In Principle - May 29
- Finalize Vessel Design Criteria
- Vendor Selection / Shipyard Bidding / Construction