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TECHNOLOGY TRANSFER PROGRAM

The Impact of Modifying Jones Act on US Domestic Shipping

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POINTS OF INTEREST:

Problem Addressed / Objective of
Research / Methodology Used
Implementation Potential

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This project is associated with the Louisiana Transportation Research Center (LTRC) partnership with the National Center for Intermodal Transportation for Economic Competitiveness (NCITEC).

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PROBLEM

The Jones Act, or Section 27 of the Merchant Marine Act of 1920, relates to goods and passengers transported by water between US ports, hereafter referred to as *domestic shipping* or *cabotage*. The Jones Act specifically mandates that all domestic shipping shall be exclusively provided by US-flag ships: i.e., defined as ships fulfilling four stipulations: (a) owned by US citizens; (b) crewed by US citizens or permanent residents; (c) constructed by US shipyards; and (d) operated under US laws and regulations.

The Jones Act has four provisions related to ownership, construction, regulations, and labor. This study is not concerned with the repeal of Jones Act, which has been exhaustively studied, but with modifying some of its provisions that we deem more realistic. The first modification would allow the re-flagging of foreign-built ships. The second modification is adjusting the size and composition of US crews serving on re-flagged ships according to the technical requirements of the ship, and in line with foreign crews on these ships prior to the re-flagging. Altogether, these two modifications are expected to substantially reduce the capital and operating costs of US-flagged ships.



Figure 1
Typical 1,300-TEU Feeder/Coastal Ship

This research will focus on coastal services, both for domestic and international (feeder) freight. The coastal segment of domestic shipping involves *mainland services* with routes along the coasts of the US, or *off-shore services*, between the mainland and off-shore points in US states and territories such as Puerto Rico, Alaska, Hawaii, and Guam, or a combination of the two.

The need for a US-based feeder system will become critical following the 2014 expansion of Panama Canal. The expanded canal will allow the transit of ships with capacity of up to 13,000 twenty-foot equivalent units (TEUs), commonly defined as New Panamax ships (NPX), which are about 2.5 times larger than the largest Panamax ships currently used, with a capacity of up to 5,000 TEUs. Modifications to the Jones Act are expected to substantially lower the cost of US-flag feeder ships which, in turn, may trigger a transformation of the service system of deep-sea shipping in the US into a hub and spoke model with an extensive network of feeder services. A new deep-water port planned by the state of Louisiana at the Mississippi River mouth will be the only deep-water port in the US Gulf ports that could efficiently accommodate post-Panamax ships, and may become the regional hub.

OBJECTIVE

The overall objective of this study is to assess the impact of two modifications of the Jones Act that would allow the deployment of re-flagged US ships operated by rationalized US crews in coastal shipping of (a) domestic freight along the coasts of the US mainland and between the mainland and off-shore US states and territories; and (b) international freight between US-based hub ports and smaller US ports (feeder).

METHODOLOGY

Review Professional Literature

An exhaustive search of academic journals, industry publications and trade magazines will be conducted to identify relevant studies conducted in the last 10 years.

Define Trade Lanes and Traffic Volumes

The study encompasses two segments of coastal shipping: domestic and international freight (feeder). Data will be compiled on present and future traffic from sources in the US Department of Commerce, US Army Corps of Engineers (CORPS), ports, and shipping lines involved in this trade. Estimation of potential traffic between mainland ports will mainly be based on previous studies. In addition, a limited number interviews will be conducted with truck lines serving the I-10 corridor. Estimation of potential feeder traffic will be based on a series of scenarios of future service patterns of deep-services in the Gulf and South Atlantic following the expansion of the Panama Canal.

Define Ships and Shipping Services

Three ships will be selected based on those currently deployed in foreign coastal services. These ships' capacities will be in the 750 - 2,500 TEU range and their speed in the 15 - 22 k range. In addition, they should be able to accommodate both domestic boxes and international (ISO) boxes. Several service rotations will be defined either based on separate domestic and international services or by combining the two. In defining these services, present operators of domestic services such as Horizon Line, Sea Star, Crowley, Trailer Barge, Matson, as well as American Feeder Line will be consulted. In addition, limited interviews will be conducted with operators of coastal shipping services in Europe. For the feeder services, foreign deep-sea lines such as Maersk, MSC, CMA-CGM, APL, Hapag Lloyd, Hanjin, COSCO, and others will be consulted.

Assess Costs and Level of Service of Selected Services

Cost and level of service will be assessed based on data obtained from ship brokers, foreign ship operators, public data available in trade journals, consultation with US shipyards, terminal operators, and previous studies and discussions with present US flag shipping lines. For calculating required freight rates (RFR), this study will either employ existing ship-cost models developed for the Center for the Commercial Development of Transportation Technologies (CCDOTT), or develop an independent cost and operations model. All comparisons will include, in addition to costs, level-of-service factors, mainly transit time, frequency, and reliability.

Summarize Observations and Recommendations

The results of the previous tasks will be reviewed and overall observations will be summarized regarding the viability of domestic and feeder shipping services provided by US re-flagged ships operating with rationalized crews. In addition, the main obstacles facing the implementation of the proposed Jones Act modifications, including potential supporting and opposing parties and possible strategies to overcome opposition, will be identified.

IMPLEMENTATION POTENTIAL

The main benefit of coastal shipping services is the transportation cost savings to US shippers, compared to their present services either by old and inefficient ships (in the case of Puerto Rico services), or by costly surface modes in the case of mainland services. Another savings, in the case of feeder services, is due to the substitution of direct calls by mother ships with smaller feeder ships. A related benefit stems from mitigating environmental impacts, mainly road congestion and air pollution. There are two secondary benefits stemming from the increase in the fleet of US-flag ships: (a) the defense needs of the US; and (b) US shipyards, including in Louisiana. The results and benefits illustrated by this research could be directly implemented via modifications to existing legislation.