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even if the number of yards should decrease considerably. Potential shortfalls in shipyard capacity for newbuilding later in a prolonged conflict can be met with wartime expansion of shipyard facilities.

NACOA has reviewed a wide variety of studies and proposals that have been made by representatives of the Administration, the Congress, academia and industry for solving the problems of shipyard and sealift capacity. Because the national defense argument is so consistently used for preserving excess shipyard capacity in peacetime, NACOA found it appropriate first to examine various approaches to solving the sealift problem, including present DOD programs and plans, and then to assess the consequent shipyard capacity needed to support the Nation's sealift needs.

Although there are many variations on each theme, NACOA sees three approaches (Table 24) to enhancing sealift capacity:

1. Provide Federal supports to preserve excess shipbuilding capacity in peacetime time—so that needed warships and military sealift vessels can be activated, repaired and built during a major conflict.

Proposals include:

- (a) A federally funded shipbuilding program, building militarily useful merchant vessels, designed to enhance sealift assets and preserve excess shipyard capacity. New vessels would be sold or chartered to private operators, if possible, or placed in reserve.
- (b) Renewal of Construction Differential Subsidy (CDS) disbursements, with stricter guidelines for controlling U.S. shipyard costs.
- (c) A "Maritime Redevelopment Bank" initially funded from Federal sources, intended to stimulate capital formation for shipbuilding projects and to provide work for U.S. shipyards.
- (d) Cargo preference, to reserve a certain percentage of U.S. foreign bulk cargo trade to U.S.-flag vessels built in U.S. shipyards. The latest cargo preference proposal, in the 99th Congress, would create a demand for about 20 new U.S.-built bulk carrier vessels each year for 15 years.
- (e) Other Federal supports proposed include government purchase of private yards, more Navy vessel repair work for private yards and several tax incentive proposals.

2. Increase the government-controlled merchant fleet—to have immediate and direct control of needed sealift assets during a major mobilization.

The only formal proposal at present involves expanding the government's reserve sealift fleet through increased purchase of existing merchant hulls, both dry cargo and tanker vessels, to be maintained in storage at government expense in high-readiness status.

3. Increase the number and military readiness of privately owned sealift assets in case of a major

mobilization—through increased Federal supports and other measures to aid U.S. ship operators.

Proposals include:

- (a) Increase adaptation of active, commercially efficient vessels to military usefulness, including pre-mobilization modifications to U.S.-flag vessels with commercial operators fully reimbursed for consequent operating losses.
- (b) Terminate the requirements for U.S.-flag ship operators receiving Federal supports to build vessels in U.S. shipyards.
- (c) Increase capital of U.S. shipping companies by allowing greater foreign investment.
- (d) Repeal of the tax on non-emergency ship repairs done in foreign shipyards; amendments to laws and regulations that restrict reductions in crew size in U.S.-flag vessels; and continuation of some form of Operating Differential Subsidy (ODS), with stricter guidelines for controlling crew costs.
- (e) Develop a set of incentives to encourage "re-flagging" of U.S.- and foreign-owned vessels now under foreign registry.
- (f) Allow limited foreign building for the Jones Act domestic trade to stimulate modernization and growth of ships in the U.S.-flag domestic fleet.

These proposals, and NACOA's position on them, are discussed in Chapter 4 of this report. Table 24 summarizes the proposed solutions, with NACOA, Administration and Congressional positions shown for each.

In summary, Congressional initiatives tend to fall into the first general approach—that of increasing Federal aids to U.S. shipyards to preserve excess shipbuilding capacity. Although a variety of such proposals were included in legislation introduced in the 98th Congress, none passed, and most did not get beyond Subcommittee or Committee level. Several bills have been introduced in the 99th Congress that would increase Federal aid to U.S. shipyards; to date, none have been passed by either House.

The Administration opposes virtually all efforts to increase Federal supports to U.S. shipyards, favors a continued buildup of government-owned sealift assets and is mixed in its response to various proposals for increasing and improving privately owned sealift assets.

For the most part, NACOA opposes the range of proposals initiated largely in Congress to preserve excess shipbuilding capacity, and opposes further growth in the government-controlled active and reserve sealift fleets without fully exploring other alternatives. NACOA supports a range of proposals from various sources, including our own deliberations, to increase the number and military usefulness of private vessels under U.S. control—those in the U.S.-flag domestic and foreign trades and those under foreign registry.

Table 24.—Proposed Solutions to Shipyard and Sealift Problems.¹

Proposed Solution	NACOA Position	Administration Position	Congressional Initiative
Approach 1.			
Increased Support for U.S. Shipyards			
A. Federally funded merchant shipbuilding program	Oppose	Oppose	Proposed
B. Renewed ship construction subsidy	Oppose	Oppose	Proposed
C. The Maritime Redevelopment Bank	Oppose	—	Proposed
D. Cargo preference requiring U.S.-built ships	Oppose	Oppose	Proposed
E. Other Federal supports	Oppose	Oppose	—
Approach 2.			
Increased Government-Controlled Sealift			
A. Increase government-controlled active fleet	Oppose	Oppose	—
B. Increase government-controlled reserve fleets	Oppose/Favor	Favor	—
Approach 3.			
Improved and Increased Private Sealift			
A. Improve military readiness of private vessels	Favor	Favor	—
B. Terminate build-U.S. requirements	Favor	Favor	—
C. Encourage foreign investment in U.S. shipping companies	Oppose	Favor	—
D. Allow other ship operator supports	Favor	Oppose/Favor	—
E. Encourage reflagging	Favor	—	—
F. Limited foreign building for Jones Act fleet	Favor	Oppose	—

¹ Proposed solutions are listed according to NACOA discussion in Chapter 4 of this report.

Source: National Advisory Committee on Oceans and Atmosphere. 1985. Washington, D.C.

NACOA supports several Administration positions:

- "Build-foreign" proposals.
- Plans to enhance the readiness of private U.S.-flag vessels through installation of "Sealift Enhancement Features."
- Opposition to commercial cargo preference.

NACOA, however, opposes the Administration's programs and policies of:

- Continued emphasis on expansion of dry cargo- and tanker capacity in the reserve fleet.
- Implementation of the Navy's "seashed/flatrack" containership modification program as currently designed and priced.
- Increased foreign investment in U.S. shipping companies.
- Phase-out of Operating Differential Subsidy, with no replacement program to support ship operators, and elimination of the Capital Construction Fund tax deferral.
- Reaffirmation of the "sanctity" of the Jones Act and continuation of the U.S.-built requirement for vessels in the Jones Act domestic trade.

Rigorous comparison with Congressional positions is difficult, because a unified new approach to shipyard and sealift problems has not yet emerged from the Congress.

Conclusions

NACOA has reached the following conclusions:

1. Under current defense scenarios, sealift requirements for the initial stages of a modern

major conflict depend more on the sufficiency of U.S.-controlled shipping—and on trained U.S. crews—than on shipbuilding capacity. Shipyard facilities can be expanded for new shipbuilding during a prolonged conflict. National efforts should therefore emphasize developing a viable Federal and commercial sealift fleet in peacetime, rather than preserving excess shipyard capacity.

NACOA concurs with military strategists who point out that a modern global conflict would have to be fought with Naval and sealift vessels already built in peacetime. Unlike the beginnings of World War II, where the United Kingdom held off the aggressor for several years while the United States prepared for war, a modern global conflict would almost certainly mean immediate U.S. involvement and much more rapid developments requiring more "ready" response.

In a modern global conflict, or a unilateral U.S. action in Southwest Asia, a large number of dry cargo and tank vessels would be needed very quickly upon mobilization; U.S. reserve vessels and requisitioned foreign-flag vessels would require large numbers of trained and ready U.S. or allied crews. The critical shipyard capacity need is for activation and conversion of combatants and sealift vessels in the early stages of mobilization. Present and projected sealift capacity is deemed by DOD to be adequate for resupply. Wartime shipbuilding capacity is required largely to replace naval and sealift vessels lost in the conflict to the extent that reserve vessels and foreign-flag

assets are not available. There will be time to build up additional shipbuilding capacity if it is needed in a prolonged conflict.

2. Despite several recent major shipyard closures, the United States still has a very large shipbuilding and ship repair capacity, one of the largest in the world. There is sufficient surge capacity within those yards expected to survive economically, without direct government supports to satisfy wartime needs as defined by current defense scenarios. No Federal support of shipyards is necessary beyond the peacetime defense contract work.

The United States has more than 600 ship design, shipbuilding and ship repair facilities; about 90 of these are shipyards with the capability for at least topside repair on a 400-foot vessel, and 29 are considered "major" yards with the capability to build or repair in a dry environment a vessel of at least 475 foot length. In addition, 9 public yards (8 Navy yards and 1 Coast Guard yard) are now employed only in military vessel repair but have done shipbuilding work in the past.

Total U.S. employment in public and private sector shipbuilding-related positions in 1984 averaged about a quarter of a million workers. The number of skilled "production" workers actually engaged in shipbuilding in private U.S. shipyards is currently about 96,000, and the public yards are scheduled to decrease their production workforce from 48,000 to 45,000 in 1985, which gives a total production workforce in U.S. shipyards of about 140,000 (Shipbuilders Council of America, 1985b). Although shipbuilding employment has decreased significantly in very recent years, the 1981 peak in private shipyard employment represented a 15-percent increase of 1971 levels, and the levels of the late 1970s and very early 1980s represented a post-World War II peak in shipyard employment. The current level of employment is sustained despite the fact that the U.S. private shipbuilding industry holds less than 2 percent of the world orderbook for commercial shipbuilding. This partly reflects the type of work being done in the U.S. shipyards—almost exclusively the building or repair of complex combatant vessels that are highly labor intensive.

Large-scale wartime construction of merchant sealift vessels (as was done in World War II) might be required in a protracted conflict. A NACOA review of shipyard mobilization capacity in the major defense-contract yards suggests considerable capacity exists—in workers, steel throughput and vessel tonnage output—in excess of what is being utilized in peacetime. The major constraint on expansion of wartime shipbuilding would not, NACOA believes, be limited shipyard capacity, but delayed availability of such major components as propulsion plants for Navy and merchant

vessels and complex weapons systems for combatant vessels.

The federally funded program for building and converting specially designed vessels for prepositioned supplies and for sealift and support will be completed in 1986. Several major shipyards involved in the program see no future work they can rely on to keep their facilities open, and the Shipbuilders Council of America warns that this shipbuilding capacity may disappear rapidly. In addition, the Council argues that peacetime shipbuilding and repair programs proposed by the Navy have not been fully funded in recent years, and a stretching out of the proposed programs with less shipbuilding work each year would support an even smaller shipyard base.

Surge requirements for U.S. shipyards for a major mobilization have been lowered, however, through several government initiatives: by increasing the amount of prepositioned military supplies and thus reducing the number of sealift ships needed; by building and converting a number of vessels under government control for sealift; by increasing the readiness of our reserve fleets and thus reducing the shipyard work required for activation; by relying more on conversion of existing commercial vessels than on wartime newbuilding of sealift vessels; and by planning more pre-mobilization work on commercial vessels in the U.S.-flag fleet. Indeed, much of the work now supporting private shipyards will improve the readiness of sealift assets to the point that less shipyard capacity would be required for a future mobilization.

The present shipyard capacity appears to be substantially greater than that which would be required for defense mobilization. NACOA believes sufficient shipyards will be kept open without new Federal supports—through military shipbuilding, military and commercial repair work and leasing or bonding of shipyard facilities to port authorities for commercial repair work—to meet the reduced mobilization needs. This will be especially true if the Nation's sealift assets are increased and improved as suggested in the recommendations that follow.

3. Requirements to build in U.S. shipyards have, in recent years, impaired the competitiveness of U.S. operators of oceangoing, self-propelled cargo vessels, and have contributed to the decline in the U.S.-flag fleet. Through subsidies, tax credits and increased freight rates, these measures also have imposed costs on the U.S. public at large. Despite their intent to support the domestic shipbuilding industry, the build-U.S. requirements have failed in recent years to create substantial commercial work in U.S. shipyards.

Such considerations as higher price, longer ship construction time and higher debt service on U.S.-built vessels—as well as a consequent lagging behind the

competition in upgrading capital assets—have affected the competitiveness of U.S. operators in foreign trades and the competitiveness of shipping against trucking, rail and tug/barge transport in the domestic trades.

The build-U.S. requirements were intended to guarantee work for U.S. shipyards to preserve a shipyard mobilization base. Except for defense contract work in the yards, however, newbuilding orders for ocean-going cargo vessels are minimal: none in 1983, only five in 1984 and none so far in 1985. Although the United States is the largest trading nation in the world, U.S. vessels carry only 6 percent of our foreign trade; domestic waterborne trade has been partially lost to pipelines, tug/barge, rail and truck carriage.

Many factors other than U.S. shipbuilding costs have contributed to this loss of cargo, or trading opportunities, for U.S.-flag vessels, but ship operators have asserted that U.S. ship construction costs are a major factor. The build-U.S. requirements thus are providing minimal help to the shipyards, while at the same time they are increasing capital and operating costs of the shipping industry, increasing costs to the U.S. public at large and discouraging modernization and expansion of the U.S.-flag fleet.

4. Most recent proposals to aid the U.S. shipbuilding industry—such as a federally funded merchant shipbuilding program, renewed construction subsidies, a federally backed maritime redevelopment bank, and expanded cargo preference—are either too small in scope to be of significant impact, do not address the most serious problems, or would create larger problems.

Several bills in the 98th and the 99th Congresses have proposed extension of the Construction Differential Subsidy or a direct Federal building program for merchant vessels, but would have been funded only enough to build about 3 to 5 vessels in a year—hardly enough to affect a significant part of the national shipbuilding base. The proposed Maritime Redevelopment Bank sought principally to improve capital formation for shipbuilding, but the industry generally believes capital formation is not really a problem if demand for ship construction is present—in fact, lack of demand for shipbuilding is the real problem. One proposal that would have ensured demand for ship construction was a cargo preference scheme requiring that a significant portion of U.S. wet- and dry-bulk imports and exports be carried in ships registered and built in the United States, with tax credits offered to exporters of major bulk cargoes to avoid placing the burden of higher shipping costs on them or on the producers of such goods. NACOA does not support such a cargo preference scheme, because the required new shipbuilding would add to present overtonnaging in the world bulk trades; the guaranteed market would not encourage competitiveness in

the shipping and shipbuilding industries; U.S. Federal rate setting in a world market for bulk cargoes, which is essentially unregulated, would be cumbersome and might discourage the use of U.S.-flag shipping or, worse, invite formal retaliatory actions in the form of comparable trade restrictions from other nations; and the combined costs to the taxpayer, from the proposed tax credits and from increased import and export prices, would be high. There are more efficient and less costly ways of ensuring sufficient seallift capacity, and more-than-sufficient shipbuilding capacity exists today.

Recommendations

Based upon these conclusions, NACOA offers the following recommendations on national policy for the shipping and shipbuilding industries, and related aspects of defense planning for seallift and shipyard mobilization base. The bases of the recommendations are discussed more fully in the body of the report. NACOA recommendations supporting the shipping industry will increase the Nation's merchant seallift assets and may increase commercial work in U.S. shipyards; the seallift readiness recommendations will increase the readiness of government-owned and commercial seallift vessels and concurrently will decrease the amount of U.S. shipyard mobilization base required for national defense needs.

1. NACOA recommends opposition to proposals for a Federal shipbuilding program for commercial seallift vessels—or any other program requiring major Federal funding—designed largely to provide peacetime work for U.S. shipyards and to preserve the present excess capacity in the shipbuilding base.

This recommendation does not apply to the ongoing ship construction and conversion program for specialized Military Seallift Command vessels designed for prepositioning, rapid deployment and other specific defense purposes.

A number of Congressional, academic, industry and government supporters of U.S. shipyards have proposed a Federal building program, in addition to these Military Seallift Command ships, for new militarily useful merchant vessels to be sold or leased to private operators or placed in reserve. NACOA believes this is not an efficient or cost-effective way of addressing the Nation's seallift problems. In such a Federal seallift shipbuilding program the taxpayer would pay for the vessels in three ways: (1) the taxpayer would incur the unnecessary expense of newbuilding in U.S. yards when comparable vessels can be built for much less overseas, and adequate already built vessels can currently be purchased in the United States and overseas at low costs; (2) the government-owned vessels would entail taxpayer-supported maintenance costs, even if

chartered or stored in reserve status; and (3) Federal subsidy or tax credit would likely be required to encourage private operators to charter militarily useful, commercially inefficient vessels in today's market conditions.

Building new vessels into an overtonnaged market is unlikely to produce commercial opportunities to recoup the government's investment, and newbuilding of vessels for laying up in reserve fleets is highly cost-ineffective when existing hulls can be purchased in U.S. or world markets at very low prices during the current shipping recession. The only justification for a major Federal shipbuilding program would be preservation of excess shipbuilding capacity for national defense needs. NACOA's review of national defense needs for the U.S. shipbuilding industry indicates that this and other forms of Federal support are unnecessary. Funding for peacetime military shipbuilding, conversion and repair is the only Federal support required for preserving a shipyard mobilization base adequate for a major conflict or national emergency.

2. With respect to government-owned merchant sealift vessels, NACOA recommends that:

- (a) In order to decrease the Nation's dependence on a government-owned and maintained Ready Reserve Force, the Navy and the Congress place greater emphasis on examining alternatives for increasing the numbers and the military usefulness of the operating U.S.-flag commercial fleet.**
- (b) The Navy and the Maritime Administration continue efforts to reduce the size and increase the readiness of the reserve sealift fleets, including continued scrapping of the World War II VICTORY ships and dispersing of the Ready Reserve Force vessels to locations nearer to planned activation sites.**

Because of a steady decline in the U.S.-flag fleet, a Ready Reserve Force (RRF) of high-readiness sealift vessels was established in 1976 within the National Defense Reserve Fleet, the Nation's "mothballed" merchant fleet. NACOA supports recent Department of Defense efforts to increase the readiness of the reserve fleets by replacing the World War II VICTORY ships, purchasing newer commercial vessels idled by the present shipping recession, and building (actually converting existing merchant hulls into) such special-purpose vessels as rapid cargo carriers, cargo-unloading crane ships and aviation support ships. Because of recently changed assumptions about the place, amount and especially the timing required for delivery of military equipment in a modern major deployment, defense guidance requires that some specially designed sealift assets be under immediate government control. Maintenance costs for the ships of the Ready Reserve Force, however, are almost \$1 million per vessel per year, when the costs of activation exercises are included, and the planned expansion

of this fleet would substantially increase its continuing maintenance costs. Exacerbating this problem is the fact that the average age of vessels recently purchased for the Ready Reserve Force is 27 years, which raises the likelihood that maintenance costs will increase rapidly, and replacement may be necessary soon. NACOA instead supports expanded efforts at finding cost-effective ways to adapt active commercial vessels, which are operated and maintained at private cost and have ready crews aboard, to meet defense needs.

Activations of Ready Reserve Force vessels are handled through general agency contracts with commercial shipping agents, with no government-coordinated plan to allocate towing assets or shipyard space to different reserve vessels under full mobilization. Although the ships of the Ready Reserve Force are maintained in high readiness (5, 10 or 20 days), continued attention should be given to possible activation delays imposed by "breaking out" and towing.

3. With respect to privately owned U.S.-flag merchant vessels, NACOA recommends that:

- (a) The Department of Defense and the Congress increase the emphasis on research and implementation of methods for adapting modern commercially efficient vessels to military purposes—rather than acquiring ships that have in the past been considered more "militarily useful" but can no longer be effectively used in peacetime trade.**
- (b) The Navy, the Small Business Administration and the Congress carefully examine the possibility of cost reductions in the proposed containership modification program.**
- (c) The Congress fund Department of Defense plans for Sealift Enhancement Features to be added to U.S.-flag merchant vessels in peacetime, with vessel owners fully compensated to the extent that such modifications interfere with commercial use of the vessel during installation and subsequent operations.**

Militarily useful vessels are defined according to size, draft, speed, unloading capability and capacity to carry specialized military cargos, such as large unit equipment (tanks and aircraft), or refined fuels and potable water. Unfortunately for military planners, the world's merchant ships have been growing in size and sophistication to provide fuel conservation and increased efficiency and have generally been changing in ways that make them increasingly less "militarily useful." Conventional wisdom, as evidenced in numerous past reports on shipbuilding and sealift, is that acquisition, or even the newbuilding, of non-commercially efficient vessels is necessary to satisfy defense sealift needs. Adherence to this policy would produce a government cargo fleet that could not operate

cost-effectively in peacetime and would thus be acquired and maintained only to serve in case of a national emergency. An additional consideration is that the very characteristics that make the general cargo vessels so attractive for sealift purposes—flexible breakbulk stowage and self-unloading capability—may come to be seen as a liability. As technology continues to develop for quickly unloading more modern vessels in austere environments, the slow and labor-intensive loading/offloading operations of the old breakbulk vessels may make their use less desirable. They would require more ready crew, trained in outmoded techniques, in a national emergency, and the slowness of cargo stowage and offloading would make these ships less timely in arrival and longer-term "targets" in unfriendly ports. NACOA supports DOD's initiatives to adapt its sealift plans to the commercial fleet of the present and future; and NACOA encourages expanded efforts in this direction.

One such effort seeks to modify U.S.-flag container ships to carry military unit equipment, through stacking of specially designed, oversized, open-topped "containers" (seasheds) and large pallets (flatracks). This would essentially allow breakbulk loading and offloading operations within a container ship "hold." While NACOA supports the concept, NACOA concurs with industry sources who believe the costs of the federally funded program are unnecessarily high and should be reexamined. A standard 40-foot container costs about \$4,000, while open-topped, oversized, strengthened "seasheds," each having a self-activated, hinged opening floor, cost \$157,000 each. The problem may lie in the approach, the design, the procurement mechanism or in all three.

Because modern defense scenarios call for rapid availability of sealift assets, timely use of private commercial vessels requires the installation of "Sealift Enhancement Features" in peacetime. The Civil Reserve Air Fleet (CRAF) of privately owned U.S. cargo aircraft has been undergoing pre-mobilization enhancements for several years. In 1984, about \$100 million was spent to adapt aircraft doors and decks for emergency loading of military equipment. The Department of Defense has in its FY 1986 budget a request for almost \$67 million to modify commercially active U.S.-flag vessels to increase their capabilities for communication, underway refuel, self-defense and offloading in austere and unfriendly environments. For the minimal cost of reimbursing ship operators for lost revenues, this program will enhance the readiness of privately owned sealift assets, will reduce the shipyard time required for mobilization and also will decrease the need for expanded government-controlled fleets. NACOA supports this effort and believes it should be fully funded. In addition, the Navy recently announced a new program (Kesteloot, 1985b) to offer upfront payment for costs associated with addition of

Sealift Enhancement Features in new U.S.-built vessels to aid in capital formation and encourage newbuilding of vessels for the U.S.-flag fleet. NACOA supports this initiative but suggests that the Navy also consider retrofitting, with Sealift Enhancement Features, U.S. vessels built in foreign shipyards and selected U.S.-owned vessels under foreign registry considered most adaptable to military use.

4. NACOA recommends that the Navy take steps to ensure the availability, training and readiness of U.S. crews needed for mobilization of reserve and foreign-flag sealift vessels; that the Navy seek, and the Congress appropriate, funding for an enhancement of the Navy's Merchant Marine Reserve.

Current Navy initiatives are directed at identifying specific billets on all vessels (including foreign-flag ships of the Effective U.S.-Control Fleet) that would be required for mobilization, and at seeking agreements with seagoing labor unions to identify qualified active personnel, to keep updated information on their whereabouts at all time, and to provide necessary readiness training through union schools.

In addition to these efforts, NACOA believes such agreements should be formalized by designating the mobilization billets for officers in the Navy's Merchant Marine Reserve, and this Reserve program should be revamped to attract sufficient qualified active and inactive seagoing personnel to fill all these billets.

5. NACOA recommends that the Administration and the Congress continue to unlink national shipping and shipbuilding policies by eliminating all requirements for U.S.-flag operators receiving government supports to build vessels in U.S. shipyards.

We recommend specific amendments to the Merchant Marine Act of 1936 to:

- (a) Allow permanent authority for U.S. operators to build vessels in foreign shipyards and still receive Operating Differential Subsidy, or whatever supports or incentives may replace that subsidy, for operating in the U.S. foreign trades.**
- (b) Allow Capital Construction Fund deferral of taxes on shipping if reinvested in foreign-built, as well as U.S.-built new vessels.**

In addition, we recommend:

- (c) Revision of regulations and administrative practice to allow Title XI Federal Ship Loan Guarantees for foreign vessel construction, with priority on loan guarantees that will provide growth and replacement in trades not already overtonnaged.**
- (d) Amendment of the provisions in various laws regarding eligibility to carry government-impelled cargo—to allow immediate eligibility to a foreign-built vessel rather than the presently required 3-year wait.**

This reiterates a recommendation in NACOA's 1983 report on marine transportation that "U.S. shipowners should be permitted to qualify for ODS with respect to foreign-built vessels registered under the U.S.-flag." However, based on the present review of shipping and shipbuilding and their national defense roles, NACOA has reversed its 1983 report recommendation that the "Title XI and Capital Construction Fund programs should be preserved by the Maritime Administration with their benefits remaining applicable solely to vessels of U.S. registry constructed in U.S. shipyards."

These U.S.-built requirements are intended to preserve excess shipbuilding capacity in peacetime to ensure an adequate shipyard mobilization base for national defense needs. As discussed in our conclusions above, NACOA believes it is unreasonable to hamper the competitiveness of U.S. ship operators to preserve the Nation's shipbuilding base. Further, the national defense arguments for preserving a large peacetime shipbuilding capacity have been overused. In addition, the "build-U.S." requirements are not having the effect of creating significant commercial orders in U.S. shipyards. The national defense needs for sealift require more concentration on U.S.-owned, flagged, or controlled ships—and trained U.S. crews—rather than on yard capacity. Thus, measures must be taken to free the U.S. shipping industry from unnecessary and ineffective restrictions.

NACOA offers three additional recommendations designed to encourage growth of the U.S.-flag fleet, which could provide additional sealift assets without government funding for shipbuilding, acquisition or maintenance, and also would provide more ready U.S. crew for mobilization.

6. NACOA recommends that Congress amend current maritime statutes that impair the competitiveness of U.S. vessels in foreign trade. Specifically, we recommend:

- (a) Establishment of a new form of operating incentives, under short-term (5-year) contracts that are linked to the success of measures to reduce crew size and operating costs.**
- (b) Amendment of the ad valorem tax provision in the Tariff Act of 1922 to exempt oceangoing, self-propelled cargo ships from the duty on non-emergency foreign shipyard repairs.**
- (c) Amendment or repeal of such shipboard manning laws and regulations as the "Cross-over Law" and the "Three-Watch Law" to allow reductions in U.S. vessel crew size comparable to those of most other major seafaring nations.**

The U.S.-flag fleet must be allowed the freedom to be competitive in the world market if it is to expand and increase its utility as a defense sealift asset—both in

vessels and trained seafaring crew. Some form of operating support will be required to allow U.S. vessels to compete in foreign trades while the fleet is being replaced with low-cost, foreign-built vessels, and the crew size and costs are coming down. NACOA proposes a short-lived (5-year) program of operating incentives be made available to all U.S.-flag operators in foreign trades, even those not currently subsidized, during the transition period while fleet modernization and effective manning are being achieved. The supports should definitely not be linked to the U.S./foreign cost differential but should be annual fixed payments, based on some measure such as vessel tonnage, and providing bonuses for improved efficiency, as do the Navy's "Incentivized" shipbuilding contracts. Such "Operating Incentive Payments" should be set at an initial level similar to current Operating Differential Subsidy, but should be phased down over the 5-year period. Other costs of U.S. operation would meanwhile be reduced by our recommendations that building and repairing of ships in foreign shipyards be allowed for U.S. operators in foreign trades.

Currently, less than 200 U.S.-flag vessels are in foreign trades. Lack of competitiveness of U.S. vessels in the world market is due not only to the higher capital costs of U.S. shipbuilding, but also to ship repair and crew costs. U.S. crew costs are 2 to 3 times higher than those of other major maritime nations, and up to 5 and 6 times higher than those of developing nations. Dramatic reductions in crew costs have been accomplished in western Europe and Japan, without reducing wages, by substantially decreasing crew size and increasing job security. Similar improvements in U.S. crew size and wages have been made very recently, with non-union U.S. wages roughly comparable to those of western Europe. However, U.S. crew costs cannot be reduced to those of developing nations because of the relatively high U.S. standard of living. The progress of continued reforms in this country will require temporary exemptions from, and eventually amendments to or repeal of, U.S. Coast Guard manning regulations and shipboard manning laws to allow continued progress in effective manning.

7. NACOA recommends that the Administration and the Congress develop a package of incentives, in addition to those in recommendations #5 and #6, to attract foreign-registered vessels—under U.S. or foreign ownership—to the U.S. flag. We recommend that such set of incentives include a liberalizing of registry regulations for reflagged vessels, giving assurances to owners that they may easily "flag out" again during a certain number of years.

Any measures that improve the competitive position of U.S.-flag vessels—such as the access to foreign shipbuilding and repair, immediate access to government-impelled cargos, "Operating Incentives

Payments" and forced reduction of crew costs, as proposed in Recommendations #5 and #6—also could be considered as possible incentives to encourage reflagging of some U.S.-owned vessels under foreign registry. Several additional possibilities for encouraging reflagging are discussed in Chapter 4 of this report. Such incentives also might attract some foreign-owned vessels under foreign registry, especially those of developed nations.

Reflagging incentives might simply move vessels of the Effective U.S.-Control fleet or of our NATO allies—already designated as sealift assets—into the U.S.-flag fleet. This would still enhance U.S. sealift readiness, however, because more U.S.-flag vessels would provide jobs and training for U.S. seafaring crews, and allow for Sealift Enhancement Features to be added in peacetime, which would make the vessels more ready for mobilization.

An increased fleet under U.S.-flag control would be highly desirable for defense sealift needs, and could reduce the need for expansion of the government-owned reserve fleets.

8. NACOA recommends amendment of the Jones Act to allow a 10-year "coproduction" period of some U.S. and some foreign building of new commercial cargo ships for the Jones Act domestic trade. We recommend that these provisions be applicable only to large oceangoing, self-propelled, cargo-carrying ships that are capable of contributing to the Nation's sealift needs in the case of a national emergency. We further recommend that provisions be written so that U.S. operators may earn credits for orders placed in U.S. shipyards and use those credits for an equal dollar amount of construction or conversion orders in foreign shipyards; we believe such credits should be transferable.

In the past few years, the "build-U.S." requirement for vessels in the domestic trade has done very little to expand or modernize the fleet or to provide work for U.S. shipyards—in 1983, no new oceangoing cargo vessels for the Jones Act were ordered, only five were ordered in 1984, and there have been no new orders

so far in 1985. Carriage of dry cargo is shifting from coastwise ships to oceangoing tug and barge carriage, and to truck and rail modes, and the Jones Act fleet of oceangoing, self-propelled dry cargo ships is aging and shrinking. A 10-year "coproduction" period might encourage modernization and possible expansion of the Jones Act fleet and its seafaring jobs. Reduced operating costs—with modern, efficient and less expensive foreign-built vessels having reduced crews—might allow expansion of the waterborne, coastwise market by taking some freight from oceangoing tug/barge carriage and some intercity cargos from truck and rail carriage. In this way, such a coproduction scheme could strengthen the Jones Act fleet.

By excluding small coastal vessels and tugs and barges from the coproduction provisions, we would protect the small U.S. shipyards from competition with low-cost foreign building of tugs and barges. We may, however, increase the relative competitiveness of larger, oceangoing cargo ships by allowing some foreign building of these vessels. This is consistent with the purposes of the NACOA report, because it would give a possible competitive advantage to the larger, self-propelled vessels that contribute to the Nation's sealift capacity.

Protections would have to be designed so that domestic operators now using high-cost vessels built in U.S. yards, as required by the Jones Act, would not be seriously undercut by competitors entering the trade with less expensive foreign-built vessels. Some approaches to providing such protections are outlined in Chapter 4 of this report.

NACOA strongly supports retention of the U.S.-ownership and U.S.-crew requirements of the Jones Act, because these vessels operate in our coastal waters and are an important part of our national sealift assets.

Because every U.S.-flag vessel deemed to be militarily useful by the Department of Defense would be used in a major mobilization, any continued decrease in the Jones Act fleet affects the defense sealift capacity of the Nation. NACOA believes coproduction could enhance the Nation's sealift capacity.

**THE JONES ACT AND ITS IMPACT
ON THE STATE OF ALASKA**

VOLUME I: EXECUTIVE SUMMARY

Prepared for the

ALASKA STATEHOOD COMMISSION

by

SIMAT, HELLIESEN & EICHNER, INC.

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BACKGROUND

The purpose of the study is to provide "an expert and objective analysis of the economic effects of the Merchant Marine Act of 1920 (The Jones Act) on the economy of Alaska," considering:

- The costs which the Act adds to the ultimate price of important classes of freight coming to and leaving Alaska;
- The effect of the Act on the cost and standard of living in Alaska;
- The effect the Act has upon further development and expansion of shipping-dependent industries;
- The composition of the U.S.-flag Jones Act fleet;
- The effects higher shipping costs have on state revenues;
- Other important effects the Act may have upon Alaska's economy, resources, and future development.

The Jones Act

The term "Jones Act" refers to Section 27 of the Merchant Marine Act of 1920, which states:

No merchandise shall be transported by water, or by land and water,....between points in the U.S.....either directly or via a foreign port or for any part of the transportation, in any other vessel than a vessel built in and documented under the laws of the U.S. and owned by persons who are citizens of the U.S.....

Because Section 27 restricts U.S. domestic waterborne trade to vessels of U.S. construction, U.S. registration, and U.S. ownership, the Jones Act has come to be referred to as the U.S. cabotage law. Cabotage refers to the reservation of a nation's domestic cargo to ships of that nation's fleet. It could be described as a form of protectionism applied to transportation services. In fact, the purpose of the Merchant Marine Act of 1920 is stated clearly in the preamble of the Act:

That it is necessary for the national defense and for the proper growth of its foreign and domestic commerce that the United States shall have a merchant marine of the best equipped and most suitable types of vessels sufficient to carry the greater portion of its commerce and serve as a naval or military auxiliary in time of war or national emergency, ultimately to be owned and operated privately by citizens of the United States....

Factors Leading Up to Passage of the Act

To understand why the Merchant Marine Act of 1920 was enacted, it is first necessary to review the U.S. experience in World War I.

At the beginning of World War I in 1914, the British maintained the world's largest merchant fleet with over 8,500 vessels. The remaining protagonists, together with Britain, accounted for over 14,000 vessels or nearly 60 percent of the world fleet and over 65 percent of the world's tonnage.

As the warring nations recalled their merchant fleets to military service or lost them in action on the high seas, the U.S. began to experience a crippling scarcity of vessels for its on-going commerce. Commodities and goods were left literally rotting on the piers. A major shipbuilding program to provide the country with the ships necessary to carry men and materials to Europe for an extended war was undertaken. However, only a few vessels were delivered before the armistice ending World War I was declared in November of 1918.

The experience of World War I indicated to U.S. lawmakers the dangers of relying on foreign-flag fleets. In the summer of 1919, the Senate Commerce Committee chaired by Wesley L. Jones, Republican from the State of Washington (1909 to 1932), began working on a revision of the national maritime laws. Under Jones' direction the Merchant Marine Act of 1920 was passed into law.

EXCEPTIONS TO THE ACT

A variety of circumstances and conditions have resulted in differing exceptions to the Jones Act for some territories and states. The third and fourth proviso exceptions to Section 27 of the Merchant Marine Act of 1920 are examples of exceptions that apply to Alaska. For practical purposes, the third proviso allows the use of foreign owned, registered, and built ships for carrying cargoes between Alaska and the lower 48 states via Canadian ports so long as rail movement is involved, while the fourth proviso applies to movements on the Yukon River.

There are other exceptions. For instance, trade with the U.S. island possessions of Guam, Tutuila (American Samoa), Wake, Midway and Kingman Reef may be carried on foreign built U.S.-flag vessels.

Of direct interest to Alaska are the conditions that govern trade to the Virgin Islands. For historical reasons, the Virgin Islands are exempt from the Jones Act. As a result, Alaskan crude oil can be shipped out of Alaska on foreign-flag vessels to a refinery in the Virgin Islands. The product can then be shipped foreign-flag to the U.S. mainland. Data compiled by the Maritime Administration indicate that this route accounts for about 5 percent to 15 percent of Alaskan oil shipments.

THE JONES ACT FLEET

The Jones Act fleet consists of those vessels eligible to engage in the coastwise trade. Generally, that includes any vessels built in the U.S., under

U.S. ownership, registered under the laws of the U.S., and not restricted because of subsidy status. Vessels that have received Construction Differential Subsidy (CDS) or are receiving Operating Differential Subsidy (ODS) from the Maritime Administration cannot serve the cabotage or coastwise trade without special waivers.

Currently, the Jones Act fleet accounts for 60.7 percent of U.S.-flag tonnage. Most of these vessels are tankers; in that category, 86.8 percent of all vessels are eligible for coastwise trading. Data appear in Table 1.

The Alaska trade fleet of six^{1/} dry cargo freighters and 88 tankers constitutes 28.8 percent of the Jones Act fleet and 16 percent of the active U.S.-flag privately owned fleet.

Alaska trade freighters constitute only 8.6 percent of the total Jones Act eligible freighters. The containerships are smaller than those generally found in the Jones Act fleet and the Ro/Ro ships are larger. Among tankers, the Alaska trade fleet is made up of 34.4 percent of the total Jones Act fleet, but has 54 percent of the carrying capacity. This is because tankers in Alaska service are larger than the fleet average. Data appear in Table 2.

ALASKA WATERBORNE TRADE

Alaska's waterborne commerce is dominated by crude oil shipments from Valdez which accounted for 89.5 percent of Alaska's total port activity in 1979. When crude oil shipments are subtracted from the total, remaining waterborne commerce is 34.5 percent foreign imports and exports, 47.5 percent coastwise receipts and shipments, and 18 percent internal receipts and shipments. Data illustrating the relationship of total foreign, coastwise, and internal movement of the top ten Alaska ports is shown in Figure 1. Excluding crude oil shipments, the activity of the top ten Alaska ports includes approximately 60 percent of the state's total waterborne commerce.

Coastwise dry cargo shipments out of Alaska move primarily to the Pacific Northwest (Seattle and Tacoma). Of the total, 51.2 percent move to the Pacific Northwest, California receives 15.9 percent, and internal shipments within Alaska account for the remaining 32.9 percent.

Tanker movements from Alaska are destined primarily for refineries in California. Panama, the Pacific Northwest, and Hawaii also receive varying amounts of Alaska crude, based on the 1979 data.

Coastwise dry cargo shipments to Alaska originate to a large degree in the Pacific Northwest (77.3 percent). A very high proportion of the cargo moving to and from Alaska's smaller ports is transshipped via the major ports.

^{1/} Includes Sea-Land and TOTE; excludes barge services.

TABLE 1
PROPORTION OF JONES ACT VESSELS
TO TOTAL U.S.-FLAG VESSELS

	Number of Vessels			DWT (000)		
	<u>Jones Act</u>	<u>Total</u>	<u>%</u>	<u>Jones Act</u>	<u>Total</u>	<u>%</u>
A. DRY CARGO	70	280	25.0	1,119.0	5,123.7	21.8
B. TANKERS	<u>256</u>	<u>295</u>	<u>86.8</u>	<u>11,950.3</u>	<u>16,409.2</u>	<u>72.8</u>
C. TOTAL	<u>326</u>	<u>575</u>	<u>56.7</u>	<u>13,069.3</u>	<u>21,532.9</u>	<u>60.7</u>

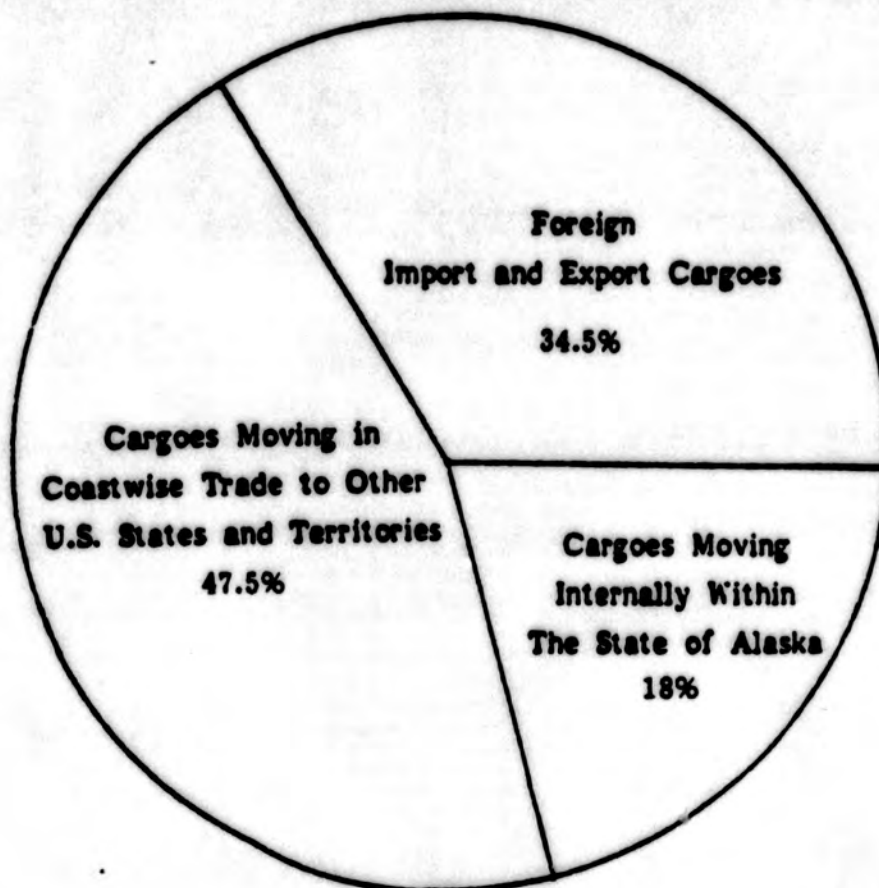
TABLE 2
U.S.-FLAG PRIVATELY-OWNED, SELF-PROPELLED VESSELS
OF 1,000 GROSS TONS OR MORE
January 1, 1982

	<u>Serving Alaska</u>	<u>Total Jones Act</u>	<u>% Serving Alaska</u>	<u>Serving Alaska</u>	<u>Total Jones Act</u>	<u>% Serving Alaska</u>
A. FREIGHTERS	6	70	8.6	64.7	1,119.0	5.8
B. TANKERS	<u>88</u>	<u>256</u>	<u>34.4</u>	<u>6,513.8</u>	<u>11,950.3</u>	<u>54.5</u>
C. TOTAL JONES ACT FLEET	<u>94</u>	<u>326</u>	<u>28.8</u>	<u>6,578.5</u>	<u>13,069.3</u>	<u>50.3</u>

1/ Privately-owned, self-propelled vessels of 1,000 gross tons or more -
January 1, 1982

Source: U.S. Maritime Administration

FIGURE 1
CARGO ACTIVITY OF CORPS OF ENGINEERS TOP 10 ALASKA PORTS
(EXCLUDING CRUDE OIL AT VALDEZ)
BASED ON TONS OF CARGO SHIPPED AND RECEIVED
1979



Tanker cargo being received in Alaska, consisting of petroleum products for consumption in the state, flows almost exclusively from California; a high percentage is redistributed from larger to smaller Alaska ports.

Anchorage is the primary receiving port for consumer products, building materials, and food. Whittier also serves the Anchorage market with the same categories of cargo. Most of the high volume cargoes (commodities registering annual volumes of 10,000 tons or more) moving into Alaskan ports other than Anchorage and Whittier, consist of petroleum products.

ALASKAN SHIPPING COSTS

The Impact of Costs on Rates

The cost of shipping in the Alaska trade, and the cost premium caused by the Jones Act, were estimated by comparing the cost of present vessel services with the probable cost of those services were they operated with foreign-flag ships. Although it is true that the observed impact on customers is conveyed through shipping rates, not underlying shipping costs, and that competition and value of service, or "what the traffic will bear," establish freight rates for each commodity in the short run, costs set the limits for freight rates in the long term. In other words, although cost and rate may not be the same or even similar for any given commodity at any given time, in the long run (and/or over a mixture of commodities carried in the same service), rates are, in fact, cost determined. Hence, the cost-based method is a valid approach for determining the relative impact of differing governmental policies which affect the long term character of a shipping market.

Shipping Costs

Ocean shipping costs can generally be divided into the following categories:

- Capital
- Manning and Subsistence
- Fuel
- Maintenance and Repair (M&R)
- Supplies and Equipment
- Insurance
- Cargo Handling
- Other Port Costs
- Agency, brokerage, and Commission
- Waterway Tolls and Pilot Fees
- Corporate Overhead

There are exceptions, however. For example, tanker movements seldom involve meaningful cargo handling costs, because this function is provided by shipboard pumps, the cost of which is already part of other cost categories. Other types of shipping have other costs—e.g., container ownership in the case of container systems.

U.S.-flag Cost Disadvantages

Among the categories listed, not all are areas in which there are cost differences between U.S.- and foreign-flag vessels. The major areas in which U.S.-flag vessels are at a disadvantage are:

- Crew wages — Generally, U.S. manning costs are higher, due in part to higher rates of compensation and in many cases, higher manning levels.
- Insurance — Insurance is usually higher because of higher U.S. vessel repair costs and typically higher levels of medical care, workmen's compensation, etc.
- Vessel acquisition — Vessel acquisition costs are higher because of higher U.S. construction costs. In addition, delivery schedules in the U.S. are said to be much slower, introducing a cost of delay. The requirement for U.S. subsidized operators to purchase U.S.-built vessels has been temporarily waived, allowing U.S.-flag carriers to buy vessels overseas at cheaper prices. This does not apply in the domestic trades, however.
- Vessel Maintenance and Repair — Vessel M&R is higher due to the necessity for making repairs in the U.S.
- Overhead — Overhead is sometimes higher due to higher general levels of salary for U.S. headquarters office staffs, to the extra staff required for government compliance activity, and the fact that foreign lines use agents in the U.S.
- Fuel Costs — In most cases U.S. fuel costs are higher because steam turbine vessels are employed which have higher fuel consumption rates than foreign-flag vessels that traditionally use slow speed diesel engines.

U.S.- vs. Foreign-flag Shipping Comparisons

The SH&E Required Freight Rate model was used to calculate costs of U.S. and hypothetical foreign-flag vessels in a representative sample of Alaskan service, focusing on cost differences in the categories set out above. Summary results from four runs appear in Tables 3-6, as follows:

Table 3	-	Container vessel: Seattle-Anchorage
Table 4	-	Roll on/Roll off vessel; Tacoma-Anchorage
Table 5	-	Crude Oil Tanker; Valdez-Los Angeles
Table 6	-	Petroleum Products Tanker; California to various Alaskan ports.

TABLE 3

**SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR CONTAINERSHIP OPERATIONS
ANCHORAGE/SEATTLE**

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	70,637.14	75.95
FUEL	63,448.54	68.22
M-R	10,285.71	11.06
SUPPLIES AND EQUIPMENT	1,182.86	1.27
INSURANCE	9,485.71	9.12
CAPITAL COSTS	30,857.14	33.18
STEVEDORING COSTS	87,750.00	94.35
TERMINAL COSTS	241,800.00	260.00
PORT COSTS	60,000.00	64.52
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	76,371.43	82.12
POSITIONING COSTS	143,000.00	153.76
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	18,600.00	20.00
CORPORATE OVERHEAD	169,356.13	182.10
TOTAL	981,774.66	1,055.67

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	81,040.00	84.13
FUEL	45,215.96	48.62
M-R	9,000.00	9.68
SUPPLIES AND EQUIPMENT	1,182.86	1.27
INSURANCE	4,937.14	5.31
CAPITAL COSTS	15,428.57	16.59
STEVEDORING COSTS	87,750.00	94.35
TERMINAL COSTS	241,800.00	260.00
PORT COSTS	60,000.00	64.52
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	76,371.43	82.12
POSITIONING COSTS	143,000.00	153.76
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	18,600.00	20.00
CORPORATE OVERHEAD	106,332.79	114.34
TOTAL	850,558.24	914.69

TABLE 4
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR RO/RO SHIP OPERATIONS
ANCHORAGE/SEATTLE

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	54,940.00	49.50
FUEL	80,303.27	72.35
M-R	5,000.00	4.50
SUPPLIES AND EQUIPMENT	900.00	0.81
INSURANCE	11,600.00	10.45
CAPITAL COSTS	72,000.00	64.86
STEVEDORING COSTS	76,500.00	68.92
TERMINAL COSTS	288,600.00	260.00
PORT COSTS	44,000.00	39.64
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	36,382.50	32.78
POSITIONING COSTS	176,000.00	158.56
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	24,200.00	21.80
CORPORATE OVERHEAD	153,604.55	138.38
TOTAL	1,024,030.32	922.55

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	31,820.00	28.76
FUEL	57,906.61	52.17
M-R	4,000.00	3.60
SUPPLIES AND EQUIPMENT	900.00	0.81
INSURANCE	6,240.00	5.62
CAPITAL COSTS	36,000.00	32.43
STEVEDORING COSTS	76,500.00	68.92
TERMINAL COSTS	288,600.00	260.00
PORT COSTS	44,000.00	39.64
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	36,382.50	32.78
POSITIONING COSTS	176,000.00	158.56
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	24,200.00	21.80
CORPORATE OVERHEAD	106,724.88	96.15
TOTAL	889,373.98	801.24

TABLE 5
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR VLCC OPERATIONS
VALDEZ/LOS ANGELES

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	224,588.74	1.87
MANNING AND SUBSISTENCE	86,990.71	0.72
FUEL	227,090.91	1.89
M-R	11,729.44	0.09
SUPPLIES AND EQUIPMENT	3,743.15	0.03
INSURANCE	23,956.13	0.20
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	140,000.00	1.17
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	717,599.08	5.98

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	112,294.37	0.94
MANNING AND SUBSISTENCE	86,714.46	0.39
FUEL	227,090.91	1.89
M-R	7,886.29	0.06
SUPPLIES AND EQUIPMENT	3,743.15	0.03
INSURANCE	13,924.50	0.12
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	140,000.00	1.17
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	551,253.68	4.59

TABLE 6
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR PRODUCT TANKER OPERATIONS
LOS ANGELES/ANCHORAGE

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	102,285.71	2.92
MANNING AND SUBSISTENCE	131,266.67	3.76
FUEL	154,833.33	4.42
M-R	4,546.03	0.13
SUPPLIES AND EQUIPMENT	11,365.08	0.32
INSURANCE	22,730.16	0.65
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	21,600.00	0.62
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	448,626.98	12.82

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	51,142.86	1.46
MANNING AND SUBSISTENCE	66,826.67	1.91
FUEL	98,250.00	2.81
M-R	3,977.78	0.11
SUPPLIES AND EQUIPMENT	11,365.08	0.32
INSURANCE	13,979.05	0.40
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	12,000.00	0.34
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	257,541.43	7.36

These summary runs indicate that the relative impact of the Jones Act on Alaskan commerce varies with specific circumstances. For example, in liner trades^{1/} (represented by container and Ro/Ro vessels) a significant part of the total cost relates to containers, cargo handling, and other cargo-related functions. These are not affected by the Jones Act. Hence, the relative cost difference between U.S.- and foreign-flag vessel service is less than, say, the tanker trades, where Jones Act-affected cost categories make up a much larger share of the total cost.

THE IMPACT OF SHIPPING COSTS DUE TO THE JONES ACT

Open Questions About the Jones Act

There are a number of unanswered questions relating to changing or eliminating the Jones Act. They include:

- Is it preferable to remove all provisions of the Act or a selected subset?
- What is the likely response by foreign shipping interests to a relaxation of the coastwise laws? On what terms would foreign owners and operators be interested in providing service?
- What immigration problems, if any, would result from employing foreign seamen in the Alaska coastwise trade?
- If foreign-flag operations can be introduced at great savings, what has impeded foreign-flag vessels from being used more extensively to carry coastwise cargoes via Canadian ports?
- What will be the U.S. labor reaction to the introduction of foreign ships and foreign crews and what secondary effect might this have on Alaska?

The Impact of The Act on Liner Services

The total U.S.-flag premium cost for liner services in the Alaskan trade (i.e., services which transport package cargo such as consumer goods, automobiles, machinery, etc.) is about \$41 million per year, as follows:

	<u>Container</u>	<u>Ro/Ro</u>	<u>Tug Barges</u>
Cost per trip - U.S.-flag	\$981,774	\$1,024,030	\$195,217
Cost per trip - foreign-flag	<u>850,858</u>	<u>889,373</u>	<u>158,023</u>
Net	\$131,116	\$134,657	\$37,188
Voyages per year	<u>X 155</u>	<u>X 100</u>	<u>X 200</u>
	\$20,322,980	\$13,465,700	\$7,437,600
	<u>GRAND TOTAL</u>		<u>\$41,226,280</u>

^{1/} "Liner trades" refers to all ocean freighter services which handle packaged and piece goods, in contrast to "bulk trades" which handle petroleum, grain, ore, and other bulk commodities.

The cost penalty applies to commodities as a group. How it may be distributed to any specific commodity or group of commodities is uncertain; if any one item is judged to pay less premium, then something else must automatically be said to pay more, and the net result to the people of Alaska is essentially the same.

With regard to the relative impact of the Act on inbound versus outbound commodities, the analysis indicates it is northbound liner commodities which are most likely absorbing the cost premium, meaning the direct (or initial) impact of the Jones Act is falling more heavily on Alaskan receivers and consumers rather than on Alaskan businesses shipping their products southbound.

The Impact of the Act on the Crude Oil Trades

With regard to crude oil, the RFR analyses indicated the differential between U.S.- and foreign-flag tanker operations in the Valdez to Los Angeles service is \$1.39 per long ton. For shipments from Valdez, transshipped at the Panama Canal and sent onward to the U.S. Gulf Coast, the differential would be \$5.67.

Assuming an average annual U.S.-flag shipment rate of 80 million tons per year, with two-thirds moving to California and one-third to the Gulf Coast via Panama, the annual cost penalty ultimately being borne by Alaska through the netback mechanism is \$225 million. Clearly, the Jones Act's major impact on Alaska is in the sphere of crude oil shipments.

MAJOR CONCLUSIONS

The Jones Act and Alaska's Liner Service

- Commerce of the State of Alaska moving in liner services, mostly consumer goods and business supplies, is absorbing an aggregate annual cost of approximately \$41 million because of the restrictions imposed by the Merchant Marine Act of 1920.
- Due to the inherent directional imbalance of Alaska cargoes, the incidence of higher costs and rates is having the greatest impact on northbound cargoes.
- In the high-volume Anchorage-Pacific Northwest trade, the state may have a potential for reducing rates by stimulating backhaul cargoes. The extra cost of transportation for such cargoes would be low.
- In modern containerized-type operations, the bulk of the costs are not flag related. Consequently, the scope for cost and rate reductions as a result of introduction of foreign-flag services is not as great proportionately as in other sectors of the merchant marine.

The Jones Act and Alaska's Crude Oil Transportation Service

- Alaska's net return from its oil sales is being reduced due to the additional costs imposed by the Jones Act, which, based on current conditions, are approximately \$225 million per year.

Current Use of Exemptions from the Act

- The State of Alaska has some relief available from the Merchant Marine Act of 1920. This relief is currently not being exploited. Non-use of this loophole does indicate that the cost savings ultimately available from use of foreign-flag vessels may not be as great as has sometimes been supposed.

Changes in U.S. Maritime Policy

- In view of the Administration's apparent position to uphold the Jones Act, efforts to have it rescinded in toto will be difficult in the immediate future.
- Given the recent lifting of prohibitions on overseas-built vessels for U.S. subsidized trades, the State of Alaska may wish to consider an effort to obtain a waiver of the requirement to use vessels built in the U.S. and place less emphasis on changing the remainder of the Jones Act.
- The State of Alaska should develop a coordinated, thoroughly-considered Jones Act strategy that seeks reasonable and politically attainable concessions in areas where the cost impacts are most meaningful. This approach has the potential for success, and can be instrumental in reducing the impact of the Jones Act on the State's economy.

**THE JONES ACT AND ITS IMPACT
ON THE STATE OF ALASKA**

VOLUME II: FINAL REPORT

Prepared for the

ALASKA STATEHOOD COMMISSION

by

SIMAT, HELLIESEN & EICHNER, INC.



July 1982

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1. INTRODUCTION

This report was prepared in accordance with a professional services contract dated March 15, 1982 between Simat, Helliesen & Eichner, Inc. (SH&E) and the Alaska Statehood Commission.

The purpose of the study is to provide "an expert and objective analysis of the economic effects of the Merchant Marine Act of 1920 (The Jones Act) on the economy of Alaska."

The Commission specifically requested that the study consider the following issues:

A. The costs which the Act adds to the ultimate price of important classes of freight coming to and leaving Alaska, including crude and refined oil products, timber, building materials, fish products, ore, consumer items, and food. Contractor will prepare a freight rate model for comparable foreign vessels on similar routes.

B. The aggregate effect which higher Alaska consumer prices caused by the Jones Act have on the costs and standards of living in urban and rural Alaska.

C. The effects the Jones Act has upon further development and expansion of shipping-dependent industries, including mining, timber, and fishing.

D. The composition of the U.S.-flag Jones Act fleet, and report on what percentage of its total annual business is attributable to the Alaska trade.

E. The effects higher shipping costs due to the Jones Act have on state revenues derived from or dependent upon the extraction of natural resources.

F. Other important effects the Jones Act may have upon Alaska's economy, resources, and future development.

G. In a conclusion, contractor will summarize its findings on the annual costs (direct and indirect), disincentives, and advantages of the Jones Act to the State of Alaska and to the average Alaskan resident.

The study addresses the seven major issues in six tasks as follows:

1. Analysis of the Jones Act;
2. Analysis of the Jones Act fleet;
3. Analysis of Alaska trade;
4. U.S. versus foreign vessel operating costs;
5. Impact of shipping costs; and
6. Conclusions.

2. ANALYSIS OF THE JONES ACT

The purpose of this chapter is to identify and describe the Jones Act and other relevant cabotage legislation as it affects the State of Alaska.

2.1 The Jones Act refers specifically to Section 27 of the Merchant Marine Act of 1920 and generally to all coastwise laws.

The term "Jones Act" is understood to refer generally to the Merchant Marine Act of 1920 and specifically to Section 27 of that Act. Section 27 addresses the registry, country of construction and ownership of vessels carrying cargoes between points in the U.S. and between points in the U.S. and U.S. territories and possessions. A copy of Section 27 of the Merchant Marine Act of 1920, in its entirety, is provided as Appendix A.

Basically, Section 27 states:

No merchandise shall be transported by water, or by land and water,.....between points in the U.S....either directly or via a foreign port or for any part of the transportation, in any other vessel than a vessel built in and documented under the laws of the U.S. and owned by persons who are citizens of the U.S...

Because Section 27 restricts U.S. domestic waterborne trade to vessels of U.S. construction, U.S. registration, and U.S. ownership, the Jones Act has come to be referred to as the U.S. cabotage law. Cabotage refers to the reservation of a nation's domestic cargo to ships of that nation's fleet. It could be described as a form of protectionism applied to transportation services. The word "cabotage" is of uncertain origins but apparently stems from the spanish word cabo (cape or promontary) and is thought to have originally meant the navigation between two capes.

Section 27 coins its own term for laws that apply the principles of cabotage by referring to them as coastwise laws. This term appears often in various ruling and litigation concerning U.S. cabotage and it stands as a reminder that restrictions and exemptions on the use of foreign registered, foreign built, and foreign owned vessels in the U.S. trade are treated in a variety of rulings and laws other than those embodied solely in Section 27. As a matter of practice, those who refer loosely to the Jones Act in the contexts of the totality of U.S. cabotage laws are probably referring generally to the so-called coastwise laws and not specifically to Section 27 of the Merchant Marine Act of 1920. It is important to note that, in some maritime circles, the Jones Act refers to that portion of the Merchant Marine Act of 1920 covering personal injury of seamen.

There are exceptions to the basic prohibitions contained in Section 27 and some of these apply specifically to Alaska. These exceptions will be addressed in detail. It is also important to remember that coastwise laws treat three distinct issues:

1. Country of Construction (must be built in the U.S.);
2. Country of Registry (must be documented under laws of the U.S.)
3. Citizenship of Owners (must be citizens of the U.S.)

2.2 The Merchant Marine Act of 1920 was established to insure a strong U.S.-flag merchant marine in reaction to the U.S. experience in World War I.

The purpose of the Merchant Marine Act of 1920 is stated clearly in the preamble of the Act:

That it is necessary for the national defense and for the proper growth of its foreign and domestic commerce that the United States shall have a merchant marine of the best equipped and most suitable types of vessels sufficient to carry the greater portion of its commerce and serve as a naval or military auxiliary in time of war or national emergency, ultimately to be owned and operated privately by citizens of the United States....

To understand why the Merchant Marine Act of 1920 was enacted it is first necessary to review the history of cabotage in the U.S. and more specifically to study the U.S. experience in World War I.

Cabotage is not a recent development on the American scene. Some of the first official acts of the new American republic were to establish tonnage duties which in effect discriminated against foreign-built, foreign-owned ships. The purpose then, as now, was no doubt to protect and nourish a U.S.-flag merchant marine to serve the country in time of national emergency.

In 1817, the duty system was replaced by a prohibition on the movement of goods between U.S. ports in foreign vessels. In effect, the act of March 1, 1827 was the nation's first true cabotage law.

Although the original cabotage laws applied only to the continental U.S., as the nation expanded and gained territorial possessions, the principle of cabotage was extended to U.S. possessions and territories. Soon after the purchase of Alaska, Congress decreed that trade with the new territory should fall under the cabotage law. (Act of July 27, 1868, Sec. 5, 15 Stat. 241.)

The cabotage laws were suspended briefly during World War I for all areas except Alaska. The suspension was limited to the duration of the war plus 120 days. The Merchant Marine Act of 1920 (the Jones Act) restored the cabotage laws.

The restoration of the cabotage laws was made inevitable by the catastrophic experience of World War I. At the beginning of World War I in 1914, the British maintained the world's largest merchant fleet with over 8,500 vessels

equalling 35% of the world fleet. The initial protagonists in World War I (Germany, Austria, and Italy of the triple Alliance and Britain, France and Russia of the triple Entente), together with Japan and Turkey, accounted for over 14,000 vessels or nearly 60% of the world fleet and over 65% of the world's tonnage.

As the warring nations recalled their merchant fleets to military service or lost them in action on the high seas, the U.S. began to experience a crippling scarcity of vessels for its on-going commerce. Commodities and goods were left literally rotting on the piers.

The initial U.S. response to the WWI shipping crisis was to pass the Shipping Act of 1916, which set up the U.S. Shipping Board and the Emergency Fleet Corporation. The Emergency Fleet Corporation undertook a major shipbuilding program to provide the country with the ships necessary to carry men and materials to Europe for an extended war. However, only a few vessels were delivered before the armistice ending WWI was declared in November of 1918.

The experience of WWI indicated to U.S. lawmakers the dangers of relying on foreign-flag fleets. There was a feeling that the lack of merchant vessels had damaged U.S. commerce in the years before the U.S. entered WWI, and had displaced valuable resources by engendering a wasteful and ultimately unnecessary shipbuilding program. By 1921, the U.S. fleet numbered over 4,200 vessels - up from the 1,600 that were available at the beginning of the war in 1914.

In the summer of 1919, the Senate Commerce Committee chaired by Wesley L. Jones, Republican from the State of Washington (1909 to 1932), began working on a revision of the national maritime laws. Under Jones' direction the Merchant Marine Act of 1920 was passed into law. The Act is described as providing for:

The promotion and maintenance of the American merchant marine, to repeal certain emergency legislation, and provide for the disposition, regulation and use of property acquired there under, and for other purposes.

2.3 The application of the Jones Act to Alaska has been subject to a variety of changes and exceptions.

The basic Section 27 prohibition against the use of foreign-built, owned, and registered ships in U.S. coastwise trades is mitigated for the State of Alaska by two exceptions described as the third and fourth provisos of Section 27.

The so-called third proviso states:

...Provided further, that this section shall not apply to merchandise transported between points within the continental United States, including Alaska, over through routes heretofore or hereafter recognized by the Interstate Commerce Commission for which routes rate tariffs have been or shall hereafter be filed with said Commission when such routes are in part over Canadian rail lines and their own or other connecting water facilities...

The fourth proviso states:

...provided further, That this section shall not become effective upon the Yukon River until the Alaska Railroad shall be completed and the Shipping Board shall find that proper facilities will be furnished for transportation by persons citizens of the United States for properly handling the traffic...

In addition, with respect to Hyder, Alaska, Public Law 87-77, 75 Stat. 196, states:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, notwithstanding the provisions of law of the United States restricting to vessels of the United States the transportation of passengers and merchandise directly or indirectly from any port in the United States to another port of the United States, passengers may be transported on Canadian vessels between ports in southeastern Alaska, and passengers and merchandise may be transported on Canadian vessels between Hyder, Alaska, and other points in southeastern Alaska, and between Hyder, Alaska, and other points in the United States outside Alaska, either directly or via a foreign port, or for any part of the transportation until the Secretary of Commerce determines that United States-flag service is available to provide such transportation.

- 2.4 To understand these exceptions to Section 27, it is necessary to trace the history of the passage and subsequent amendments to the Merchant Marine Act of 1920.

The original wording of the so-called third proviso excluded Alaska from the exception with the wording "...provided further, that this section shall not apply to merchandise transportation between points within the continental U.S., excluding Alaska over through routes ... recognized by the Interstate Commerce Commission." This exclusion of Alaska had the effect of closing Canadian ports for the movement of cargoes between Alaska and the lower 48 states. There is speculation that the exclusion of Alaska was included by Jones to benefit commercial interests in the State of Washington.

The territorial legislature of Alaska contested the wording of the original third proviso which excluded Alaska from the exception. (The exception would have allowed cargoes to move between Alaska and the lower 48 states through Canadian ports.) A law suit filed on behalf of the territory contending that the exclusion was unconstitutional was denied by the U.S. Supreme Court saying that there were intended differences in the administration of states vs. territories. Through the period of the early 1920's complaints were registered and bills were introduced to change the Section 27, but none were successful.

During WWII, the Second War Powers Act of 1942 granted the Secretary of the Treasury the right to waive navigation laws. As a result, Canadian vessels were allowed to carry coastwise cargo between Alaska and the 48 states. The War Powers Act expired in 1947.

In 1958, with the passage of the Statehood Act, the third proviso of the Merchant Marine Act of 1920 was changed. The words "excluding Alaska" were replaced with the words "including Alaska." The latter is the wording of the current version of the third proviso. For practical purposes, it allows the use of foreign owned, registered and built ships for carrying cargoes between Alaska and the lower 48 states via Canadian ports.

Both the third and fourth provisos of the Merchant Marine Act of 1920 have been subject to interpretation. The agency with jurisdiction over the coastwise laws is the Customs Service of the U.S. Department of the Treasury, Division of Carriers Drawback and Bonds.

The following are examples of operations that have been planned in the past and the Customs Service's opinion on those proposals.

Proposals Concerning the Third Proviso

Question

Can a foreign-flag vessel carrying chemicals from Alaska unload part of its cargo in Vancouver and part in Los Angeles? Is the situation changed if all of the cargo is unloaded in Vancouver and then part of it is reloaded for Los Angeles?

Answer

No, in both situations.

Question

Can a trailer load of frozen fish from Alaska be offloaded at Prince Rupert, carried by Canadian ferry to Vancouver and then moved by motor carrier to the State of Washington?

Answer

No, the situation is in violation. No rail carriage is involved.

Question

Can cargoes from the lower 48 move north to Canada via highway and then by Canadian Rail to Edmonton, then by truck to Hay River and then to the Arctic Coast?

Answer

Yes. This route goes by Canadian rail and is on a tariff filed with the ICC. The connecting water facility cited in the third proviso need not connect directly with Canadian rail.

Question

Can Alaska oil be transported to Panama via a U.S.-flag vessel, stored in a foreign-flag vessel and then reloaded on a U.S.-flag vessel?

Answer

Yes. The foreign-flag vessel is not used for transport.

Question

Can a foreign-flag vessel carry railcars and truck trailers received from Canadian railroads between Canadian ports and Alaska?

Answer

Yes, providing they are on routes "recognized by the Interstate Commerce Commission" and tariffs have been filed.

Proposals Concerning The Fourth Proviso

Question

River? Does the reference to the Yukon River include its tributary, the Tanana

Answer

Yes. .

The Department of Treasury's rulings on provisos three and four of Section 27 were summoned succinctly in a letter to Mr. John Leeper in March of 1977.

....We have held that through routes are, within the meaning of the third proviso, 'recognized by the Interstate Commerce Commission' when rate tariffs for them have been filed with the Commission, have not subsequently been rejected for filing, have become effective according to their terms, and have not been subsequently suspended by the Commission or superseded or withdrawn.

1

We have held that over Canadian rail lines means simply over rail trackage in Canada and that their own or other connecting water facilities means water facilities, whether or not connecting with trackage in Canada. These holdings were made with explicit reference to the through route participated in by the Alaska Trainship Corporation...We are aware of one other such tariff involving Ward Cove, Alaska, and of several involving Vessels of the Northland Transportation Company moving from Hay River, N.W.T., to the North Slope.

With regard to the fourth proviso, the Alaska Railroad is deemed to have been completed within the meaning of the statute, but the Secretary of Commerce has not made the finding which would make the proviso inoperative. We have held that this proviso makes the coastwise laws not effective on the Yukon only with respect to the transportation of merchandise.

....any foreign-flag operator may provide the connecting water facilities on a through route in compliance with the third proviso, provided it is named in the tariffs filed.

The most effective use of the third proviso exception was the service provided by the Alaska Trainship Corporation, a Crowley Maritime Corporation subsidiary. The Alaska Trainship Corp. operated a Liberian flag rail ferry vessel, the M.S. Alaska. It had a capacity for 64 rail cars. Cargoes were transported between Seattle and New Westminster, B.C. by the Burlington Northern Railroad over Canadian trackage. In Canada, the rail cars were loaded aboard the vessel. Cargoes departed Seattle on Thursday evenings and arrived at Whittier the following Sunday where they were rolled off the ferry onto the Alaska railroad for delivery in Anchorage on Monday and Fairbanks on Tuesday. The water transit time was two days and 22 hours.

In 1976, 99,893 short tons of cargo moved out of the Port of New Westminster, B.C. for Whittier, Alaska, or less than .5% of the total Alaska coastwise trade. Table 2A shows the cargoes that moved via British Columbia ports in 1976.

While the Merchant Marine Act of 1920 represents the most explicit of the coastwise trading laws, there are other laws, including the Merchant Marine Act of 1936, that serve to restrict the use of foreign-flag ships, or reserve cargoes specifically for U.S.-flag vessels.

The two most current examples involve conflicts with the Merchant Marine Act of 1936. The first involves waivers to the Act to allow U.S.-flag tankers built with construction subsidy to participate in the Alaska coastwise oil trade. In 1980, seven subsidized U.S.-flag vessels received permission to enter the Alaska trade for up to six months of any 12 month period. Operators of those vessels were required to pay back a pro rata share of the construction subsidy based on the amount of time spent in the Alaska trade. The second issue involves

TABLE 2A
CARGOES MOVING VIA CANADIAN PORTS IN 1976

WHITTIER TO NEW WESTMINSTER, B.C.

COMMODITY	SHORT TONS
911 Fresh Fish	3,419
912 Shellfish	38
2031 Fish, Fish Products	143
3411 Fabricated Metals	35
3511 Machinery	389
4011 Iron and Steel Scrap	1,096
4112 Miscellaneous Shipments	2
TOTAL	5,122

NEW WESTMINSTER, B.C. TO WHITTIER

COMMODITY	SHORT TONS
191 Miscellaneous Farm Prod	15
911 Fresh Fish	126
1494 Gypsum, Crude and Plaster	2,272
1499 Nonmetallic Minerals	170
2042 Prepared Animal Feeds	4,374
2094 Groceries	20,744
2421 Lumber	20,707
2431 Veneer, Plywood	457
2491 Wood Manufactures	1,529
2621 Standard Newsprint Paper	3,182
2631 Paper and Paperboard	184
2810 Sodium Hydroxide	240
2819 Basic Chemicals	2,970
2891 Miscellaneous Chemicals	3,690
2916 Lubricating Oils	99
2918 Asphalt, Tar, Pitches	2,014
2931 Asphalt Building Mat.	48
3211 Glass	143
3241 Building Cement	12,938
3251 Structural Clay Product	26
3291 Miscellaneous Nonmetallic	2,596
3317 Iron and Steel Pipes	3,324
3411 Fabricated Metals	3,985
3511 Machinery	946
3611 Electrical Machinery	62
3731 Ships and Boats	6
4112 Miscellaneous Shipments	7,226
TOTAL	99,893

Source: Simat, Helliesen & Eichner, Inc.

American President Lines' (APL's) bid to amend Sections 506 and 605a of the 1936 Merchant Marine Act to allow subsidized carriers to operate in the domestic western Alaska trade. Neither of these issues specifically involve the Merchant Marine Act of 1920.

Public Law 83-664 requires that at least 50% of all government generated cargo be shipped on privately owned U.S.-flag commercial vessels if such vessels are available at fair and reasonable rates. PL83-664 covers oil being transported into the U.S. for the Strategic Petroleum Reserve.

The Military Transportation Act of 1904 requires that all supplies for the U.S. Armed Services be carried on vessels of U.S. registry or vessels owned by the U.S. With some exceptions, the Military Sealift Command uses U.S.-flag commercial liner service, dedicated charter vessels and its so-called "nucleus fleet" in serving the needs of the U.S. Armed Forces.

The Intercoastal Shipping Act of 1933 requires the filing of tariffs with the Federal Maritime Commission and sets the procedure for regulating rate increases in the domestic non-contiguous trade.

2.5 The Jones Act is not applied uniformly to all U.S. non-contiguous states and territories.

A variety of circumstances and conditions have resulted in differing exceptions to the Jones Act for some territories and states. The third and fourth proviso exceptions to Section 27 of the Merchant Marine Act of 1920 are examples of exceptions that apply to Alaska.

There are other exceptions. For instance, trade with the U.S. island possessions of Guam, Tutuila (American Samoa), Wake, Midway and Kingman Reef may be carried on foreign built U.S.-flag vessels in accordance with 46 USC11.

Of greater interest to Alaska, however, are the circumstances and conditions that govern trade to the Virgin Islands. When the Virgin Islands were first purchased from Denmark, most of its trade was handled by foreign-flag vessels. U.S.-flag carriers did not operate in the Virgin Islands trade with any regularity at the time of the purchase. In providing for the transition, the Virgin Islands were exempted from the Merchant Marine Act of 1920 when Section 21 of that Act extended the jurisdiction of the coastwise laws to the island territories and possessions of the United States. The exemption provided under Section 21 required the President to issue a proclamation yearly to extend the exemption. In 1936 the method of handling the exemption was changed. The Merchant Marine Act of 1936 provided that:

...the coastwise laws of the United States shall not extend to the Virgin Islands of the United States, until the President of the United States shall, by proclamation, declare that such coastwise laws shall extend to the Virgin Islands and fix a date for the going into effect of same.

Since the enactment of the Merchant Marine Act of 1936, there has been no executive action to extend the coastwise laws to the Virgin Islands. As a result, cargoes move between the Virgin Islands and U.S. mainland on foreign-owned ships. The exemption has been used extensively for moving petroleum products.

Because the Jones Act does not apply, Alaska crude oil can be shipped out of Alaska on foreign-flag vessels to a refinery in the Virgin Islands. The product can then be shipped foreign-flag to the U.S. mainland. According to an article in the June 1982 edition of American Shipper, foreign-flag vessels are used exclusively on the Alaska/Virgin Islands leg and a combination of U.S.- and foreign-flag vessels are used on the Virgin Islands/U.S. mainland leg. Data compiled by the Maritime Administration indicates that this route accounts for about 5% to 15% of Alaska oil shipments on a month-to-month basis.

2.6 Various proposed legislation and policy changes may affect the coastwise trading laws and maritime promotion laws.

The Reagan Administration's proposed maritime policy initiatives, as contained in an interdepartmental memo dated 5/3/82 ^{1/}, consisted of a number of steps that affect coastwise laws either directly or indirectly.

Each of the relevant policy proposals is summarized below, with SH&E's comments.

Proposal

Presidential Statement Reaffirming Existing Cargo Preference Law. The President would issue a statement reaffirming the existing laws that mandate partial U.S.-flag carriage of government-impelled cargoes.

Comment

This proposal says nothing and changes nothing. It does indicate that the administration is committed to cargo preference and, by inference, the maintenance of the coastwise cabotage laws.

Proposal

Economic Deregulation of Cabotage Trades. The Federal Maritime Commission (FMC) has published a proposed ruling which would eliminate rate regulation for operators in the cabotage trades (domestic trades covered by the Jones Act). We [the Administration] should file in support of this ruling as a further step in deregulation of ocean shipping. Staff has begun to draft a filing.

^{1/} Memo appeared in July 1982 American Shipper.

Comment

From a practical point of view, deregulation of the non-contiguous trades will effect Alaska very little because most of the state's lower 48 cargoes are shipped on the basis of ICC tariffs. In our judgement, continued deregulation of the Alaska trade is probably in the state's best interest, as the trade with the lower 48 states appears to be competitive for the most part. This situation does not apply to some other non-contiguous states and territories where competition is limited, such as Guam.

Proposal

Extension of Foreign Build for ODS ^{1/} Fleet. It is proposed that the temporary authority established in the fall of 1981 for ODS operators to construct vessels outside the U.S. and still receive ODS for those vessels be extended. This would allow ODS operators, without CDS^{2/}, to replace their existing fleets.

Comment

This has no direct impact on the Alaska trade. However, if the administration is going to make permanent policy of allowing foreign-built ships to be used in the subsidized U.S.-flag fleet, it is an admission that the Administration is no longer willing to pay construction subsidy for higher cost U.S.-built vessels. The State of Alaska can logically ask why the domestic trades, which by law must be served by higher cost, U.S.-built ships which are not benefited by any U.S. subsidy, must then subsidize U.S. shipyards when the Federal Government itself is unwilling to make the subsidy on behalf of the country at large. This administration proposal would require legislative action.

Proposal

Allow Reflagged Vessels Immediate Eligibility to Carry Government-Impelled Cargoes. A required corollary to the above is to remove the present requirement that foreign-built or rebuilt vessels must be documented under the laws of the United States for three years before they can carry government-impelled cargoes under the provisions of PL664.

Comment

This is a further relaxation of the U.S. tradition of requiring the merchant fleet to be built in domestic yards. It adds still more logic to an argument to extend this relaxation to the domestic trades. This administration proposal requires legislation.

^{1/} Operating Differential Subsidy.

^{2/} Construction Differential Subsidy.

Proposal

Foreign Investment in U.S.-Flag Shipping. Increasing the allowed percentage of foreign ownership in U.S.-flag ships from 49% to 75% would attract needed capital to the industry. The proposal calls for U.S. citizen control of management and the board of directors.

Comment

No direct impact on Alaska although it might facilitate an infusion of foreign capital into Alaska's marine infrastructure. This administration proposal will require legislation.

Proposal

Extend the Capital Construction Fund (CCF) to Inland Waterway, Coastwise and Intercoastal Operators. The tax deferral privileges of the CCF would be extended to all operators in domestic commerce in order to facilitate the replacement of their fleets.

Comment

This would allow Alaska trade carriers to defer income tax on earnings set aside for new vessel construction. This would reduce costs in the Alaska trade and encourage replacement of equipment so it would be in the state's best interest. This administration proposal would require legislation.

Proposal

Allow U.S.-Controlled Foreign Corporations to Use U.S.-Flag Vessels Without Tax Penalty. U.S.-controlled flag-of-convenience operators would be allowed to operate U.S.-flag vessels under lease without tax penalty in the same manner they operate foreign-flag vessels. These leases would be entitled to the tax advantages of the 1981 Tax Act.

Comment

It is not clear what impact this would have on the Alaska trade, if any. Presumably, any action that enhances the attractiveness of U.S.-built vessels will ultimately bring the cost of U.S. vessels down relative to foreign-built vessels. This administration proposal requires legislation.

Proposal

Longshoremen's and Harbor Workers Compensation Act. Changes in this act would reduce the cost of building ships in the United States. (Shipyard workers are covered by the act.) Under this proposal, DOT would join with the Department of Labor in endorsing needed changes through the vehicle of legislation now under consideration on the Hill.

Comment

Any action that will reduce the cost of U.S.-built ships is in the best interest of the state.

Deferred Proposal

Extend the Jones Act to the U.S. Virgin Islands Petroleum Trades. This proposal would result in U.S.-flag carriage of Alaskan crude oil now going in foreign vessels from Alaska to the Virgin Islands and complete U.S. carriage of petroleum products now carried partly by foreign vessels from the Virgin Islands to the mainland. It would provide employment opportunity for 9-15 U.S.-flag vessels, but it would cost the oil company involved an estimated \$20 million annually.

Comment

The key concern for the State of Alaska, other than the issue of oil revenues, is the pressure on the administration not only to maintain the Jones Act but increase its scope. Note that it is suggested in the proposal that the repeal of the Jones Act exception for the Virgin Islands would provide employment for 9-15 U.S.-flag vessels. This proposal conflicts with the Administration's Caribbean basin policy, so extension of the Jones Act to the Virgin Islands appears unlikely. Note that this proposal was "deferred" by the Administration.

3. ANALYSIS OF THE JONES ACT FLEET

The purpose of the chapter is to identify the so-called Jones Act fleet and determine what percentage of that fleet is engaged in the Alaska trade.

3.1 The Jones Act fleet is that portion of the U.S.-flag merchant fleet that is U.S.-built and does not receive subsidy.

In identifying the Jones Act fleet, it is first necessary to define the terms. For purposes of this analysis, the total U.S. merchant fleet is determined to be all U.S.-flag, privately owned, self-propelled vessels of 1,000 gross tons or more. This is a commonly accepted definition and is appropriate for this analysis. It does exclude certain tugs and barges that serve the Alaska trade.

The Jones Act fleet consists of those vessels that are eligible to engage in the coastwise trade. Generally, that includes any vessels built in the U.S., under U.S. ownership, registered under the laws of the U.S., and not restricted because of subsidy status. Vessels that have received Construction Differential Subsidy (CDS) or are receiving Operating Differential Subsidy (ODS) from the Maritime Administration cannot serve the cabotage or coastwise trade without special waivers — they are generally limited to international trades.

Because the content of the U.S. fleet and the Jones Act fleet varies over time, the analysis was done on the status of the fleet on January 1, 1982.

3.2 Jones Act vessels constitute 56.7% of the U.S. privately owned fleet.

As shown in Table 3A, the total U.S. privately owned fleet consists of 575 self-propelled merchant vessels over 1,000 gross tons. Of this number, 280 are classified as dry cargo freighters, the remaining 295 are tankers. Of this total, 326 or 56.7% of the fleet are classified as Jones Act vessels.

Table 3A also compares the fleets in terms of their deadweight tonnage (DWT). DWT reflects the fleet's carrying capacity in tons. This analysis shows that the Jones Act fleet constitutes 60.7% of the carrying capacity of the nation's active privately owned fleet.

3.3 Ninety-four Jones Act vessels participated in the Alaska trade from December 1981 - January 1982.

In order to get an accurate count of vessels plying the Alaska trade, an accounting was made of all vessels that called at Alaska during the months of December 1981 and January 1982. This allowed enough time for vessels engaged in the trade to complete voyages and therefore be included in the total.

TABLE 3A

**PROPORTION OF JONES ACT VESSELS TO TOTAL U.S.-FLAG
PRIVATELY-OWNED SELF-PROPELLED VESSELS
OF 1,000 GROSS TONS OR MORE
JANUARY 1, 1982**

Number of Vessels				DWT (000)			
	<u>Jones Act</u>	<u>Total</u>	<u>%</u>	<u>Jones Act</u>	<u>Total</u>	<u>%</u>	
A. DRY CARGO							
01	Freighter	7	54	13.0	77.1	669.2	11.5
04	Bulk Carrier	9	13	69.2	222.8	329.7	67.6
05	Combo Passenger	3	3	100.0	20.0	20.0	100.0
06	Combo Refrig	-	4	0.0	-	37.4	0.0
09	Container	33	102	32.4	485.7	1,976.8	24.6
24	Collier	1	1	100.0	24.3	24.3	100.0
53	Container/Barge	-	18	0.0	-	682.3	-
54	Container/Car	2	2	100.0	36.1	36.1	100.0
58	Partial Container	-	54	0.0	-	768.9	0.0
59	Roll-On/Roll-Off	11	23	47.8	164.3		50.4
73	Bulk/Oil	1	1	100.0	15.2	15.2	100.0
78	Ore/Bulk/Oil	-	2	0.0	-	164.4	0.0
87	Tug/Barge-Bulk	3	3	100.0	73.5	73.5	100.0
	Total	70	280	25.0	1,119.0	5,123.7	21.8
B. TANKERS							
02	Tankers	229	257	89.1	11,012.2	14,777.3	74.5
22	LPG Tanker	3	3	100.0	84.4	84.4	100.0
26	Tug/Barge-Tank	6	9	66.7	186.9	309.9	60.3
30	Asphalt Tanker	2	2	100.0	31.4	31.4	100.0
33	Chemical Tanker	6	6	100.0	164.8	164.8	100.0
34	LNG Tanker	5	13	38.5	357.3	928.1	38.5
38	Sulphur Tanker	5	5	100.0	113.3	113.3	100.0
	Total	256	295	86.8	11,950.3	16,409.2	72.8
C. TOTAL							
		326	575	56.7	13,069.3	21,532.9	60.7

Source: U.S. Maritime Administration.

Table 3B lists all vessels calling at Alaska by name in five categories:

- Tankers calling at Valdez
- Tankers calling at other Alaskan ports
- Containerships (vessels carrying standardized containers)
- Ro/Ro vessels (vessels carrying trailers and other wheeled cargo)
- Tankers transiting Panama Canal with Alaska oil

3.4 The Alaska trade fleet accounts for 28.8% of the Jones Act fleet.

The Alaska trade fleet of six ^{1/} dry cargo freighters and 88 tankers constitutes 28.8 percent of the Jones Act fleet. Table 3C shows the numbers of vessels and aggregate deadweight tonnage in both categories of vessels. Note that the Alaska trade fleet constitutes 16% of the active U.S.-flag privately owned fleet.

A comparison of Tables 3A and 3C shows that the dry cargo freighters in the Jones Act fleet are generally smaller and more specialized than the total fleet.

Among tankers, the Jones Act fleet constitutes 86.8% of the total U.S. fleet. Here again the Jones Act ships are smaller.

The Alaska trade dry bulk freighters constitute only 8.6% of the total Jones Act eligible freighters. The containerships are smaller than those generally found in the Jones Act fleet and the Ro/Ro ships are larger.

Among tankers, the Alaska trade fleet is made up of 34.4% of the total Jones Act fleet, but has 54% of the carrying capacity. This is because tankers in Alaska service are larger than the fleet average.

^{1/} Includes Sea-Land and TOTE; excludes barges services.

TABLE 3B

LIST OF COASTWISE VESSEL CALLINGS ON ALASKA December 1981 - January 1982

NAME	(000) DWT	NAME	(000) DWT	NAME	(000) DWT
<u>Tankers Calling at Valdez, Alaska</u>		<u>Tankers Calling at Other Alaska Ports</u>			
1. American Sun	88.7	1. Alaska Standard	2.7	15. Eastern Sun	38.2
2. American Independence	262.4*	2. Santa Paula	34.9	16. Golden Gate	62.1***
3. Arco Alaska	128.4	3. Sasinema II	70.5	17. Gulf King	34.7
4. Arco Anchorage	128.6	4. Cornucopia (LPG)	23.7	18. Gulf Prince	33.1
5. Arco California	128.6	5. Chevron Colorado	34.5	19. Gulf Queen	34.7
6. Arco Fairbanks	128.6	6. Chevron Mississippi	70.2	20. Mobil Fule	31.2
7. Arco Juneau	128.6	7. Sierra Madre	37.5	21. Mobile Power	31.0
8. Arco Sag River	70.4		274.0	22. Mobilgas	20.9
9. Day Ridge	225.0**			23. Mount Washington	49.3
10. HT Alaska	100.1	<u>Containerships Calling at Alaska Ports</u>		24. Ogden Challenger	33.3
11. BT San Diego	100.1	1. Aleutian Developer	2.3	25. Ogden Champion	37.9
12. Brooks Range	173.4	2. Newark	9.3	26. Ogden Leader	37.0
13. Chevron Arizona	34.5	3. Philadelphia	9.4	27. Ogden Wabnah	37.9
14. Chevron California	70.2	4. Portland	9.7	28. Ogden Willamette	37.9
15. Exxon Baton Rouge	75.6		30.7	29. Overseas Alaska	62.0
16. Exxon Bencala	172.8	<u>Roll-On/Roll-Off Vessels Calling at Alaska Ports</u>		30. Overseas Aleutian	39.0
17. Exxon Houston	67.9	1. Great Land	16.1	31. Overseas Anchorage	47.4
18. Exxon New Orleans	67.0	2. Westward Venture	17.9	32. Overseas Arctic	62.0
19. Exxon North Slope	173.4		34.0	33. Overseas Chicago	90.6***
20. Exxon Philadelphia	75.6	<u>Tankers Transiting Panama Canal With Alaskan Oil</u>		34. Overseas Joyce	46.9
21. Exxon San Francisco	75.6	1. Achilles	41.2	35. Overseas Natalie	67.2
22. Glacier Bay	81.0	2. American Eagle	33.1	36. Overseas New York	90.4
23. Golden Gate	62.1	3. Arco Heritage	50.0	37. Overseas Ohio	90.6***
24. Kenai	123.1	4. Arco Prudhoe Bay	70.4	38. Overseas Villa	35.7
25. Keystone Canyon	173.4	5. Arco Texas	70.2	39. Overseas Valdez	37.0
26. Manhattan	113.9	6. Baltimore Trader	57.9	40. Overseas Vivian	37.0
27. Maryland	264.1*	7. Chevron Arizona	34.5***	41. Overseas Washington	90.5***
28. Mobil Arctic	129.0	8. Chevron Louisiana	39.5	42. Pennsylvania Sun	50.9
29. Mobile Meridian	49.2	9. Colorado	30.4	43. Petersburg	50.1
30. Mobiloli	30.1	10. Connecticut	37.6	44. Philadelphia Sun	37.5
31. Overseas Boston	123.7	11. Cove Communicator	31.9	45. Texaco Florida	42.0
32. Overseas Chicago	90.0	12. Cove Leader	67.4	46. Texaco New York	42.9
33. Overseas Juneau	120.0	13. Cove Spirit	25.2	47. Texas Sun	50.9
34. Overseas Ohio	90.6	14. Dina	30.3	48. Washington Trader	41.0
35. Overseas Washington	90.5				2,252.3
36. Prince William Sound	123.4				
37. Sohio Interpid	20.6				
38. Sohio Resolute	80.8				
39. Thompson Pass	173.4				
40. Tonsina	122.9				
41. Williamsburg	225.1*				
	5,107.4				

* Vessel built with CDS.
** CDS repair.
*** Also calling at Valdez.

TABLE 3C

**U.S.-FLAG PRIVATELY OWNED SELF-PROPELLED VESSELS
OF 1,000 GROSS TONS OR MORE
January 1, 1982**

	Number of Vessels			DWT (000)		
	Serving Alaska	Total Jones Act	% Serving Alaska	Serving Alaska	Total Jones Act	% Serving Alaska
A. FREIGHTERS						
09 Containerships	4	33	12.1	30.7	485.7	6.3
59 Roll-On/Roll-Off	2	11	18.2	34.0	164.3	20.7
Other	-	26	-	-	469.0	-
Total	6	70	8.6	64.7	1,119.0	5.8
B. TANKERS						
02 Tankers	87	229	38.0	6,490.1	11,012.2	58.9
22 LPG Tankers	1	3	33.3	23.7	84.4	28.1
Other	-	24	-	-	853.7	-
Total	88	256	34.4	6,513.8	11,950.3	54.5
C. TOTAL JONES ACT FLEET	<u>94</u>	<u>326</u>	<u>28.3</u>	<u>6,578.5</u>	<u>13,069.3</u>	<u>50.3</u>

Note: Three large tankers built with CDS totalling 751,600 DWT also operated in the Alaskan trade in this period under permission granted by the Maritime Administration pursuant to 46 CFR 250.

Source: U.S. Maritime Administration.

4. ANALYSIS OF ALASKA TRADE

The purpose of this chapter is to identify relevant cargo flows in the Alaska trade and to characterize and define the Alaska coastwise trade.

4.1 There are three data bases available for determining cargo flow patterns to and from Alaska.

There are several data bases that can be referenced to identify key traffic flows in the Alaska trade. The most widely used is Waterborne Commerce of the U.S., published yearly by the U.S. Army Corps of Engineers. The most recent available published data from the Corps of Engineers is for 1979.^{1/}

In addition, the U.S. Department of Transportation, Maritime Administration publishes Domestic Waterborne Trade of the U.S. 1975-1979 which can be used to augment the Corps' data. Although these data provide unique comparisons, they are also taken from the Corps' Waterborne Commerce data base.

Other data are available including the Bureau of Census Import and Export series and the 1972 and 1977 Census of Transportation Surveys. However, these data were not considered relevant to a study of the Jones Act trade and were, therefore, not used.

Also useful for this study is an SH&E proprietary data base showing Alaska port-to-port commodity data for the year 1976. Although these data are somewhat out of date, no other port-to-port data are available, and this data base, therefore, gives a unique picture of waterborne cargo flow patterns within Alaska and between Alaska and the other 49 states and territories.

There are some minor inconsistencies among the various data bases.

4.2 Alaska's interstate trade accounts for 47.5% of Alaska's waterborne activity when Valdez crude oil is excluded.

The Corps of Engineers publishes detailed data for traffic moving into and out of 10 key Alaska ports. These data identify foreign exports as well as coastwise and intrastate (internal) movements. They are summarized in Table 4.1.

As might be expected, Alaska's waterborne commerce is dominated by crude oil shipments from Valdez. Valdez shipments accounted for 89.5% of Alaska's total port activity in 1979.

When Valdez crude oil shipments are subtracted from the total, a more useful distribution of cargo is provided. As shown in Figure 4A, Alaska's waterborne commerce (excluding Valdez crude oil shipments) is 34.5% foreign imports and exports, 47.5% coastwise receipts and shipments, and 18% internal receipts and shipments. The relationship of total foreign, coastwise, and internal

^{1/} The Corps of Engineers does have preliminary data for 1980. Final data for 1980 were not available for this study.

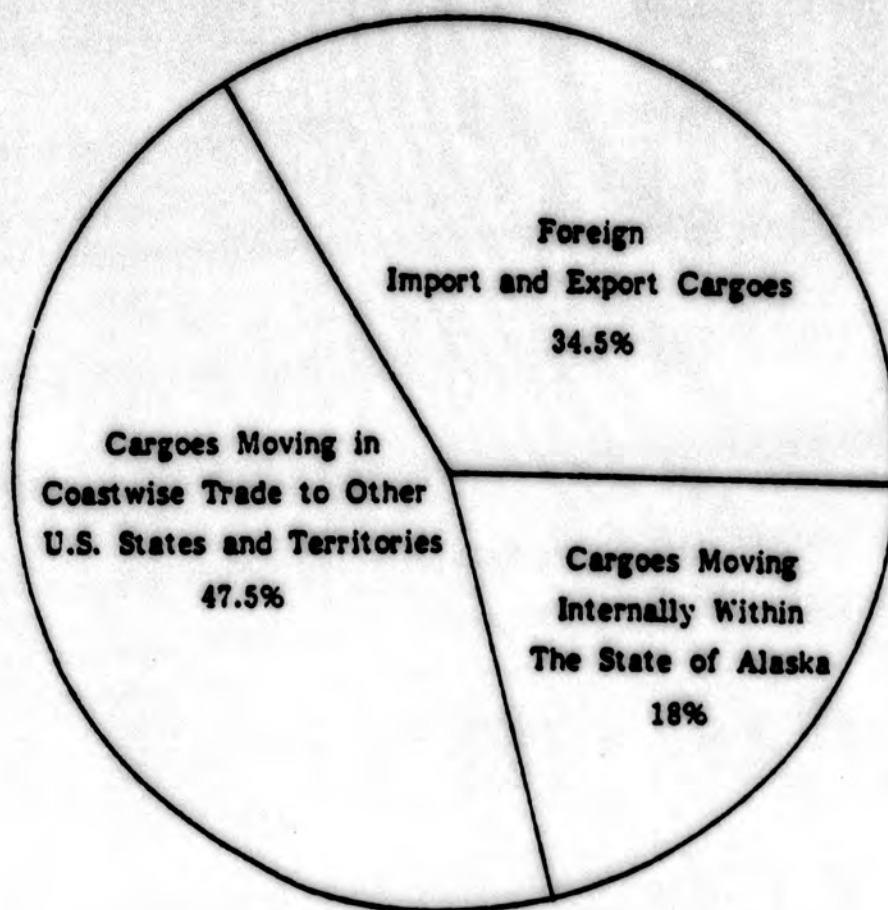
TABLE 4A
CORPS OF ENGINEERS TOP TEN ALASKA PORTS, 1979
(Short Tons of Cargo)

	<u>Foreign Import</u>	<u>Foreign Export</u>	<u>Coastwise Receipt</u>	<u>Coastwise Shipment</u>	<u>Internal Receipt</u>	<u>Internal Shipment</u>	<u>Local</u>
Metlakatla Harbor	1,909	165,983	3,367	5,026	176,096	69,775	—
Ketchikan Harbor	493,204	433,478	381,499	78,833	573,945	162,824	78,234
Wrangell Harbor	40	206,872	7,592	5,094	10,220	79,066	—
Wrangell Narrows	—	1,351	825	5,115	—	—	—
Sitka Harbor	82	165,033	171,769	40,780	139,883	2,638	662
Skagway Harbor	739,518	45,293	3,383	144	11,598	271	—
Valdez Harbor	—	47,910	180,989	65,223,519	—	—	—
Anchorage	321,219	8,315	1,182,530	126,020	—	—	663
Kodiak Harbor	315	16,114	509,338	406,759	—	—	—
Iliuliuk Harbor ^{1/}	<u>4,480</u>	<u>42,888</u>	<u>269,797</u>	<u>166,699</u>	<u>—</u>	<u>—</u>	<u>96,193</u>
TOTALS	1,560,767	1,133,237	2,711,089	66,057,989	911,742	314,574	175,752

^{1/} Unalaska

Source: U.S. Army Corps of Engineers, Waterborne Commerce of the U.S., 1979.

FIGURE 4A
CARGO ACTIVITY OF CORPS OF ENGINEERS TOP 10 ALASKA PORTS
(EXCLUDING CRUDE OIL AT VALDEZ)
BASED ON TONS OF CARGO SHIPPED AND RECEIVED
1979



	<u>Volume</u>	<u>Percent</u>	<u>Volume Without Valdez Crude Oil</u>	<u>Percent</u>
Total	72,865,150	100.0%	7,794,544	100.0%
Foreign	2,694,004	3.7	2,694,004	34.5
Coastwise	68,769,078	94.3	3,698,472	47.5
Internal	1,402,068	2.0	1,402,068	18.0

Source: SH&E

movement of the top 10 Alaska ports is shown in Figure 4A. Excluding crude oil shipments, the activity of the top 10 Alaska ports includes approximately 60% of the state's total waterborne commerce.

4.3 Alaska's domestic trade moves primarily among Alaska ports, and between Alaska ports and the Pacific Northwest and California.

For purposes of this analysis, the data are divided into dry cargo and tanker shipments or, basically, petroleum and non-petroleum cargoes.

Tables 4B and 4C show the states of origin and destination of cargoes moving to and from Alaska. These relationships are shown graphically in Figures 4B and 4C.

Coastwise dry cargo shipments out of Alaska move primarily to the Pacific Northwest (Seattle and Tacoma). Of the total dry cargo shipments 51.2% move to the Pacific Northwest. California receives 15.9% and internal shipments within Alaska account for the remaining 32.9%.

Tanker movements from Alaska are destined primarily for refineries in California that account for 62.5% of the tanker shipments. Panama, the Pacific Northwest, and Hawaii also receive varying amounts of Alaska crude based on the 1979 data.

Coastwise dry cargo shipments to Alaska originate almost exclusively in the Pacific Northwest (77.3%, as shown in Table 4C). 22.6% is shown as being received from other Alaska ports. It should be noted that, for the top ten ports, the portion of Alaska internal (non-petroleum) cargo was 18%, whereas for the entire state it was 32.9% (shipments) and 22.6% (receipts). This reflects the fact that much of the cargo to and from Alaska's smaller ports is moved through the larger ports. In other words, a very high proportion of the cargo moving to and from Alaska's smaller ports is internal or intrastate cargo.

Tanker cargo being received in Alaska consists of petroleum products for consumption in the state. As can be seen from Table 4C, petroleum products flow almost exclusively from California; a high percentage is redistributed from larger to smaller Alaska ports.

Figures 4B and 4C show that non-self propelled vessels constitute a large percentage of the cargo flows in both directions except for crude oil movement out of Alaska.

Table 4D shows the pattern of cargo receipts in the coastwise trade. Anchorage is the primary receiving port for consumer products, building materials and food. Whittier also serves the Anchorage market with the same categories of cargo. Most of the high volume cargoes (commodities registering annual volumes of 10,000 tons or more) moving into Alaskan ports other than Anchorage and Whittier, consist of petroleum products.

Table 4E shows the distribution of high volume cargoes out of Alaska ports. These data reflect the movement of logs, wood products, fish, crude oil and miscellaneous chemicals out of Alaska ports, as well as the redistribution of petroleum products.

TABLE 4B

**COASTWISE CARGO SHIPMENTS FROM ALASKA
TO OTHER POINTS IN THE U.S., INCLUDING ALASKA
(Short Tons)**

1979

DRY CARGO

	<u>N. Atlantic</u>	<u>California</u>	<u>Pacific N.W.</u>	<u>Alaska</u>	<u>Total</u>	<u>Percent</u>
Self-propelled	22	129,079	380,406	366,885	876,392	61.9%
Non self-propelled ^{1/}	—	95,192	343,693	98,671	537,556	38.1
TOTAL	22	224,271	724,099	465,556	1,413,948	100.0%
PERCENT	>1	15.9	51.2	32.9	100.0%	

TANKER

	<u>North Atlantic</u>	<u>Gulf</u>	<u>California</u>	<u>Pacific N.W.</u>	<u>Hawaii</u>	<u>Alaska</u>	<u>Virgin Islands</u>	<u>Panama ^{2/}</u>	<u>Total</u>	<u>Percent</u>
Self-propelled	122,709	141,864	41,262,929	9,832,980	2,246,805	445,958	131,111	11,419,688	65,604,044	99.4%
Non self-propelled ^{1/}	—	—	—	38,613	—	368,796	—	—	407,409	.6
TOTAL	122,709	141,864	41,262,929	9,871,593	2,246,805	814,754	131,111	11,419,688	66,011,453	100.0%
PERCENT	.2	.2	62.5	15.0	3.4	1.2	.2	17.3	100.0%	

^{1/} Barges^{2/} Most shipments to Panama are reloaded on smaller vessels for onward movement to the Gulf.Source: Maritime Administration, Domestic Waterborne Trade 1978-1979.

TABLE 4C

**COASTWISE CARGO SHIPMENTS TO ALASKA
FROM OTHER POINTS IN THE U.S., INCLUDING ALASKA
(Short Tons)**

1979

DRY CARGO

	<u>S. Atlantic</u>	<u>Gulf</u>	<u>Pacific N.W.</u>	<u>Alaska</u>	<u>Total</u>	<u>Percent</u>
Self-propelled	1,922	68	920,093	366,885	1,288,968	62.6%
Non self-propelled	—	—	672,992	98,671	771,663	37.4
TOTAL	1,922	68	1,593,085	465,556	2,060,631	100.0%
PERCENT	<1	<1	77.3	22.6	100.0%	

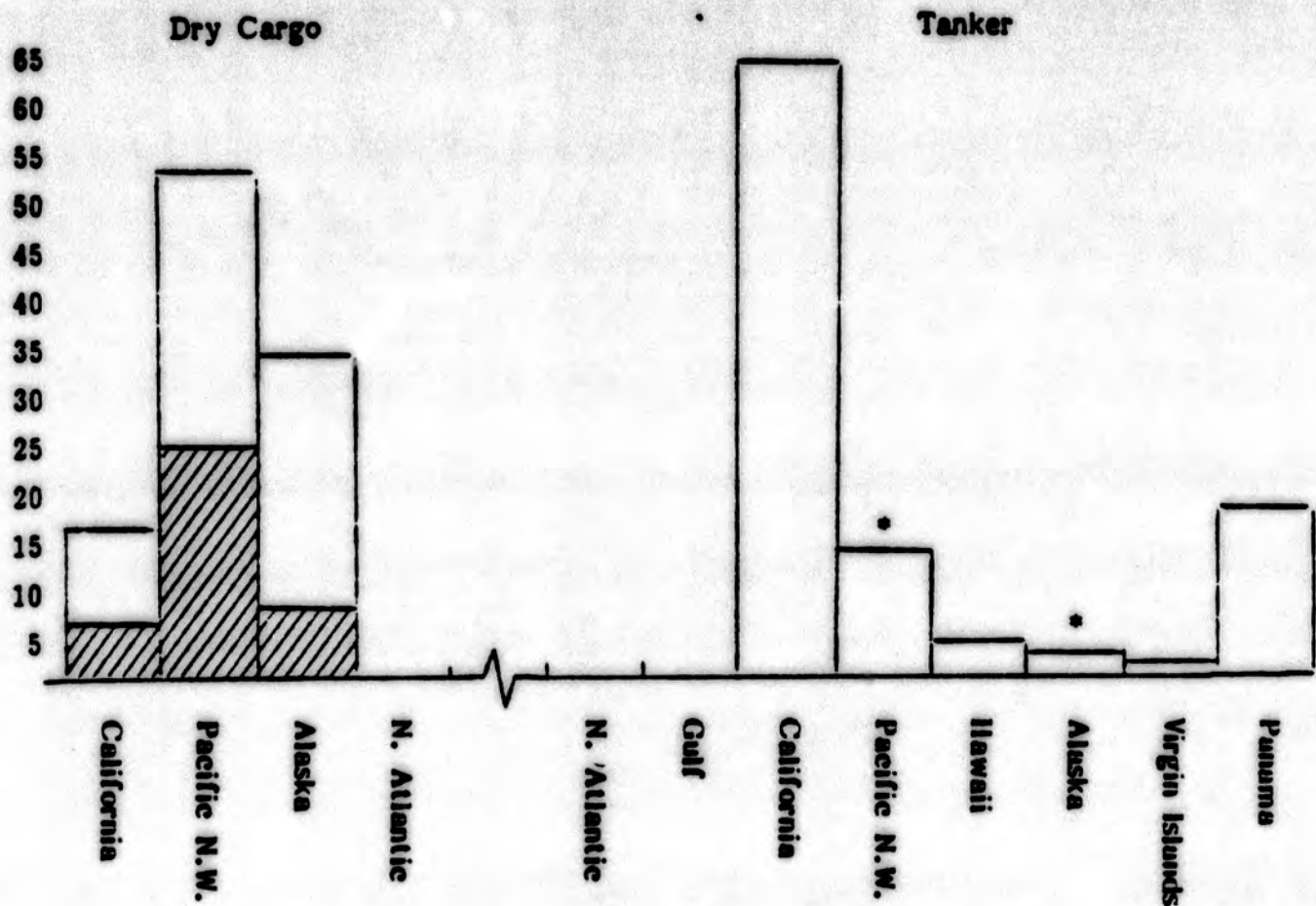
TANKER

	<u>California</u>	<u>Pacific N.W.</u>	<u>Alaska</u>	<u>Total</u>	<u>Percent</u>
Self-propelled	592,856	14,951	445,958	1,053,765	58.4%
Non self-propelled	382,832	—	368,796	751,628	41.6
TOTAL	975,688	14,951	814,754	1,805,393	100.0%
PERCENT	54.0	1.0	45.0	100.0%	

Source: Maritime Administration, Domestic Waterborne Trade 1975-1979.

FIGURE 4B
COASTWISE TRADE
SHIPPED FROM ALASKA IN SHORT TONS
1979

Percent Moving to Key Locations



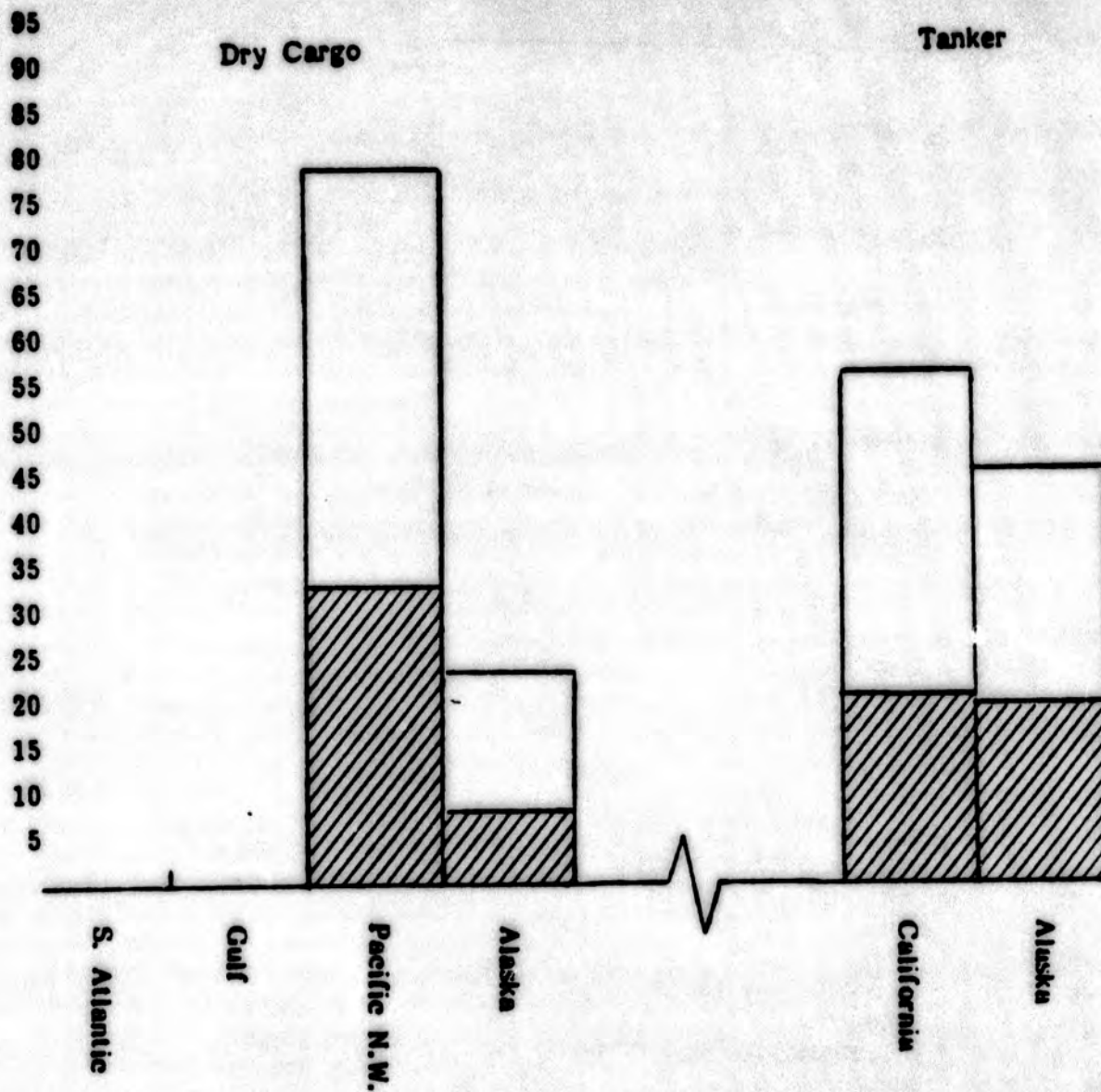
 = non self-propelled vessels

* = small percentage non self-propelled vessels

Source: SH&E

FIGURE 4C
COASTWISE TRADE
SHIPPED TO ALASKA IN SHORT TONS
1979

Percent Coming From Key Locations



 = non self-propelled vessels

Source: SH & E

TABLE 4D

1979 ALASKA COASTWISE TRADE RECEIVING PORTS

(Listing of Commodities of 10,000 Short Tons
or More Annual Volume)

<u>Commodity No.</u>	<u>Commodity</u>	<u>Short Tons</u>
KETCHIKAN		
2911	Gasoline	43,538
2912	Jet Fuel	33,060
2914	Distillate	145,726
2915	Residual	43,805
2916	Lubricating Oil	32,376
SITKA		
2810	Sodium Hydroxide	35,457
2819	Basic Chemicals	10,945
2891	Miscellaneous Chemical Products	12,431
2915	Residual Fuel Oil	71,292
VALDEZ		
2911	Gasoline	35,701
2914	Jet Fuel	26,160
2914	Distillate	116,286
ANCHORAGE		
0141	Fresh and Frozen Vegetables	15,836
1121	Coal and Lignite	10,329
2011	Meat, Fresh, Frozen, Chilled	17,776
2021	Dairy Products	16,734
2081	Alcoholic Beverages	37,936
2094	Groceries	93,346
2099	Miscellaneous Food Products	35,497
2421	Lumber	36,733
2431	Veneer Plywood	15,777
2511	Furniture and Fixtures	27,829
2911	Gasoline	126,949
2913	Kerosine	153,339
2918	Asphalt, Tar	22,980
2991	Petroleum and Coal Products	12,453
3241	Building Cement	59,212
3291	Miscellaneous Nonmetallic Minerals	29,175
3317	Iron and Steel	11,636
3411	Fabricated Metal Products	29,428
3711	Motor Vehicles	16,193

- continued -

TABLE 4D (Continued)

<u>Commodity No.</u>	<u>Commodity</u>	<u>Short Tons</u>
KODIAK		
1121	Coal and Lignite	12,010
2031	Fish and Shellfish, Prepared	72,987
2081	Alcoholic Beverages	18,617
2912	Jet Fuel	10,654
2914	Distillate Fuel	38,951
2915	Residual Fuel Oil	23,610
ILIULIUK		
2911	Gasoline	50,738
2913	Kerosene	63,319
2914	Distillate Fuel Oil	132,063
BETHEL		
2912	Jet Fuel	16,081
2991	Petroleum and Coal	15,606
CORDOVA		
2914	Distillate Fuel Oil	13,610
DILLINGHAM		
2911	Gasoline	13,663
HOMER		
2911	Gasoline	64,446
2915	Residual Fuel Oil	32,444
JUNEAU		
2094	Groceries	11,800
2911	Gasoline	24,882
2914	Distillate Fuel Oil	40,938
2921	Liquefied Gases	33,720

- continued -

TABLE 4D (Continued)

<u>Commodity No.</u>	<u>Commodity</u>	<u>Short Tons</u>
NAKNEK RIVER		
2911	Gasoline	16,450
2914	Distillate Fuel Oil	11,802
PETERSBURG		
2914	Distillate Fuel Oil	12,391
SEWARD		
2914	Distillate Fuel Oil	13,158
2421	Lumber	11,307
WHITTIER		
2081	Alcoholic Beverages	14,432
2421	Lumber	21,718
2891	Miscellaneous Chemicals	11,528
3317	Iron and Steel Pipe	11,094
3411	Fabricated Metal Products	12,440
3511	Machinery, except electrical	17,059
4011	Iron and Steel Scrap	19,970

Source: U.S. Corps of Engineers, Waterborne Commerce of the United States, 1979.

TABLE 4E
1979 ALASKA COASTWISE TRADE SHIPPING PORTS
 (Listing of Commodities of 10,000 Short Tons
 or More Annual Volume)

<u>Commodity No.</u>	<u>Commodity</u>	<u>Short Tons</u>
KETCHIKAN		
2611	Pulp	49,600
SITKA		
2611	Pulp	23,207
VALDEZ		
1311	Crude	65,070,606
2911	Gasoline	39,418
2912	Jet Fuel	13,399
2914	Distillate Fuel Oil	95,972
ANCHORAGE		
2031	Fish and Shellfish, prepared	22,974
3511	Machinery, except electrical	12,238
3711	Motor Vehicles	10,299
3911	Miscellaneous Manufactured Products	19,812
4112	Commodities, NEC ^{1/}	28,032
KODIAK		
2031	Fish and Shellfish, prepared	75,605
2081	Alcoholic Beverages	16,281
4112	Commodities, NEC ^{1/}	223,896
ILIULIUK		
2031	Fish and Shellfish, prepared	13,615
2911	Gasoline	32,098
2912	Jet Fuel	42,646
2914	Distillate Fuel Oil	48,389
CORDOVA		
2031	Fish and Shellfish, prepared	15,232

^{1/} Not Elsewhere Classified

- continued -

TABLE 4E (Continued)

<u>Commodity No.</u>	<u>Commodity</u>	<u>Short Tons</u>
DILLINGHAM		
2031	Fish and Shellfish, prepared	12,204
HOMER		
2411	Logs	42,617
2871	Nitrogenous Chemicals	32,039
JUNEAU		
4112	Commodities, NEC	10,230
KING COVE		
2031	Fish and Shellfish, prepared	12,224
NAKNEK RIVER		
2031	Fish and Shellfish, prepared	10,746
PETERSBURG		
2416	Wood Chips	13,787
SEWARD		
2416	Wood Chips	16,278
OTHER SOUTHEASTERN ALASKA PORTS		
2411	Logs	77,797
2412	Rafted Logs	849,638
2416	Wood Chips	33,578
2421	Lumber	32,830

TABLE 4E (Continued)

<u>Commodity No.</u>	<u>Commodity</u>	<u>Short Tons</u>
SOUTHERLY SIDE OF ALASKA PENINSULA		
1311	Crude Petroleum	5,089,260
2411	Logs	197,017
2416	Wood Chips	84,855
2421	Lumber	28,097
2819	Basic Chemicals	17,453
2871	Nitrogenous Chemical Fertilizers	629,260
2921	Liquefied Gases	1,110,877

Source: U.S. Corps of Engineers, Waterborne Commerce of the United States, 1979.

5. U.S.-FLAG VS. FOREIGN-FLAG OPERATING COSTS

The purpose of this chapter is to compare U.S.-flag and foreign-flag vessel operating costs for typical Alaska coastwise services.

5.1 The methodology used in this analysis compared U.S.-flag and foreign-flag costs on existing service routes.

The methodology employed in this analysis relies on a computer model that simulates vessel service systems. In other words, the model accepts vessel characteristics, service characteristics, and basic cost data and then calculates the total cost of providing a service. This cost is then divided by the units carried to provide a cost per unit. This cost per unit then becomes the required freight rate, hereinafter referred to as RFR, that must be earned to sustain the service. This means that the weighted average rate per unit of all of the commodities carried in the service must equal or surpass the calculated RFR. The computer model is called a Required Freight Rate or RFR Model.

All ocean carriers experience the same types or categories of costs. The actual costs themselves may vary widely depending on the flag of registry, the size of vessel, the size of the crew, the type of propulsion and the efficiency of management.

In general terms, ocean shipping involves costs in the following categories:

- Capital
- Manning and Subsistence
- Fuel
- Maintenance and Repair (M&R)
- Supplies and Equipment
- Insurance
- Cargo Handling
- Other Port Costs
- Agency, Brokerage, and Commission
- Waterway Tolls and Pilot Fees
- Corporate Overhead

There are exceptions, however. For example, tanker movements seldom involve meaningful cargo handling costs, because this function is provided by shipboard pumps, the cost of which is already part of other cost categories. Other types of shipping have other costs, e.g., container ownership in the case of container systems.

In this study we have selected a cross-section of service routes in the Alaska coastwise trade and have estimated the underlying cost elements for both U.S.-flag vessels and hypothetical foreign-flag vessels. The service is the same for both vessels; only the flag of registry of the vessels differs.

It is important to note that although the routes and service systems selected are similar to those already in existence in the Alaska trades, the underlying costs employed in the RFR model are independent estimates. The study team did not have access to proprietary cost data from U.S. companies currently serving the Alaska trade. The team did have access to generalized U.S.-flag and foreign-flag cost data from which average or typical underlying costs were constructed. For example, U.S. (and some foreign) data on manning and construction costs are available from MarAd. A number of publications track shipbuilding costs (indices). Fuel cost is published in price lists by oil companies. Obviously, in many instances professional judgment was also required in estimating specific cost elements for both U.S. and foreign-flag operations.

The reader should also be reminded that while competition and value of service, or "what the traffic will bear," establish short term freight rates for each commodity, costs set the limits for freight rates in the long term. In other words, although cost and rate may not be the same or even similar for any given commodity at any given time, in the long run (and/or over a mixture of commodities carried in the same service), rates are, in fact, cost determined. Put another way, over time, rates will fluctuate but will tend to average out at the level of costs.^{1/} Hence, the cost-based RFR method is a valid approach for determining the relative impact of differing governmental policies which affect the long term character of a shipping market.

To give an example, in the liner trades a carrier may sometimes have excess capacity. Since he is committed to a schedule, he will sometimes drop the rate on one or more commodities to less than the total cost of carrying those commodities in order to attract business. As long as the reduced rate covers the out-of-pocket cost of carrying the commodity and makes a contribution to system costs, the carrier is better off than if it had not carried the cargo. He does this, of course, only with the knowledge that at some other time, he will be able to recover the loss, and thus generate long term revenues in line with long term costs. There are obvious dangers associated with this type of pricing, as well as inequities. Most liner carriers maintain a mix of rates on commodities, and raise and lower rates at various times. Therefore, some rates may be substantially higher than the full cost of moving the cargo, and others may be less. The result is that actual rates vary above and below the average cost of service calculated at any point in time. But revenues as a whole will track costs; the introduction of cost changes in a trade will be reflected in rates proportionally.

The RFR model was used to calculate costs for eight services, as follows:

Service	Commodity
Containership - Anchorage/Seattle	Consumer items and fish/fish products
Ro/Ro ship - Anchorage/Tacoma	Consumer items and motor vehicles
VLCC - Valdez/Los Angeles	Crude oil
VLCC - Valdez/Panama	Crude oil
Handy-Size Tanker - Panama/Gulf	Crude oil
Product Tanker - Los Angeles/Anchorage	Petroleum products
Tug Barge - Whittier/Seattle	Building materials and general cargo
Bulk Carrier - Ketchikan/Seattle	Logs and ore

^{1/} See Martingale, pg. 2.40

5.2. There are a variety of technical factors and overlapping market sectors that make the maritime transportation industry complex and difficult to comprehend.

In order to understand the competitive and market forces at work, it is necessary to briefly examine the characteristics of the maritime industry.

Traditionally, the maritime industry groups its vessels and services under three headings: "liner," "non-liner" or "tramps" (dry bulk), and "tanker" (liquid bulk). However, a careful look at today's industry shows that those terms no longer describe the structure of the industry. For example:

- "Tramp" vessels have been largely supplanted in the bulk trades by vessels operating on long-term charters, on fairly regular routes, sometimes having been designed to carry a single commodity between specific ports for the vessel's life.
- Hybrid services have appeared which carry "liner" cargoes in "bulk" services.
- New technologies and operating plans allow some vessels to switch between liner and bulk or bulk and tanker service virtually at will.

Many features of the industry play a role in defining who is competing with whom in a given market sector. The following five characteristics distinguish shipping market sectors from each other:

- the type of cargo;
- shipment size;
- affreightment terms;
- vessel technology; and
- vessel route and schedule.

Cargo Type

All cargo can be classified under two main headings. General cargo is that which is packaged in some manner, or is unitized by its nature, and can be marked and counted. Bulk cargo is that which is free-flowing and unpackaged, can be shoveled, pumped, etc., and cannot be marked or counted. Bulk cargo is commonly further divided into liquid and dry, due to the volumes involved and the differing technology required. Hence, cargo can be broadly classified into three groupings:

- general cargo;
- dry bulk cargo; and
- liquid bulk cargo.

Within these major headings are special categories of cargo requiring special handling technology and arrangements such as heavy lift, reefer, wheeled vehicles, corrosives, etc.

Consignment Size

From the standpoint of shipping economics, consignment size is important as it relates to vessel capacity. Using this guideline, three classifications of consignment size can be defined:

- shipload;
- less than shipload but large; and
- small.

Affreightment Terms

Shipping contracts are of two basic types:

- Bills of lading, which are contracts for a service, are short-term, and are associated with common carrier or liner service; and
- Charters which are contracts for shipping space, are often long-term, and are associated with non-common carrier service.

There are a number of different types of charters in use, including voyage, time, and bareboat charters, contracts of affreightment, and the limiting case, industrial carriage, whereby the shipper controls the vessel outright.

Vessel Technology

Vessels can be classified in many ways. In order to define the parameters of shipping markets, a useful breakdown is by degree of cargo specialization. The classifications would therefore be as follows:

- general purpose vessels (e.g., multipurpose, multideck conventional vessels, modern combined Ro/Ro-container carriers, tug-barge);
- semi-specialized vessels (e.g., single deck bulk carriers, reefer ships, chemical tankers, unit load vessels, OBO's, etc.);
- highly specialized vessels (e.g., ULCC's, woodchip carriers, LNG carriers, vehicle carriers, live sheep carriers, etc.).

Vessel Route and Schedule

Two basic vessel operating plans are possible—i.e., continuous service in the same trade area, or an irregular trading pattern taking the vessel anywhere there is cargo available (so-called "tramping"). If the pattern is regular, this may be on a scheduled or non-scheduled basis. Therefore, three route/schedule service types can be defined:

- regular/scheduled;
- regular/non-scheduled; and
- irregular.

5.3 In the Alaska coastwise trade there are essentially four types of service.

Basically, in this analysis the study team addressed four types of service:

- general cargo small shipment service;
- dry bulk shipload service;
- liquid bulk shipload service;
- parcel tanker service.

General Cargo Small Shipment Service

General cargo small shipment service caters to the needs of shippers of small consignments of a wide variety of goods. Carriers supplying this service are typically referred to as "liner" operators, although the term "liner" strictly refers to a type of service, not necessarily a type of vessel or cargo.

The vessels serving this market sector operate on regular routes and, most often, on a tightly scheduled basis. They offer a common carrier service; that is, they will (subject to certain conditions and limitations) accept cargo from any shipper in any quantity and carry it according to published rates and schedule. The shipping contract employed is the bill of lading. A highly variegated cargo mix is carried; many operators use general purpose vessels to serve the greatest variety of cargo possible (including reefer, heavy lift, bulk liquid, etc.), while others operate semi-specialized vessels and, thus, restrict themselves to certain classes of cargo (e.g., full container vessel operators cannot carry most non-containerizable cargo).

The containership and Ro/Ro service between Seattle/Tacoma and Anchorage and the tug-barge service between Whittier and Seattle that have been selected for analysis in this study fall into the category of general cargo small shipment service.

Dry Bulk Shipload Service

The dry bulk market is dominated by a small number of commodities moving in very large volume (the five "major bulks," viz., iron-ore, coal, grain, phosphates, and bauxite/alumina), plus a number of "minor bulk" commodities which move in shipload quantities. These shipments are invariably on a charter basis, including a large volume of industrial carriage. Terms range from voyage and trip charters to charters covering the life of the vessel. Multipurpose vessels are suitable for these cargoes, but have been increasingly superseded since the early 1960's by semi- or highly specialized single deck bulk vessels, including combination carriers, ore carriers, chip carriers, and so on. The trading pattern is sometimes irregular (as in the case of traditional tramping),

but more and more the vessels are trading in a fairly regular pattern over a long time period. Indeed, the greatest structural change in this market sector in recent years has been the shift away from "tramps" trading on a spot basis to vessels on long-term charters plying regular routes in the service of single clients. The emergence of resource-poor Japan as an industrial power has been a major factor in this development.

The ore and logs/chips service selected from Ketchikan to Seattle is classified as a dry bulk shipload service.

Liquid Bulk Shipload Service

The liquid bulk shipload, or tanker, sector is dominated by crude oil movements which are so large that they alone account for nearly half of all seaborne trade measured in tons and more than half measured in ton-miles.

The tanker trade bears many similarities to the dry bulk sector. Shipments are large, and the shipping terms are either charter or industrial carriage. The routes are fairly fixed by geographical circumstance, so even those vessels trading in the spot market tend to trade among a limited number of ports. The vessels are, in great part, highly specialized; for example, the very large crude carriers have no real prospect of entering any other trade, and even smaller tankers are generally suitable only for carrying grain in addition to their basic oil cargoes.

A large part of the world tanker fleet is directly owned by the oil companies, and a large part of the remainder is on a long-term charter to them. As a result, oil companies have a large degree of influence on the marketplace, and this is an important distinction between the liquid and dry bulk shipping sectors.

The VLCC service from Valdez to Los Angeles or Panama analyzed in this study falls in this category.

Parcel Liquid Bulk Service

The trade in parcel liquid bulk cargo is dominated by petrochemicals and specialized petroleum products, with tallow, vegetable and fish oils, and molasses making up most of the remainder of the cargo. The vessels generally operate on regular routes and often to a fairly fixed schedule. Multi-port itineraries are common.

5.4 U.S.-flag operators bear many cost disadvantages when compared to foreign-flag operators.

U.S.-flag operators, whether they ply the Jones Act trade or the international trade, share many of the same cost disadvantages.

- Crew wages — Generally, U.S. manning costs are higher than those of the foreign-flag competition. These higher costs are due in part to higher rates of compensation and in some cases higher manning levels. Some U.S.-flag vessels in international trade are given substantial subsidies to offset the cost disadvantage they suffer when compared with foreign-flag operators.
- Insurance — Insurance is usually higher because of higher U.S. vessel repair costs and typically higher levels of medical care, workmen's compensation, etc..
- Vessel acquisition — Vessel acquisition costs are higher because of higher U.S. construction costs. For some U.S. operators in foreign trade the cost differential is subsidized. The subsidy has not always covered the difference, particularly in times of world shipbuilding overcapacity. In addition, delivery schedules in the U.S. are said to be much slower, introducing a cost of delay. The requirement for U.S. subsidized operators to purchase U.S.-built vessels has been temporarily waived, allowing U.S.-flag carriers to buy vessels overseas at cheaper prices. This does not apply in the domestic trades, however.
- Vessel Maintenance and Repair — Vessel M&R is higher due to the necessity for making repairs in the U.S.
- Overhead — Overhead is sometimes higher due to higher general levels of salary for U.S. headquarters office staffs, to the extra staff required for government compliance activity, and the fact that foreign lines use agents in the U.S.
- Fuel costs — In many cases U.S. fuel costs are higher because steam turbine vessels are employed which have higher fuel consumption rates than foreign-flag vessels that traditionally use slow speed diesel vessels.

5.5 The difference in U.S.-flag and foreign-flag vessel operating costs on key Alaska coastwise trade routes varies depending upon specific circumstances.

RFR calculator runs were made for the services cited in Part 5.1 of this report, in each case comparing U.S.-flag with foreign-flag vessels. In each case, similar ships and identical services were assumed.

Containership - Anchorage/Seattle

In this comparison, the ship characteristics and voyage characteristics for both U.S.-flag and foreign-flag services are the same except that the foreign-

flag vessel uses diesel machinery. In addition, the foreign-flag vessel is assumed to employ a smaller crew—28 vs. 41. This is a typical foreign-flag crew size for vessels of this class. It should be noted, however, that crew sizes vary throughout the world, and even from voyage to voyage on a given vessel.

Table 5A shows the cost summary for both U.S.- and foreign-flag service. The differences in cost favor the foreign-flag operation. It is estimated that U.S. containership costs for the Anchorage/Seattle service approximate \$1,055 per TEU ^{1/}, while foreign-flag costs would be about \$915 per TEU. How TEU's would equate to tons depends upon how much cargo is loaded into each container; this is highly variable, and depends upon the commodity characteristics and loading efficiency. No general guideline is practical or meaningful.

Ro/Ro Ship - Anchorage/Tacoma

In this comparison, ship and voyage characteristics are the same, with the exception of diesel machinery which was assumed for the foreign-flag operation. The U.S.-flag employs a crew of 41 versus 28 for the foreign-flag.

Cost summaries comparing the U.S.- and foreign-flag service are shown in Table 5B. It is estimated that U.S. Ro/Ro costs for the Anchorage/Seattle service approximate \$920 per TEU, while foreign-flag costs would be on the order of \$800 per TEU.

It will be observed that, for container and Ro/Ro services, the cost by U.S.- and foreign-flag vessels is similar in most cost categories. This is because there is no flag-influenced aspect in those categories. For example, containers cost the same no matter what the nationality of the owner — shipowners of all nationalities purchase them, in effect, from a common worldwide pool. Similarly, the cost of cargo handling is the same to all similarly situated vessel owners, irrespective of flag. Cost differences will occur, for the most part, only in those categories outlined in Section 5.4.

Tug Barge - Seattle/Whittier

In this comparison, the introduction of a foreign-flag tug barge rail ferry on the Seattle/Whittier run was analyzed. Current U.S.-flag tugs have diesel powerplants, so the cost differences occur in cost categories other than fuel. There are no costs borne by ocean carriers associated with railcars, railcar handling and other cargo related costs, since these are for the account of the railroads. The ocean shipping cost per railcar is estimated at approximately \$620 in the U.S.-flag case, and approximately \$505 for a foreign-flag operator.

Cost summaries comparing the U.S.- and foreign-flag service are shown in Table 5C.

^{1/} TEU is "Twenty-foot Equivalent Unit," the standard measure of output in the container trades. In Alaska, most or all containers are 35' or 40' long, and based on total cubic volume are considered equivalent to two TEU's.

TABLE 5A

**SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR CONTAINERSHIP OPERATIONS
ANCHORAGE/SEATTLE**

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	70,637.14	75.95
FUEL	63,448.54	68.22
M-R	10,285.71	11.06
SUPPLIES AND EQUIPMENT	1,182.86	1.27
INSURANCE	8,485.71	9.12
CAPITAL COSTS	30,857.14	33.18
STEVEDORING COSTS	87,750.00	94.35
TERMINAL COSTS	241,800.00	260.00
PORT COSTS	60,000.00	64.52
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	76,371.43	82.12
POSITIONING COSTS	143,000.00	153.76
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	18,600.00	20.00
CORPORATE OVERHEAD	169,358.13	182.10
TOTAL	981,774.66	1,055.67

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	41,040.00	44.13
FUEL	48,215.96	48.62
M-R	9,000.00	9.68
SUPPLIES AND EQUIPMENT	1,182.86	1.27
INSURANCE	4,937.14	5.31
CAPITAL COSTS	15,428.57	16.59
STEVEDORING COSTS	87,750.00	94.35
TERMINAL COSTS	241,800.00	260.00
PORT COSTS	60,000.00	64.52
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	76,371.43	82.12
POSITIONING COSTS	143,000.00	153.76
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	18,600.00	20.00
CORPORATE OVERHEAD	106,332.28	114.34
TOTAL	650,858.24	914.69

TABLE 5B

**SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR RO/RO SHIP OPERATIONS
ANCHORAGE/SEATTLE**

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	54,940.00	49.50
FUEL	80,303.27	72.35
M-R	5,000.00	4.50
SUPPLIES AND EQUIPMENT	900.00	0.81
INSURANCE	11,600.00	10.45
CAPITAL COSTS	72,000.00	64.86
STEVEDORING COSTS	76,500.00	68.92
TERMINAL COSTS	288,600.00	260.00
PORT COSTS	44,000.00	39.64
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	36,382.50	32.78
POSITIONING COSTS	176,000.00	158.56
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	24,200.00	21.80
CORPORATE OVERHEAD	153,604.55	138.38
TOTAL	1,024,030.32	922.55

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TEU</u>
MANNING AND SUBSISTENCE	31,920.00	28.76
FUEL	57,906.61	52.17
M-R	4,000.00	3.60
SUPPLIES AND EQUIPMENT	900.00	0.81
INSURANCE	6,240.00	5.62
CAPITAL COSTS	36,000.00	32.43
STEVEDORING COSTS	76,500.00	68.92
TERMINAL COSTS	288,600.00	260.00
PORT COSTS	44,000.00	39.64
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CONTAINER COSTS	36,382.50	32.78
POSITIONING COSTS	176,000.00	158.56
FEEDER TRANSPORTATION COSTS	0.00	0.00
AGENCY, BROKERAGE, AND COMMISSION	24,200.00	21.80
CORPORATE OVERHEAD	186,724.88	166.15
TOTAL	889,373.96	801.74

TABLE 5C
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR TUG BARGE OPERATIONS
SEATTLE/WHITTIER

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER RAILCAR</u>
MANNING AND SUBSISTENCE	18,720.00	59.62
FUEL	91,131.00	290.23
M-R	2,000.00	6.37
SUPPLIES AND EQUIPMENT	4,000.00	12.74
INSURANCE	13,800.00	43.31
CAPITAL COSTS	86,000.00	170.34
CORPORATE OVERHEAD	9,760.58	31.00
GROSS TOTAL	195,211.57	621.69

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER RAILCAR</u>
MANNING AND SUBSISTENCE	13,440.00	42.80
FUEL	91,131.00	290.23
M-R	1,600.00	5.10
SUPPLIES AND EQUIPMENT	4,000.00	12.74
INSURANCE	7,960.00	25.35
CAPITAL COSTS	32,000.00	101.91
CORPORATE OVERHEAD	7,901.63	25.16
GROSS TOTAL	158,032.63	503.29

VLCC - Valdez/Los Angeles

In this comparison, ship and voyage characteristics are basically the same for both U.S.- and foreign-flag operations. The exceptions are number of crew and the vessel's capital and associated costs. The foreign-flag vessel uses a steam turbine that has a crew of 24 versus 28 for the U.S.-flag vessel.

For the assumed vessel, which is a composite of typical vessels in the trade, U.S.-flag costs are estimated at approximately \$6.00 per ton, while an equivalent foreign-flag vessel's costs would be approximately \$4.60 per ton. RFR results appear in Table 5D.

It should be noted that the figures relate only to true and normal ocean shipping cost categories as recognized in normal shipping economies practice, and may not include all charges levied by the oil companies for purposes of calculating netbacks. However, these other charges are not truly part of ocean shipping, and more importantly would not be affected, other things held equal, by the flag of the vessel (examples would include in-transit inventory cost or risk assessments). Consequently, they have not been included. All costs which are affected by provisions in the Jones Act are included.

VLCC - Valdez/Panama

Analogous to the above, costs were estimated for the longer Valdez/Panama voyage. Results appear in Table 5E.

Handy-Size Tanker - Panama/Gulf

To close the loop for crude oil deliveries from Valdez to the U.S. Gulf, comparison was made of U.S.- versus foreign-flag tankers of a type which typifies the Panama-U.S. Gulf Coast segment. In this case, it was assumed the foreign-flag vessel would be diesel powered. The results appear in Table 5F.

Product Tanker - Los Angeles/Anchorage

In this comparison, ship and voyage characteristics are the same for both U.S.- and foreign-flag operations with the exception of diesel propulsion and crew size. The foreign-flag vessels use a crew of 24 vs. 28 for the U.S.-flag.

The cost per ton for U.S.-flag is \$12.82 vs. \$7.86 for foreign-flag.

Table 5G provides a cost summary for both U.S.- and foreign-flag operations.

Bulk Carrier - Ketchikan/Seattle

In this comparison, identical ship and voyage characteristics were used except for main propulsion (diesel for foreign-flag) and crew size. A crew of 27 was assumed for the U.S.-flag and 24 for the foreign-flag. The cost comparison provided in Table 5H shows that the U.S.-flag operation costs \$16.48 per ton vs. \$13.07 for the foreign-flag operation.

TABLE 5D
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR VLCC OPERATIONS
VALDEZ/LOS ANGELES

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	224,500.74	1.07
MANNING AND SUBSISTENCE	86,990.71	0.72
FUEL	227,090.91	1.89
M-R	11,229.44	0.09
SUPPLIES AND EQUIPMENT	3,743.15	0.03
INSURANCE	23,956.13	0.20
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	140,000.00	1.17
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	717,599.08	5.98

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	112,294.37	0.94
MANNING AND SUBSISTENCE	46,714.46	0.39
FUEL	227,090.91	1.89
M-R	7,486.29	0.06
SUPPLIES AND EQUIPMENT	3,743.15	0.03
INSURANCE	13,924.50	0.12
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	140,000.00	1.17
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	551,253.68	4.59

TABLE 5E
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR VLCC OPERATIONS
VALDEZ/PANAMA

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	480,000.00	4.00
MANNING AND SUBSISTENCE	185,920.00	1.55
FUEL	535,500.00	4.46
M-R	24,000.00	0.20
SUPPLIES AND EQUIPMENT	8,000.00	0.07
INSURANCE	51,200.00	0.43
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	140,000.00	1.17
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	1,424,620.00	11.87

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	240,000.00	2.00
MANNING AND SUBSISTENCE	99,840.00	0.83
FUEL	535,500.00	4.46
M-R	16,000.00	0.13
SUPPLIES AND EQUIPMENT	8,000.00	0.07
INSURANCE	29,760.00	0.25
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	140,000.00	1.17
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	1,069,100.00	8.91

TABLE 5F
SUMMARY OF U.S.- AND FOREIGN FLAG COSTS
FOR HANDY-SIZE TANKER OPERATIONS
PANAMA/GULF

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	\$1,714.29	1.48
MANNING AND SUBSISTENCE	66,366.67	1.90
FUEL	87,583.33	2.50
M-R	2,798.41	0.07
SUPPLIES AND EQUIPMENT	5,746.03	0.16
INSURANCE	11,492.06	0.33
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	2,400.00	0.07
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	227,600.79	6.50

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	25,857.14	0.74
MANNING AND SUBSISTENCE	33,786.67	0.97
FUEL	55,875.00	1.60
M-R	2,011.11	0.06
SUPPLIES AND EQUIPMENT	5,746.03	0.16
INSURANCE	7,067.62	0.20
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	2,400.00	0.07
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	132,743.57	3.79

TABLE 5G
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR PRODUCT TANKER OPERATIONS
LOS ANGELES/ANCHORAGE

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	102,205.71	2.92
MANNING AND SUBSISTENCE	131,266.67	3.75
FUEL	154,833.33	4.42
M-R	4,546.03	0.13
SUPPLIES AND EQUIPMENT	11,365.00	0.32
INSURANCE	22,730.16	0.65
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	21,600.00	0.62
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	448,626.98	12.82

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>
CAPITAL COSTS	51,142.06	1.46
MANNING AND SUBSISTENCE	84,826.67	1.91
FUEL	98,250.00	2.81
M-R	3,977.78	0.11
SUPPLIES AND EQUIPMENT	11,365.00	0.32
INSURANCE	13,979.05	0.40
CARGO HANDLING	0.00	0.00
OTHER PORT COSTS	12,000.00	0.34
AGENCY, BROKERAGE, AND COMMISSION	0.00	0.00
WATERWAY TOLLS AND PILOT FEES	0.00	0.00
CORPORATE OVERHEAD	0.00	0.00
TOTAL	257,541.43	7.36

TABLE 5H
SUMMARY OF U.S.- AND FOREIGN-FLAG COSTS
FOR BULK CARRIER OPERATIONS
KETCHIKAN/SEATTLE

U.S.-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>	<u>PERCENT OF TOTAL</u>
MANNING AND SUBSISTENCE	55,500.57	2.06	12.5
FUEL	33,497.22	1.24	7.5
M-R	6,857.14	0.25	1.5
SUPPLIES AND EQUIPMENT	8,000.00	0.30	1.8
INSURANCE	16,000.00	0.59	3.6
CAPITAL COSTS	30,401.43	1.13	6.9
STEVEDORING COSTS	182,250.00	6.75	41.0
OTHER CARGO HANDLING COSTS	14,850.00	0.55	3.3
PORT COSTS	30,000.00	1.11	6.7
WATERWAY TOLLS AND PILOT FEES	0.00	0.00	0.0
AGENCY, BROKERAGE, AND COMMISSION	21,060.00	0.78	4.7
CORPORATE OVERHEAD	46,261.42	1.71	10.4
TOTAL	644,859.78	16.48	100.0
LESS OPERATING SUBSIDY	(0.00)	(0.00)	(0.0)
NET TOTAL	644,859.78	16.48	100.0

FOREIGN-FLAG

<u>EXPENSE CATEGORY</u>	<u>COST PER VOYAGE</u>	<u>COST PER TON</u>	<u>PERCENT OF TOTAL</u>
MANNING AND SUBSISTENCE	16,045.71	0.59	4.5
FUEL	17,036.11	0.66	5.1
M-R	6,857.14	0.25	1.9
SUPPLIES AND EQUIPMENT	8,000.00	0.30	2.3
INSURANCE	4,000.00	0.15	1.1
CAPITAL COSTS	15,204.00	0.57	4.3
STEVEDORING COSTS	182,250.00	6.75	51.6
OTHER CARGO HANDLING COSTS	14,850.00	0.55	4.2
PORT COSTS	30,000.00	1.11	8.5
WATERWAY TOLLS AND PILOT FEES	0.00	0.00	0.0
AGENCY, BROKERAGE, AND COMMISSION	21,060.00	0.78	6.0
CORPORATE OVERHEAD	26,697.49	1.26	10.4
TOTAL	352,860.46	13.87	100.0
LESS OPERATING SUBSIDY	(0.00)	(0.00)	(0.0)
NET TOTAL	352,860.46	13.87	100.0

6. IMPACT OF SHIPPING COSTS

The purpose of this chapter is to determine the transportation cost impact on the people of Alaska due to the Merchant Marine Act of 1920.

6.1 There are many open questions concerning proposed removal of the coastwise laws which would have an impact on the savings actually realized.

There is no doubt that foreign-flag shipping costs, on the whole, are less than U.S.-flag shipping costs, and that Alaska and other non-contiguous states and territories are paying for premium transportation service, which they may not have chosen given a free choice. However, no one has attempted to focus on which of the Jones Act restrictions are the most onerous, or how service and competition would change if relevant provisions in the Merchant Marine Act of 1920 were repealed.

The following questions are important and should be addressed by all parties interested in the Jones Act restrictions as they apply to the Alaska coastwise trade.

- Is it the intent of those calling for the repeal of the coastwise laws to relieve the State of restrictions on U.S.-flag, U.S.-ownership, U.S.-constructed, U.S.-crew, or some combination of the four? Is it the intent to open up to foreign competition the Alaska intrastate trade and the fishing industry as well (e.g., to allow foreign-flag fishing vessels to land their catch in the U.S.)?
- What is the likely response by foreign shipping interests to a relaxation of the coastwise laws? On what terms would foreign owners and operators be interested in providing service? For example, would they be willing to subject themselves to FMC and ICC regulations and U.S. anti-trust laws? This question is fundamental to the savings which would actually be realized by the state as a result of any change in the Jones Act. Unfortunately, it cannot be answered in a vacuum — rather the answer will come only with experience.
- What immigration problems, if any, would result from employing foreign seamen in the Alaska coastwise trade?
- If foreign-flag operation can be introduced at great savings, what has impeded foreign-flag vessels from being used more extensively to carry coastwise cargoes via Canadian ports?

- What will be the U.S. labor reaction to the introduction of foreign ships and foreign crews and what secondary effect might this have on Alaska?

The above and other questions emphasize the necessity for developing a thoroughly considered strategy for dealing with the Jones Act.

6.2 A scenario assuming the repeal of the Merchant Marine Act of 1920 must be realistic.

To determine the probable cost premium paid by Alaska because of the requirement to use U.S.-flag vessels, it is first necessary to make some assumptions concerning service and competition. The assumptions will differ depending on whether the service is in the liner or bulk trade. Therefore, it is assumed for purposes of this analysis:

Liner Trade

- Only the Anchorage/Seattle trade has sufficient volume to attract foreign owners and operators.
- No change would be experienced in the intrastate trade, because the volume between any two points is low and there would be local resistance to replacing local seamen. It must be recalled that "cheap" seamen from far away are, in practice, not so cheap when risk factors and regular repatriation costs are added in.

Bulk Trades

The movement of petroleum products north and the shipment of Alaskan products south (other than fish which is carried in the liner service) is by bulk carriers — either tankers or dry bulk carriers.

- For purposes of this analysis it is assumed that vessels would be chartered on the same basic terms (charter length, etc.) as is done currently — all of the major oil companies satisfy their needs for carrying capacity through foreign-flag shipping where they can and operate their foreign shipping systems on economic and risk principles similar to those applied in U.S. trades. The practical significance of this is that current rates in the international spot market would not control rates in the Alaska trade even if foreign-flag ships were allowed to be used. Rather, long term chartered and owned vessels would continue to play a significant role, and would serve at rates lower than spot market high points, but higher than spot market low points.

- Ores and forest products currently do not move to the lower 48 market to any significant extent. It is uncertain the extent to which this situation would be changed by the reduction in transportation costs offered via use of foreign-flag vessels, since commodity movements depend primarily on commodity prices in market areas at any particular time, and this in turn is largely determined by numerous supply and demand factors in the commodity market which are unrelated to transportation.

6.3 For liner shipping services, Alaskan commerce is supporting a cost premium equivalent to about \$100 per capita per year.

Based on the data in Tables 5A, 5B and 5C, which relate liner waterborne services currently serving Alaska from the lower 48, the shipping cost premium being borne by Alaskan commerce can be calculated as follows:

	<u>Container</u>	<u>Ro/Ro</u>	<u>Tug Barges</u>
Cost per trip - U.S.-flag	\$981,774	\$1,024,030	\$195,217
Cost per trip - foreign-flag	850,658	889,373	158,023
Net	\$131,116	\$134,657	\$37,188
Voyages per year ^{1/}	X 155	X 100	X 200
	<u>\$20,322,980</u>	<u>\$13,465,700</u>	<u>\$7,437,600</u>

GRAND TOTAL \$41,226,280

The grand total of \$41 million equates to \$100 per resident per year.

The cost penalty applies to commodities as a group. How it may be distributed to any specific commodity or group of commodities is a matter of conjecture, and is not particularly meaningful in an economic sense because, if any one item is judged to pay less premium, then something else must automatically be said to pay more, and the net result to the people of Alaska is essentially the same. In general, when setting individual rates ocean carriers normally take account of the space taken up by one ton of that commodity, and charge a proportionately higher per ton rate to those using more space. As such, lighter density goods (e.g., fiberglass insulation, automobiles) will tend to carry a higher premium on a per ton basis than heavier density goods (such as canned goods).

^{1/} Containers and Ro/Ro voyages based on published schedules with allowance for vessel downtime. Tug barge voyages based on SH&E estimate of number of equivalent voyages, based on tonnages reported received at Whittier.

With regard to the relative impact on inbound versus outbound commodities, the most salient feature of Alaskan liner service is the directional imbalance. In transportation ratemaking, where there is competition, rates in the underutilized direction normally fall to low levels as carriers compete to obtain cargo to fill up otherwise empty space. Rates tend to fall to levels which cover only those costs directly attributable to that cargo, such as cargo handling and container shifting, among others. These types of costs would be the same for a foreign-flag operator, and thus it is unlikely foreign-flag competition would have much impact on southbound rates. It is northbound liner commodities which are most likely absorbing the cost premium. In practical terms, this means the direct (or initial) impact of the Jones Act is falling more heavily on Alaskan receivers and consumers rather than Alaskan businesses shipping their products southbound.

6.4 Alaska crude oil shipped south from Valdez is absorbing a \$225 million per year U.S.-flag cost premium.

It would appear that the Valdez/Los Angeles and Valdez/Gulf routes are most typical of Alaskan crude oil shipments. In the case of shipments to the Gulf, although single vessel voyages have been performed, the Panama pipeline will make two-stage voyages more appropriate as a base for analytical comparisons, and that is the voyage type which has been modeled here.

The RFR analyses summarized in Tables 5D, 5E and 5F indicated the differential between U.S.- and foreign-flag tanker operations in the Valdez to Los Angeles service is \$1.39 per long ton. For shipments from Valdez, transshipped at the Panama Canal and sent onward to the U.S. Gulf Coast, the differential would be \$5.67, based on Tables 5E and 5F.

Assuming an average annual U.S.-flag shipment rate of 80 million tons per year, with 2/3 moving to California and 1/3 to the Gulf Coast via Panama, the annual cost penalty ultimately being borne by Alaska through the netback mechanism is \$225 million.

6.5 Alaskans are paying a U.S.-flag cost premium of \$5.46 per long ton on petroleum products shipped north from Los Angeles.

Based on Table 4C, there are some 592,856 short tons (529,335 long tons) of petroleum products shipped north in tankers. The U.S.-flag cost premium absorbed by Alaskans under the scenario analyzed in this study is \$5.46 per long ton for an aggregate of \$2,890,000. Spread among the total population, the U.S.-flag cost premium is \$7.00 per capita annually in 1981 dollars. On a commodity basis, the U.S.-flag cost premium absorbed, for example, per gallon of gasoline would be approximately 1.6¢.

6.6 Alaskan wood products are absorbing a U.S.-flag cost premium of \$3.41 for southbound movements.

Alaskan wood products such as pulp, logs and lumber move predominately in the export trade. Some lumber and pulp products have moved south from the Ketchikan and Sitka areas to the Pacific Northwest. In those cases, the products bear a U.S.-flag cost premium of \$3.41 per ton.

7. REMARKS AND MAJOR CONCLUSIONS

- **Commerce of the State of Alaska moving in liner services is absorbing an aggregate annual cost of approximately \$41 million because of the restrictions imposed by the Merchant Marine Act of 1920.**
- **Due to the inherent directional imbalance of Alaska cargoes, the incidence of higher costs and rates is having the greatest impact on northbound cargoes.**
- **Alaska's net return from its oil sales is being reduced due to the additional costs imposed by the Jones Act, which, based on current conditions, are approximately \$225 million per year.**
- **The State of Alaska has some relief available from the Merchant Marine Act of 1920, in the form of the third and fourth proviso exceptions that allow coastwise cargoes to move through Canadian ports and on the Yukon River by non-U.S. vessels. This relief is currently not being exploited (in part due to the applicable restrictions). Non-use of this loophole does indicate that the cost savings ultimately available from use of foreign-flag vessels may not be as great as has sometimes been supposed.**
- **In the high-volume Anchorage-Pacific Northwest trade, the state may have a potential for reducing rates by stimulating backhaul cargoes. The extra cost of transportation for such cargoes would be low.**
- **In view of the Administration's apparent position to uphold the Jones Act, efforts to have it rescinded in toto will be difficult in the immediate future.**
- **Given the recent lifting of prohibitions on overseas-built vessels for U.S. subsidized trades, the State of Alaska may wish to consider an effort to obtain a waiver of the requirement to use vessels built in the U.S. and place less emphasis on changing the remainder of the Jones Act. As an example, in the case of the Valdez/Los Angeles tanker service, this change could eliminate about two-thirds of the penalty. Of course, this leaves unanswered what to do with the existing U.S.-built fleet. In effect, the build U.S. provision has amounted to a subsidy to the U.S. shipbuilding industry, long since paid but as yet not fully funded. The resolution to this problem will be found in the political, not the economic, arena.**
- **The State of Alaska is being served by a competitive liner transportation system, and, as such, rates are as low as can be expected, given the costs and constraints inherent in U.S.-flag shipping. It is certainly true that costs, and thus rates, could be lower if foreign-flag services were introduced. It should be recognized, however, that in modern containerized-type operations, the bulk of the costs are not flag related. Consequently, the scope for cost and rate reductions as a result of introduction of foreign-flag services is not as great proportionately as in other sectors of the merchant marine.**

APPENDIX A

**SECTION 27 OF THE
MERCHANT MARINE ACT OF 1920**